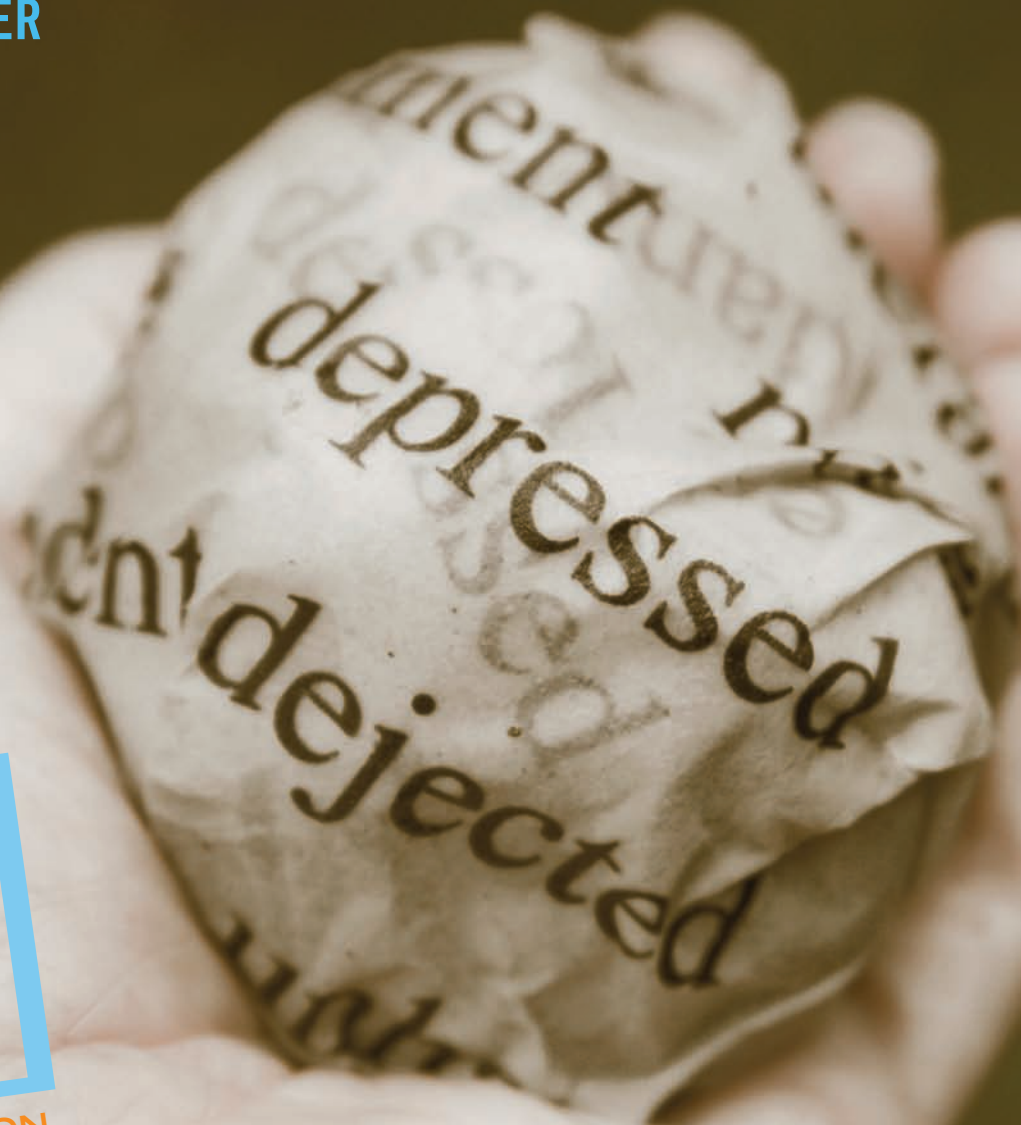


health
IN SCOTLAND
2008

SHEDDING LIGHT ON
HIDDEN EPIDEMICS



Annual Report of the
CHIEF MEDICAL OFFICER



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INTRODUCTION



The health of Scots continues to improve. Substantial falls in premature mortality from heart disease, stroke and lesser, but still significant, falls in early deaths from cancer are evident over the past decade. Life expectancy is improving in both men and women. One inequality in health is surprisingly narrowing. In every country women live longer than men and the same is true for Scotland. However, current data suggests that men are narrowing the gap. An examination of health related behaviours suggests that Scots men appear to be more likely than Scots women to adopt healthy behaviours. In particular, men in Scotland are less likely to be smokers than in the past and this changing pattern of behaviour appears now to be accelerating gains in life expectancy.

The report reviews some of the data on the habits which large, well conducted studies are now clearly showing to have a dramatic effect on risks of developing chronic ill health or of premature death. It asks the question as to why, with the evidence so clear, do more people not adopt the “magic formula for health” as some commentators have described it. This formula consists of not smoking, not being obese, eating a healthy diet and exercising with moderate intensity for at least 3.5 hours a week. Such a lifestyle can, it has been suggested, add up to 13 years of extra life. Why are so few people motivated to adopt such a lifestyle?

The report outlines some of the thinking on this topic. It highlights the importance of consistent and nurturing relationships with others, a supportive childhood, effective education and successful social and economic progress in life as a basis for health. It describes some of the thinking which links a failure to achieve such progress to chronic stress and the impact that such long term biological upset has on mental and physical health. Such processes may explain the fact that Scotland’s annual mortality rate cannot be accounted for by its burden of socioeconomic deprivation – a phenomenon that has been described as “the Scottish effect”.

Finally, the report looks at some of the mental health issues that may contribute to chronic stress in their sufferers by reducing their ability to control and manage their lives. Conditions such as ADHD in adults, post traumatic stress syndrome and obsessive compulsive disorder are commoner than might be thought and cause great distress to sufferer and family alike. It is important to bring them out into the open and do a little to increase public understanding of these conditions.

Dr Harry Burns

CHAPTER 1

The current state of Scotland's health

The current state of Scotland's health

One hundred years ago, life expectancy at birth in Scotland was similar to the average life expectancy of most western European countries. Over the past 50 years, however, although life expectancy has continued to improve in Scotland, other western European countries have experienced faster increases. By the end of the 20th century, most of our neighbours are reporting longer life expectancy at birth for both men and women than Scotland (Leon et al 2003). However, wealthier Scots are experiencing a faster growth in life expectancy than their neighbours in poorer areas. If we were able to effect improvements in the level of health of the poorer sections of our community so that they caught up with their wealthier neighbours, life expectancy in Scotland would, once again, approach the western European average.

Evidence has accumulated over the past few years as to the habits associated with increased life expectancy. A number of large studies have been reporting the results of long term observation of many hundreds of thousands of people. These **prospective cohort studies** have followed over time groups of similar individuals (the cohort) who differ with respect to various factors such as smoking or obesity, in order to determine how these factors affect their health outcomes. One major

prospective cohort study which is now providing clear evidence of how certain behaviours protect health is the European Prospective Investigation into Cancer and Nutrition (EPIC). EPIC was designed to investigate the relationships between diet, nutritional status, lifestyle and environmental factors and the incidence of cancer and other chronic diseases (<http://epic.iarc.fr/>). It is a large study which has recruited over half-a-million (520,000) people in 10 European countries: Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Spain, Sweden and the United Kingdom.



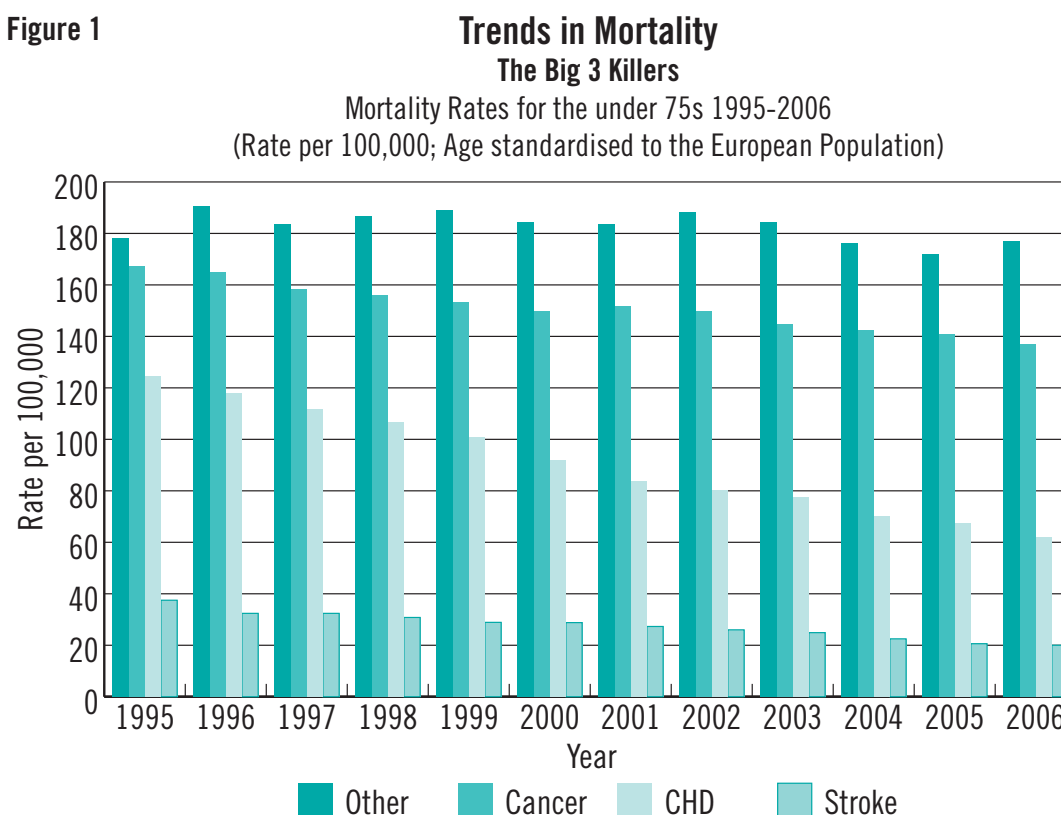
This study is now confirming that a small number of risk factors, which are amenable to change, account for most cases of premature death from heart disease. Heidemann and his colleagues (2007) reported a review of the impact on health of potentially modifiable risk factors such as **smoking, high blood pressure, high fat levels in the blood, diabetes, obesity and inactivity**, both individually and in combination, and calculated how they influenced risks of heart attack. After adjusting for age, sex, educational attainment, alcohol intake, and other classic risk factors, the risks of myocardial infarction were increased substantially by each of the risk factors. Participants with four or five significant risk factors had an 11.5-fold higher risk of a coronary event than participants with none or one risk factor. Altogether, 84.3% of heart attacks in the study population were attributable to the presence of the five risk factors smoking, hypertension, diabetes, sporting inactivity, and abdominal obesity. The authors concluded that the majority of heart attacks in this study were potentially avoidable.

Heart attack mortality in the population aged under 75 has fallen substantially in Scotland over the past decade as has mortality from stroke (Fig. 1).

There has also been a fall in deaths from cancer in this age group. Some of these improvements have undoubtedly been due to changing behaviour but most of the improvements are likely to be due to better treatment of high blood pressure, high cholesterol and narrowed arteries. As the figure

shows, however, overall mortality has only fallen slightly. The conventional causes of premature death have been replaced by others. An examination of the statistics suggests that deaths due to alcohol, addictions, injury and suicide are increasing, particularly in the more deprived areas of Scotland.

Figure 1



The implication of studies such as EPIC is clear. Significant improvements in mortality from heart disease in Scotland remain to be achieved by reducing the prevalence of well known and established risk factors. If we are to narrow the gap in health between rich and poor, we must increase efforts to encourage Scots to stop smoking, maintain a healthy weight, eat sensibly and increase the amount of exercise they take. We need to ensure that chronic conditions such as high blood pressure and diabetes are detected and treated effectively.

The same group (Heidemann et al 2009) has recently produced further analysis of their data to show that individuals who adopt a healthy lifestyle as described above but who also observe sensible guidelines on drinking alcohol can expect, on average to live 13 years longer than those who do not have any of the healthy habits. The importance of current efforts in Scotland to change Scotland's relationship with alcohol cannot be over emphasised.

Several other long-term studies of the relationship between risk factors and premature death have been published and all confirm the importance of not becoming overweight, not smoking, sensible alcohol consumption, taking regular exercise and a healthy diet in maintaining health and avoiding chronic illness.

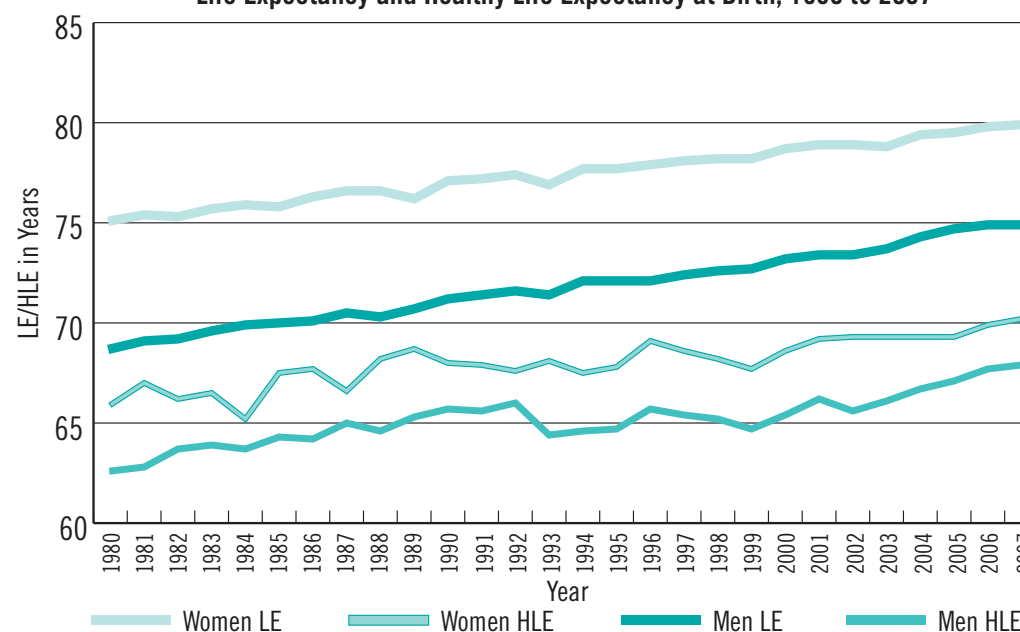
So, how is Scotland faring in terms of life expectancy and how strongly are these healthy behaviours implicated in the changes seen in our health?

Life expectancy improvements in the Scottish population

Estimates of male life expectancy (LE) at birth have increased from 68.7 years in 1980 to 75.3 years in 2008; an increase of 6.6 years overall (or 10% of the 1980 figure) (Fig. 2). Estimates of female LE at birth have increased from 75.1 years in 1980 to 80.0 years

in 2008; an increase of 4.9 years overall (or 7% of the 1980 figure). The difference between males and females in LE at birth was 6.4 years in 1980, falling to 4.7 years in 2008. Males are catching up with females in terms of life expectancy in Scotland. However, an important aspect of life expectancy is the number of years of healthy life, free of self reported ill health, that individuals might expect to live. In terms of healthy life expectancy (HLE), are males also narrowing the gap?

Figure 2
Trends in Life Expectancy
Life Expectancy and Healthy Life Expectancy at Birth, 1980 to 2007



Estimates of male HLE at birth based on single years are quite variable because of the survey data on which HLE estimates are based, but, like LE, they demonstrate an overall upward trend. HLE increased from 62.6 to 68.1 years over the 29-year period; an increase of 5.5 years overall (or 9% of the 1980 figure). The variability in estimates of HLE was reduced in 1999 when the Scottish Household Survey (with a larger sample size) became available and was used in place of the General Household Survey. Estimates of female HLE at birth, like LE, demonstrate an overall upward trend and female HLE increased from 65.9 to 70.8 years over the 29-year period; an increase of 4.8 years overall (or 7% of the 1980 figure).

The difference between males and females in HLE at birth was 3.4 years in 1980, falling to 2.7 years in 2008. We can see, therefore, that the gap between the sexes in both LE and HLE at birth has narrowed over time.

Scottish males, then seem to be improving their health faster than Scots women. How does their rate of improvement compare with men and women in England? Information on LE in England is

published by the Office for National Statistics and is calculated in 3 year averages and not on a year by year basis so data for England is not directly comparable with Scotland. However, a credible estimate suggests that, between 1980 and 2008, males in England improved their LE at birth from 70.1 years to 77.7, a gain of 7.6 years or 11% of the 1980 figure. Women in England improved LE from 76.5 to 81.9, a gain of 5.4 years (7% of the 1980 figure).

What is interesting about these comparisons is that males appear to be catching up with females both in Scotland and England in terms of their LE. English men continue to do slightly better than their Scottish counterparts but the percentage improvement over the Scottish male population over the past 28 years is small.

How are men managing to narrow the gap? What are the behaviours that have changed in the male population that is seeing them improve their life expectancy faster than women? The behaviours identified in the EPIC study and other large cohort studies may hold clues.



Obesity in men and women in Scotland

Statistics recently published by the Scottish Government show clearly that men are more likely to be overweight than women. However, when trends are examined, Fig. 3 shows that over the 8 year

period from 1995 to 2003, proportionately more women became overweight, obese or morbidly obese than men. 21.4% more women gained weight to a point where it became unhealthy compared to 15.1% more men.

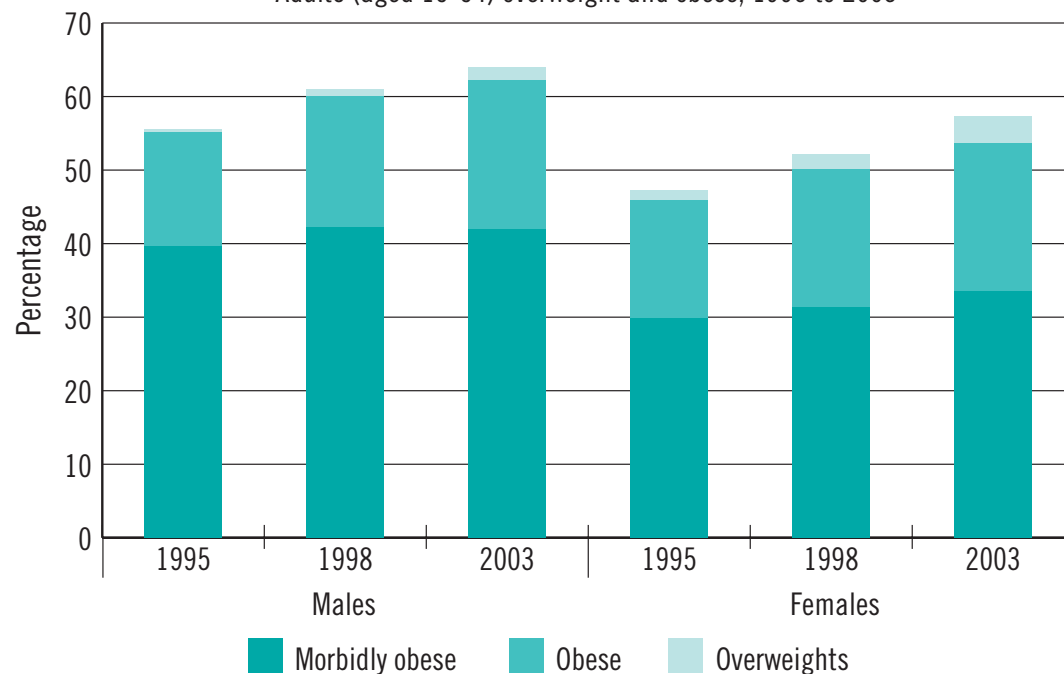
Physical activity in men and women

The current recommended levels of activity in terms of health benefits and protection against coronary heart disease are five or more moderate sessions, or three or more vigorous sessions, per week. The cohort studies reported above have tended to have a slightly more ambitious target of at least 3.5 hours of moderately vigorous activity a week.

Figure 3

Obesity Trends in Scotland

Adults (aged 16-64) overweight and obese, 1995 to 2003

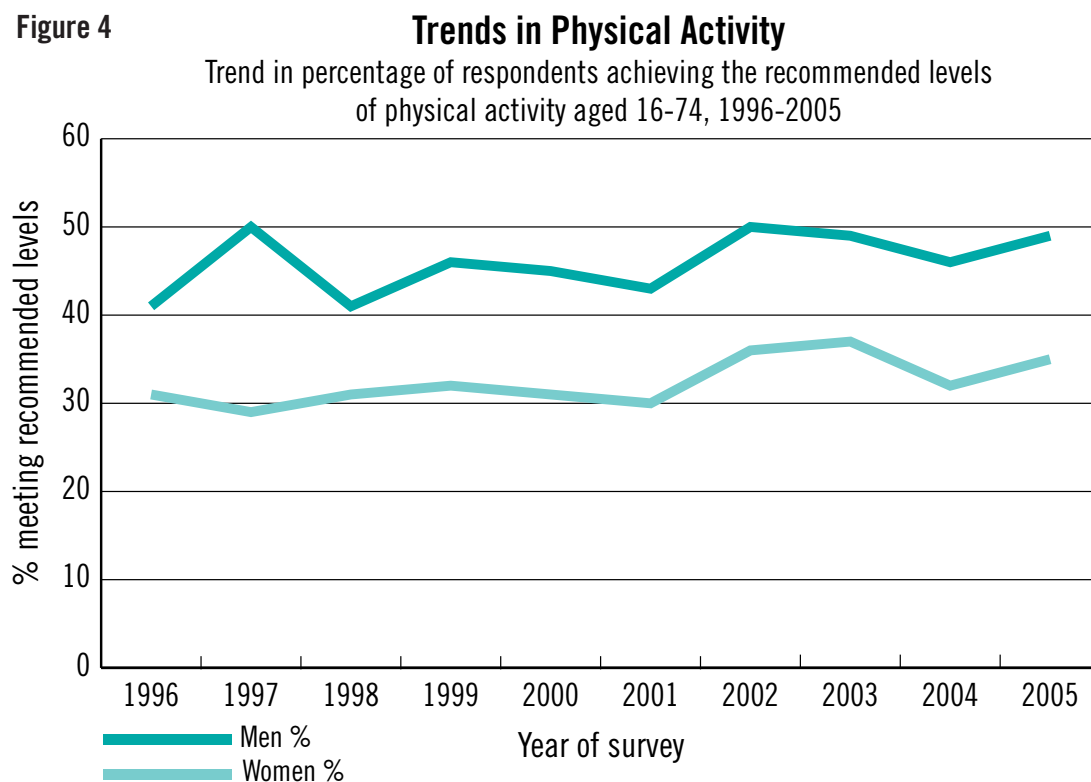


The Health Education Population Survey (HEPS), which samples adults aged 16 to 74 years in Scotland, has found generally low levels of physical activity, with the majority of men and women failing to achieve recommended levels. Consistently, however, over the past decade, more men than

women have achieved recommended levels of physical activity (Fig. 4). For both men and women there has been a slight increase overall between 1996 and 2005 in the proportion achieving the recommended levels, although there is not a clear trend over time.

Physical activity is important, not just for weight control but physical fitness brings important health benefits regardless of its impact on weight (Swain and Franklin 2006).

The fact that males appear to be exercising slightly more frequently than females may be contributing to the narrowed gap in LE.



Smoking behaviour in men and women

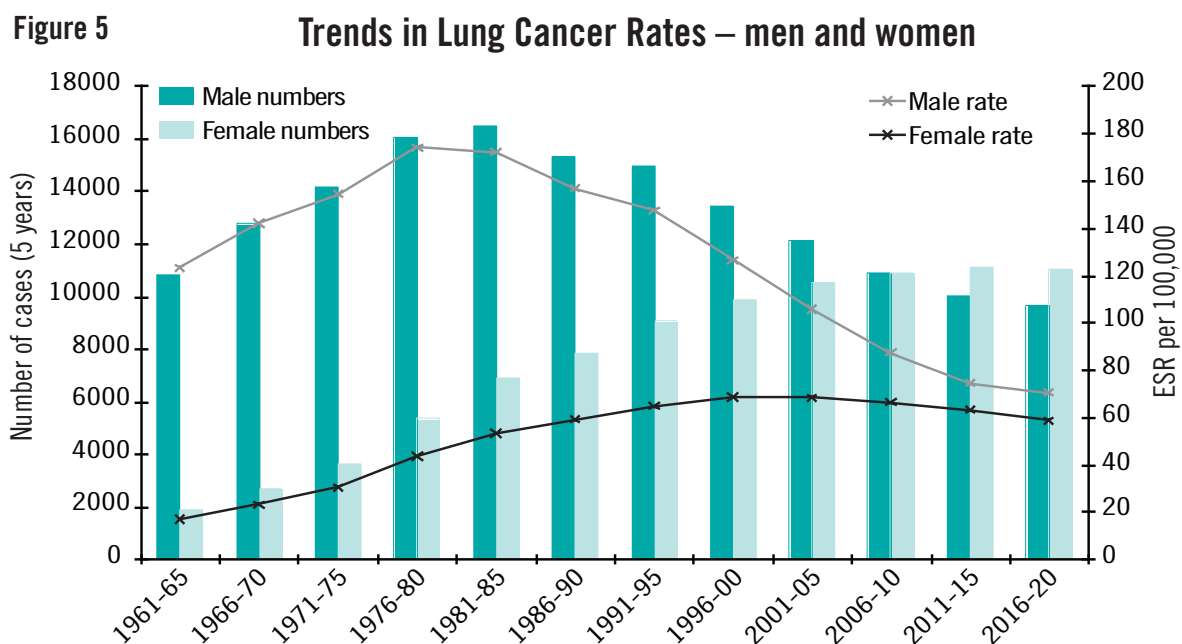
Perhaps the greatest contributor to the narrowing gap in LE is the change we are seeing in smoking behaviour in men and women in Scotland. This change is perhaps most obvious in the changing pattern of lung cancer in our population.

The lag time between starting smoking and developing lung cancer is long. It is, for most victims of smoking, of the order of 30-40 years. The cumulative effect of our addiction to tobacco was most obvious in the 1960s and 70s when 2-300 Scots each week would die of lung cancer. During those decades, it was, for men, one of the commonest causes of death. For women, lung cancer was less common because, in the 1930s and 40s, women were much less likely to smoke. Men, who had served in the forces during the First World War, were, almost universally, smokers. They had been given free cigarettes as part of their rations and had carried their addiction on to the inter war years. In their 60s and 70s, they were experiencing high rates of lung cancer. The cancer statistics of the last 50 years showed the progressive rise in lung cancer in men until the late 1970s and then a steady fall in the rate of death thereafter. Men had obviously decreased their

smoking rates in the middle of the century and we are now seeing substantial falls in mortality from smoking related disease.

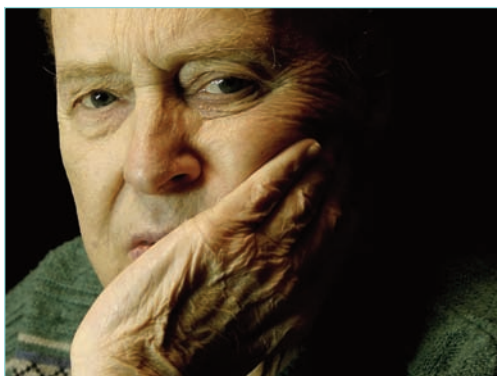
Women, on the other hand do not appear to have reduced their smoking rates at the same time as men and they are now experiencing lung cancer rates similar to men. The expectation is that lung cancer will be commoner in women than in men by the end of this decade (Fig. 5).

We may then be seeing the impact of significant reductions in smoking rates in men manifesting itself in improvements in life expectancy. The slightly higher physical activity rates will also have an effect. However, there are reasons to believe that the improvements in life expectancy resulting from the fall in smoking make be lost because of increasing obesity.



Future prospects for improving life expectancy

In a recent article in the New England Journal of Medicine, Stewart and colleagues (2009) have offered a gloomy assessment of the future. She said: "If past obesity trends continue unchecked, the negative effects on the health of the US population will increasingly outweigh the positive effects gained from declining smoking rates." The authors calculated the life expectancy of an average 18 year old in the US and found that the adverse effects of obesity would mean that LE would decline by 0.7 years between 2005 and 2020. If Americans became non smokers of normal weight, it would increase by 3.8 years over the same period.



The same threat exists in Scotland. Leyland and Lynch (2009) have recently shown that the falling mortality from heart disease in Scotland has levelled off. The same observation has been made for England and Canada. The reasons are not entirely clear but it is likely that the rising prevalence of overweight and obese Scots will, over the next decade or two, be one of the influences which translate into increased risk of diabetes and cardiovascular disease. The gains that have been made in mortality through reduced smoking will begin to be reversed. Furthermore, the relationship of obesity in Scots to their socioeconomic status is complex. In adult men, for example, affluent men are more likely to be obese while in women, obesity is more likely to be found in deprived households. The effect of increasing weight on health inequalities in the Scottish population is, therefore, hard to predict. There is little doubt, however, that Scots are following a similar pattern of eating behaviour to the Americans and serious efforts to reduce calorie consumption and increase energy expenditure across the whole population will be required if we are not to see an unnecessary rise in mortality from heart disease and stroke. With a consequent negative impact on life expectancy.





How do we create health?

I have argued that there is now overwhelming evidence that observing a set of “healthy” behaviours substantially reduces one’s risk of premature death from heart disease, stroke, cancer or being diagnosed with a chronic illness such as diabetes. The problem which faces those who attempt to persuade the population at large to adopt those healthy behaviours is that many are simply unmotivated to take the necessary steps which would save themselves from chronic illness and prolong their lives by many years. Is it a lack of information? Undoubtedly, there have been many confusing messages given to the public over the years about the risks or benefits of supplement, diet and environmental toxins on their health. Scepticism is a sensible position to adopt in the face of many claims about health. However, the evidence on not smoking, maintaining a healthy weight, eating a sensible diet and maintaining regular exercise is now overwhelmingly positive. Why is it so hard to change people’s habits?

We have known for many years that there is socio-economic gradient in how likely people are to adopt healthy behaviours. Obviously, it is easier to make the effort to follow a healthy lifestyle if one sees life as worth living. Having no job, living in poor housing, living with threatening neighbours are all influences which discourage a positive attitude to the future. Also, the psychological negativity which is caused by poor social circumstances increases the chances of addiction to alcohol or other drugs, thereby adding to the adverse effects on health. Improving health therefore requires attention to the social fabric of our communities to ensure that people have a positive environment in which to take decisions about their health behaviours. Failure to deliver such an environment is so strongly associated with ill health that it is important to examine the possible mechanisms underlying the relationship if we are to intervene appropriately to generate better health.

Salutogenesis

One of the clearest thinkers about the relationship between the external environment and health was Dr Aaron Antonovsky who published extensively about a model of health improvement which he termed *salutogenesis*. Writing some 40 years ago (Antonovsky 1967, Shuval and Antonovsky 1973), he was critical of the preoccupation of health promoters with avoiding disease (the pathogenic model of health) and argued that a greater emphasis needed to be placed on the resources individuals required to create health for themselves, a process which he defined as *salutogenesis*. Basically, Antonovsky, after a lifetime of study in many different cultures, suggested that individuals, throughout life acquire a set of resources which allow them to make sense of the stresses they encounter in daily life so that, as he put it himself, “the stimuli bombarding one from the inner and outer environments were perceived as information rather than as noise”. He termed the ability to make sense of the external world in as a “sense of coherence (SOC)” and developed a scoring system to measure it. He suggested that SOC:

FAILURE TO MANAGE A DIFFICULT ENVIRONMENT EFFECTIVELY WILL STRESS THE INDIVIDUAL EVEN MORE AND, OVER A LONG PERIOD, IMPAIR PHYSICAL AND MENTAL HEALTH.

“... expresses the extent to which one has a feeling of confidence that the stimuli deriving from one’s internal and external environments in the course of living are structured, predictable and explicable, that one has the internal resources to meet the demands posed by these stimuli and, finally, that these demands are seen as challenges, worthy of investment and engagement.”

In essence, a person with a well developed SOC who is confronted by a stressful environment will:

- wish to, or be motivated to, cope (meaningfulness);
- believe that he has the capacity to understand the challenge (comprehensibility);
- believe that resources to cope are available (manageability).

Failure to manage a difficult environment effectively will stress the individual even more and, over a long period, impair physical and mental health.

Although Antonovsky studied people of all ages, he was clear that the ability to make sense of the external environment was achieved most readily by consistent parenting experienced early in life. Failure to learn in childhood how to make the world comprehensible and manageable or to experience a social or physical environment that made one want to make the effort to be healthy would, Antonovsky predicted, lead to a range of behaviours that would increase risks to physical and mental health. The mechanism implicit in Antonovsky’s view of the causes of socially determined ill health is one of chronic stress and its erosive effects on wellbeing and the resources we need to create health.



Socioeconomic status and stress

There is now extensive evidence which confirms Antonovsky's suggestion that individuals living in conditions associated with poor physical and mental health have elevated markers of stress. Michael Marmot, who has contributed extensively to the research on this topic (Marmot and Wilkinson 2006), has suggested that repeated activation of the stress response in those living in difficult circumstances may be responsible for the observation that social differences in markers of physiological stress may be the precursors of physical ill health.

The way in which we respond to external stressors is determined by many factors including childhood as well as educational and occupational experiences. Individuals with an adequate stress response experience a rapid return of their response to normal and experience no risk to their health from the event. Individuals, typically from a lower socioeconomic group, who have poorer resilience experience prolonged elevation of their stress responses. It is this chronic state of biological stress which may, over time, produce multiple health effects. These will include mental ill health as well as high blood pressure, diabetes, and eventual risk of heart attack and stroke.

Many of the investigations of the impact of socioeconomic status on stress have involved measurement of hormones such as cortisol in children. Of particular interest is the observation that increases in cortisol level can be seen in young children from deprived areas. Biochemical stress can be measured in these schoolchildren as early as 6 years old (Lupien et al 2001). The long term effects of adverse events in a child's life which cause such biochemical abnormalities can be significant. Danese and colleagues (2007) found that adults subject to maltreatment as children had elevated levels of markers of inflammation in their blood. These markers are associated with increased risk of diabetes, heart attack and stroke. They had been followed up for more than 20 years and had a high incidence of metabolic syndrome which is a precursor of diabetes. They often had adverse social outcomes as well as poor health. Unemployment, criminal convictions, teenage pregnancy and substance abuse was commoner than in individuals who had not experienced a chaotic early life.

It seems, therefore that a scientific consensus is emerging that the origins of adult disease are often found when developmental challenges occur during the early years of life. These early experiences can

affect adult health through the harmful effects of chronic exposure to stress responses. It may take many years, even decades, before early adverse experiences are expressed in the form of disease. However, the evidence that threatening environments seem to be an important aspect of this accentuated response supports Antonovsky's argument. Failure to develop an understanding of one's environment leads to loss of control over it and this loss of control accentuates the stress an individual feels.

It seems important that we confront the origins of inequalities in physical and mental health early in life. Such a strategy, it has been suggested, is likely to produce greater benefits than attempting to modify health-related behaviours or improve access to health care in adulthood (Shonkoff et al 2009).

An explanation for “the Scottish effect”?

I have argued that, although there is convincing evidence that maintaining simple healthy habits would greatly improve health in Scotland, it is clear that many Scots find these healthy behaviours difficult to adopt. Antonovsky’s analysis of how we create health for ourselves would suggest that people do not take action to protect themselves because they are not motivated to improve their health, they do not have the resources to cope with the challenge, or they do not understand the challenge of maintaining health. Antonovsky predicted that such individuals would show evidence of stress. We have ample evidence that living in deprived areas is associated with elevated markers of stress and these markers, in their turn are associated with increased risks of chronic ill health. Hanlon and colleagues (2005) have argued that the gap in mortality between Scotland and England and Wales can no longer be adequately explained by differences in socioeconomic status. Perhaps these differences can be explained by the “Antonovsky effect”. Could it be that the prolonged period of social and economic disruption experienced by large parts of the Scottish population have left them less of the the psychological resilience they need to face of the challenges of modern life? Resilience is a key aspect of Antonovsky’s sense of coherence.

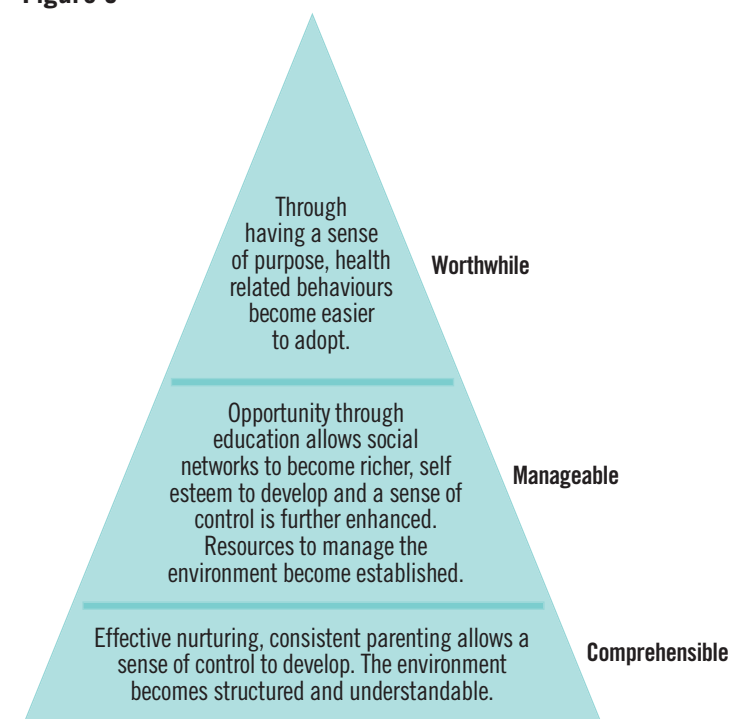
It may be that an important element of attempts to improve Scotland’s health will involve an exploration of methods to increase resilience in our young people and supporting adults who lack the incentives to adopt those behaviours which are now shown so clearly to protect health.

The work of Antonovsky, Marmot and many other researchers who have considered the problem of health creation suggests a hierarchy of influences are necessary to allow individuals to make healthy choices. Fig. 6 suggests that the hierarchy of influences begins with effective, consistent parenting which allows children to develop a sense that the world about it is structured and the stresses it experiences are “information, not just noise”. As the individual grows and learns, he develops extended social networks through school and work, allowing him to manage his life effectively. Having achieved a satisfactory life in which he can express himself, the individual is more likely to decide that the effort of adopting a healthy lifestyle is worthwhile.

This model suggests that there are several different areas that might be influencing Scotland’s health in addition to economic poverty. A careful examination of what those influences might be is necessary if we are to make continued progress.

Antonovsky argued that lacking a sense of coherence would increase vulnerability to mental as well as physical ill health. The rest of this report describes some of the mental health problems affecting Scotland. Some of these problems are not well understood by the population at large. All cause distress and contribute to the burden of illness affecting Scotland.

Figure 6



CHAPTER 2

Hidden disorders in mental health

Hidden disorders in mental health

There are some (mental health) disorders that occur widely in communities, cause great distress yet remain unnoticed by clinicians, policy makers and the public. Why does this happen? The reasons are complex. They may occur in populations that do not complain about their problems, or even see it as a problem. They may not find the right words to describe what is happening to them or they feel ashamed and stigmatised if they do so. Sometimes these are new emerging disorders arising as a result of our changing habits, health, longevity, social and political circumstances. The following chapters introduce you to some of these disorders with the intention that in doing so we may improve the identification, understanding and services for individuals who suffer from them.



Alcohol

It may seem odd to include alcohol in a list of “hidden disorders in mental health”. There has been so much discussion in recent years about the physical and social damage caused to individuals, families and communities by alcohol. Yet, relatively recently the impact of alcohol was seen as unproven and the issue of addiction to alcohol difficult to discuss. In 1997, the Chief Medical Officer, Sir David Carter, convened a conference on Alcohol Misuse. Those attending, expressed concerns that alcohol related problems were an increasing feature of Scottish society, but, at the time, they concluded, there was little robust data to support that view. One of the key recommendations was to improve the quality and accessibility of data to allow the monitoring of trends in alcohol related harm and this has remained a key priority for Scottish alcohol policy since. The information gathered and analysed since that meeting has confirmed the suspicions expressed at that meeting more than 10 years ago. Over the past 3 years, we have further improved our information through adjusting consumption data in line with the changing strength and volume of alcoholic drinks, analysing alcohol harm in different deprivation groups and better estimation of the number of deaths where alcohol is likely to be a factor.

The impact of alcohol on health and society at large is all too clear. Alcohol consumption has more than doubled since 1960, with a marked shift from drinking in licensed premises to drinking at home. Scotland now has one of the highest rates of Liver cirrhosis deaths in Europe. In 1970 our rates were among the lowest and deaths directly caused by alcohol increased threefold in 15 years from 1988-2003 in Scotland. These worrying trends in liver disease were highlighted in the CMO reports of 2007 and the impact of adult drinking on children was emphasised in 2006. However, the influence of alcohol on chronic health problems has been less well recognised and there are now many published

THE IMPACT OF ALCOHOL ON MENTAL HEALTH IS CONSIDERABLE AND THE SCALE OF ITS IMPACT CONTINUES TO BE POORLY UNDERSTOOD.

reports emphasising the contribution made by alcohol to a range of illnesses such as breast cancer, stroke, hypertension, and cardiac arrhythmia. Alcohol is also a significant calorie source and, not only is it contributing to the rise in obesity but the combination of obesity and excess alcohol consumption is recognised to increase the risk of permanent liver damage (Marrero et al 2005).

The impact of alcohol on mental health is considerable and the scale of its impact continues to be poorly understood. Alcohol misuse is the main diagnosis in 16% of all Scottish psychiatric admissions and admissions to general hospitals due to alcohol increased by 17% between 2003 and 2007. Most of this increase in ill health is as a result of the psychological and behavioural consequences of excess alcohol intake. The confidential enquiry into Suicides and Homicides drew attention the role of alcohol misuse in suicide in Scotland and estimated that more than 60% of males who committed suicide were consuming excess quantities of alcohol at the time of their suicide.

The extent of Scotland's previously hidden epidemic of alcohol related harm has become much better understood by health staff, policy makers and the general public and, as a result, there are now a range of actions being planned or already underway which will alter alcohol price and availability, control promotion and marketing strategies and provide public information, treatment and support.

The effectiveness of interventions for alcohol problems in Primary Care was reviewed by SIGN in 2003 and interventions for Alcohol Dependence by the Health Technology Board for Scotland in 2004.





The SIGN report showed the high level of effectiveness for brief interventions in harmful and hazardous drinkers, and the HTBS review described the good cost-effectiveness of a set of “gold standard” interventions for alcohol dependence.

These reviews informed the guidance which was sent out to NHS Boards and Alcohol and Drug Action Teams in 2008 to help them make new investments in prevention and treatment interventions for problem drinkers.

Since 2007, screening and a brief interventions programme in Primary Care, acute hospitals and maternity services has been established throughout Scotland. This has been well accepted by patients and practitioners and has become an integral part of healthcare in Scotland. In the year 2008/9, 26,499 patients in Scotland received counselling and advice in this way. This screening activity has identified a considerable level of previously unmet need for more intensive help with alcohol problems and, as a result, a further range of effective specialist interventions in the NHS and other agencies has been developed and is now an important part of Scotland’s response to alcohol problems.

“Closing The Gaps”, a report which reviewed the guidance on care and support available for people with co-occurring substance misuse and mental health problems made practical recommendations for improvement in the prevention, care and recovery services for this care group, their carers and their families. It recommended that substance misuse services needed to enhance their skills in mental health interventions and that people with alcohol problems should not be excluded from mental health crisis, treatment and recovery services. There is also growing awareness of alcohol’s impact on cognitive function in all age groups. This effect is seen most commonly in older people where alcohol is often a contributory factor along with other factors such as vascular disease. However the gaps in care provision tend to be greatest for younger people.

Suicide

Suicide is, perhaps, the clearest example of Antonovsky's description of the consequences of a failure to find life worth living. It rightly attracts considerable public and professional concern in Scotland, perhaps partly because of the higher rates we experience than in other parts of the United Kingdom. Comparisons of deaths by suicide to other causes of death, such as heart disease or cancer, show that suicide accounts for far fewer deaths. Its importance, however, is not only on numbers of deaths, but rather because of the age of the people who die, and the feeling that deaths should be prevented.

The age pattern of deaths in suicide is quite different from that of most other causes of deaths, other than accidents and other injuries (facts and figures about suicide in Scotland can be found on the Scottish Public Health Observatory site, www.scotpho.org.uk). About three times as many men as women die by suicide in Scotland, but the age distribution is a still more obvious difference from other causes of death. While older people are not immune from suicide, there has been a marked reduction in suicide rates in people of retirement age over the last 40 years. By contrast, rates in

younger people are considerably higher, and the peak rate of suicide is in men aged 25-44 years. The effect of this is that suicide results in an enormous loss of potential years of life (calculated by comparing the age at death to average life expectancy).

The additional reason for its public importance is its potential for prevention. A very few deaths by suicide are carefully considered over time and occur perhaps as a result of overwhelming and incurable disease. The great majority of deaths happen at times of crisis, often when people are suffering from a mental illness, and in a significant minority of cases, while the person is intoxicated. The best guide to this are studies of people who survive medically significant suicide attempts. While at higher risk than the general population the great majority of people who survive even a major suicide attempt do not go on to kill themselves in the next 5 years (Beautrais 2003). This suggests that, if people can be supported over a crisis, then they are likely to change their view about the inevitability of suicide. Choose Life, the national suicide prevention initiative, collaborates with clinical services to promote work with people at high risk of suicide (www.chooselife.net).

Work in Scotland has demonstrated the importance of social circumstances, with higher rates in people in deprived areas (Platt et al 2007) and at times of higher unemployment, a factor which is likely to be of current importance (Platt and Hawton 2000). Other work in Scotland has found that ways of thinking affect likelihood of self-harm, and that optimism and the ability to generate positive thoughts about the future are important (O'Connor 2008, 2009). Taken together, this work suggests that, as well as mental illness and substance misuse, poverty, coping skills and access to support are all important. Work in Scotland on social exclusion, poverty and support in developing life skills in younger people are all important actions that fit with the general approach to health and wellbeing in Scotland.

IN MANY CASES THE SYMPTOMS THAT PEOPLE SEE THEIR GP ABOUT ARE NOT FOUND TO BE ASSOCIATED WITH SERIOUS DISEASE AND THEY DO GO AWAY WITH REASSURANCE.

Symptoms without disease

When people have troubling symptoms, such as pain, fatigue or dizziness, they often seek help from their general practitioner (GP). Most people assume that one of two things will happen in this situation: either the GP will diagnose a disease and start treatment or he will reassure the patient that their symptoms are not a sign of disease and the patient will get better by himself. In fact, it is surprisingly common for neither of these to occur. In many cases the symptoms that people see their GP about are not found to be associated with serious disease and they do go away with reassurance.

The people with these symptoms may be so disabled by them that they become unable to work and become reliant on benefits. Furthermore, they may seek repeated medical assessment of their symptoms at great cost to the Health Service, but with no benefit to them.

There are many names for such symptoms. They may be referred to as medically unexplained, somatization, functional or somatoform symptoms. They may also be called after the main symptom the patient experiences, with names such as chronic unexplained pain or functional weakness.

This confusing variety of names has probably contributed to the lack of recognition of the size of the problem for the Health Service.

For convenience we will refer to them here as medically unexplained symptoms.

Medically unexplained symptoms in general practice

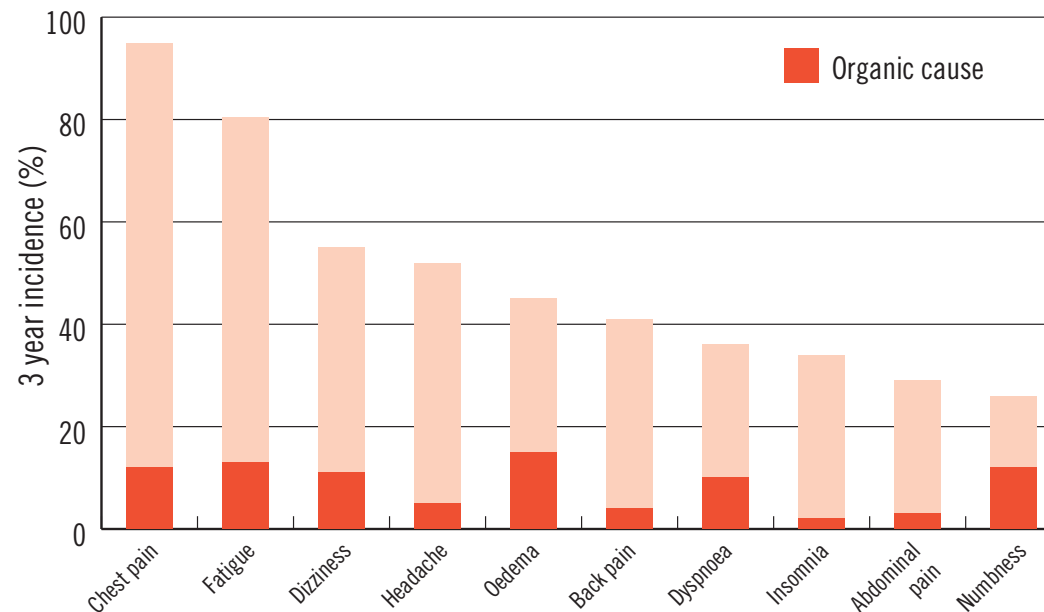
A large proportion of people attending their GP have medically unexplained symptoms. A famous study by Kurt Kroenke determined what proportion

of patients attending their GP had a disease or 'organic' cause for their symptoms. The findings are shown in Fig. 7.

Figure 7. The incidence of common symptoms in primary care and the proportion found to be due to organic disease. (Adapted from Kroenke and Mangelsdorff, 2001)

Many patients with persistent symptoms are successfully treated by their GP as the example in Case 1.

Figure 7



Medically unexplained symptoms in hospital clinics

GPs refer patients to hospital specialists if their symptoms are severe or if they may think that they might be due to an undiagnosed disease. A study funded by the Scottish Chief Scientist Office found that of nearly 4000 new outpatients attending neurological clinics in Scotland, 30% had symptoms that the assessing neurologist considered to be inadequately explained by neurological disease. Other studies have found that in most hospital outpatient clinics one third of newly referred patients have symptoms that the specialist considers to be inadequately explained by disease. As hospital medical systems have traditionally been designed to detect and treat disease there is therefore a potential mismatch between patients' needs and the services currently provided. Two main problems arise from this mismatch: First, patients' needs for symptomatic relief are not met. Patients remain symptomatic, distressed and often disabled. Second, medical resources are ineffectively used. Such patients are investigated, sometimes repeatedly, without any benefit and often with the potential for harm. The cost implications for the NHS are very large.

Case 1



James, a 37 year old married man with two young children, presented to his GP with abdominal pain, bloating and altered bowel habit (loose stools). The symptoms had been present for two months and he had on two

occasions taken a day off work when they were particularly bad. His GP took a full history and examined him. The GP concluded that James' symptoms were probably due to irritable bowel syndrome. He asked him to keep a diary for two weeks, recording his symptoms and his daily activities. When James was reviewed by his GP it became clear that his symptoms were better at weekends (when he wasn't working) and were worse after longer days at work. Questioning revealed he was under pressure at work (he managed a group of four mobile phone shops and was under pressure to achieve increasing targets with fewer staff). The GP helped him to see the relationship between his symptoms and his working week and they discussed simple lifestyle measures to deal with the stress. His symptoms improved over the next few weeks.

Case 2



Jenny was a 27 year old single woman. Her GP had referred her to a neurology clinic with 'falls'. The symptoms

had been present on and off for a year and were preventing her from working. She had previously been investigated in an ENT clinic for dizziness and no cause had been found. She had also been seen in a cardiac clinic for a possible heart problem and no cause had been found. The neurologist requested an electroencephalogram (a measure of brain electrical activity) and an MRI scan of Jenny's brain, both of which were normal. The neurologist made a diagnosis of non-epileptic attacks. Such attacks look like epilepsy but are not associated with abnormal brain activity. The patient was discharged back to her GP with no treatment. She continued to have attacks and soon after she turned up at accident and emergency and was admitted to hospital for several days where all the tests were repeated. This pattern of admission and investigation happened repeatedly. The patient still believed she had epilepsy.

Management of medically unexplained symptoms

There are three common problems in the management of patients with medically unexplained symptoms:

First, because their tests are normal they often feel accused of making up or imagining their symptoms.

Second, they may have depression or anxiety that goes untreated.

Third, they may suffer inconvenience and sometimes actual harm from excessive testing for disease (blood tests, scans and other investigations) and from treatments (drugs and surgery) for disease that they don't have.

Because none of the above improve their symptoms and indeed may even make them worse they tend to return to see the doctor for further help. Thus a cycle of help seeking, unhelpful care provision and increasing patient dissatisfaction may arise. Some patients become so dissatisfied with NHS medical services that they fall prey to other practitioners who offer unproven explanations and remedies.

How might medically unexplained symptoms be better managed?

Whilst this is still an area for research, there is evidence that a more concerted action to effectively treat medically unexplained symptoms in primary care and in hospital would benefit patients and would be more cost effective for the health service. The scientific evidence suggests that better management is possible but it would require a number of developments.

WE NEED TO DEVELOP A GREATER UNDERSTANDING OF THE PROBLEM AND HOW TO EXPLAIN IT TO PATIENTS BY DOCTORS AND OTHER HEALTH PROFESSIONALS.

Such developments should include a positive recognition of the problem by health planners with appropriate service provision. One solution to this problem would be to provide specialist liaison psychiatry services to work closely with medical specialists.

We need to develop a greater understanding of the problem and how to explain it to patients by doctors and other health professionals. This ought to start with training of medical students but needs to be reinforced in post graduate training programmes.

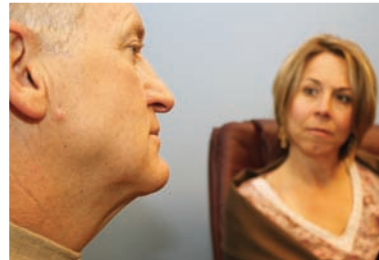
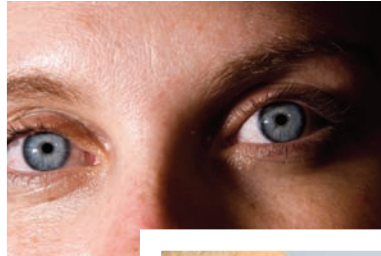
We need to recognise the importance of avoiding unnecessary tests and inappropriate treatments. Instead, doctors need to recognise and provide appropriate treatment for associated anxiety and depression.

For patients who have become worried about and disabled by symptoms, we need to recognise the importance of effective talking treatments such as cognitive behavioural therapy.



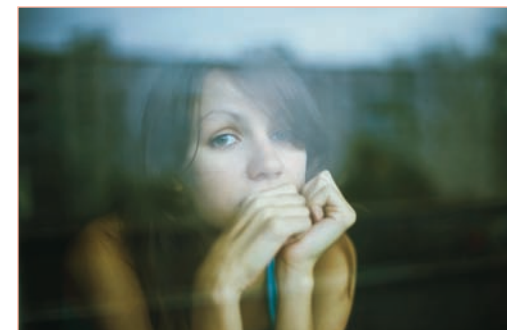
Case 3

Mary was a 45 year old woman who had suffered abdominal pain and constipation for a number of years. She was seen by a surgeon when she requested an operation to relieve her symptoms. The surgeon noted that she had an extensive past medical history including an appendicectomy, a cholecystectomy and a hysterectomy. Review of the case notes revealed that all three organs had been normal. The patient also had a history of many other medically unexplained symptoms including headaches, seizures, chest pain, urinary difficulties and difficulty swallowing. These had all been extensively investigated over a period of years by more than seven different hospital specialists. She was referred to a liaison psychiatrist. Mary told the psychiatrist that she was angry that “nothing had been done” to relieve her symptoms. The liaison psychiatrist spent time explaining to the patient that he understood how distressing her symptoms were and reassured her that he didn’t think she was “faking” or “imagining” her symptoms. She was offered cognitive behavioural treatment to help her cope more effectively with the symptoms and a management plan for shared care was agreed with her GP with the aim of avoiding unnecessary hospital referrals and treatments.



Conclusion

These so-called medically unexplained symptoms are a major public health problem. They cause distress and disability to those who suffer them, and place a burden on patients, the Health Service and society. We need on the one hand to provide better training for doctors, to avoid unnecessary investigation and treatments for disease and on the other hand to offer more symptoms focused services for these patients that include treatments such as cognitive behavioural therapy.



Obsessive compulsive disorder

Obsessive compulsive disorder is a distressing disorder characterised by the presence of obsessions, compulsions or both. It can lead to significant social, occupational and interpersonal problems. It affects about 1% of the population and most studies have shown that it affects men and women equally though in some the prevalence is slightly higher in women.

Obsessions are disturbing thoughts, ideas, images or impulses which repeatedly enter the sufferer's mind. They find themselves unable to get rid of these thoughts and are distressed by them. They recognise the thoughts as their own but often (though not always) try hard to resist them. Compulsions are repetitive behaviours usually performed in response to obsessions. The sufferer often sees compulsions as a means of preventing the occurrence of an unlikely event e.g. death or illness in a loved one or of preventing discomfort in themselves by "neutralising" the distress associated by the obsessions.

Obsessive thoughts often occur around a fairly narrow range of topics. These might include fear of harm coming to others, contamination by dirt or germs, religion and death. Compulsive acts and rituals often revolve around things like washing and cleaning in a ritualistic way, touching or counting things and repeating words or numbers in a ritualistic manner.

The onset of symptoms of obsessive compulsive disorder is often between 10-15 years old and it may take years for a patient to present for treatment if indeed they present at all. There is evidence that treatment seeking rates in sufferers from obsessive compulsive disorder are low. This is often either because they don't recognise it as an illness or because they are ashamed, humiliated or embarrassed by the kind of symptoms from which they suffer. There is also a lack of awareness that treatment for this disorder can be very effective.

Without treatment the disorder can run a long, even lifelong, course. Co-morbidities with depression and with other anxiety disorders are common and suicidal acts are more common in people with obsessive compulsive disorder than with other anxiety disorders.

There is a real challenge to increase awareness of this distressing and disabling condition to encourage people to present for treatment but also to increase availability of evidence based treatments.

The good news is that with prompt identification and rigorous evidence based treatment many people improve. The two most evidence based treatments for obsessive compulsive disorder are cognitive behavioural therapy and treatment with medication, serotonin re-uptake inhibitors drugs often as a combined treatment. For severe and intractable treatment resistant cases very occasionally neurosurgical treatments are indicated and can be successful.



Psychological trauma

People in modern societies are exposed to a surprisingly high rate of traumatic events. The frequency depends in part on the definition of “traumatic event”, but even if a fairly high threshold is used it is probable that most people are traumatised at least once during their lifetime and the lifetime prevalence of exposure to traumatic events (using the American Psychiatric Association (APA) definition) appears to be between 50-90% of the general population.

Differentiating between traumatic and “merely” distressing events has proved difficult. The APA currently defines a traumatic event as one in which a person experiences, witnesses, or is confronted with actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others. Additionally the person’s reaction to the trauma must involve intense fear, helplessness or horror. It can result from experiences that are “private” (e.g. domestic violence, child abuse/neglect, sexual assault, witnessing interpersonal violence) or more “public” (e.g. war, terrorism, natural disasters).

The consequences to the individual of exposure to traumatic events vary widely. In many cases it will have no adverse impact on their wellbeing. However in others it may cause or contribute towards a range of psychological disorders as well as social and physical problems. One possible outcome is the development of Post Traumatic Stress Disorder. This is a condition which develops subsequent to the exposure to a traumatic event, and in which the main symptoms include re-experiencing the event, via flashbacks and nightmares, increased levels of arousal and clinically significant levels of distress or impairments in levels of functioning.

Although studies have shown that most of the population may experience what can be defined as a traumatic event at some point in their life, not all will experience psychological consequences of their experience. Overall, it can be estimated that 5-6% of men and 10-12% of women have suffered from a diagnosable PTSD at some point in their lives. Unlike depressive and other anxiety disorders there is evidence that the prevalence varies considerably by country, culture and region. For example studies have consistently found higher rates in America than Europe. It is likely therefore that the rates for the general population in Scotland are somewhat lower than the above estimates.

Case Vignette



MB is a 29 year old scaffolder who was stabbed several times during an altercation with a drunk assailant. He required an operation for his stomach wounds. Over the next two months however his family and work colleagues noticed that he had become more withdrawn, preoccupied and irritable. He started to drink to excess. His mood was low, his sleep poor and he experienced nightmares and flashbacks of the attack. After much prompting from his family he attended his GP and was referred to the local Mental Health Service. With appropriate medication and trauma-focused CBT he made a good recovery.



It is not known what proportion of those with PTSD in Scotland have it diagnosed and receive appropriate treatment. Studies in a number of other countries have consistently shown that only a very small minority of those with PTSD receives any treatment and only a small proportion of that is appropriate. There is no good reason to believe that this would be any different in Scotland.

Again there is very little evidence about what happens in the short or long term in those with PTSD in Scotland. There is some evidence from other countries about the long-term course of PTSD in the community. Most of these studies show that it is typically chronic and persistent.

Some groups are more likely to be exposed to traumatic events because of their employment. Members of the armed forces are an obvious example. Here there is evidence that most cope well even if exposed to combat. However, a minority, may face social exclusion and psychiatric morbidity on discharge. They are a particularly vulnerable group of the veteran's population who may require targeted services to facilitate treatment.

PTSD can cause considerable psychological, family and societal morbidity. Co-morbidity with other psychiatric conditions is common. The National Co-morbidity Survey (NCS) demonstrated, in an American population, approximately 84% of those suffering from PTSD have also experienced another mental disorder during the course of their illness. Commonly those with PTSD also became depressed, developed other anxiety disorders and/or substance misuse problems.

It also found that people with PTSD are 6 times as likely as demographically matched controls to attempt suicide. In fact, comparative analyses in the NCS found that PTSD has a stronger association with suicidality than any other anxiety disorder. NCS data showed that the amount of work impairment associated with PTSD is very similar to that associated with major depression and translates into an annual productivity loss in excess of \$3 billion in the United States. Other findings from the NCS included a 40% elevated odds of high school and college failure, 30% elevated odds of teenage childbearing, 60% elevated odds of marital instability, and 150% elevated odds of current unemployment at the time of interview in those with PTSD compared to people without.

Case Vignette

PB is a 26 year old unmarried mother of two children who were in care. She endured many years of emotional and sexual abuse as a child. As an adult she suffered chronic low mood which failed to improve with antidepressants. She had self-harmed many times when in crisis. She had relationship difficulties and misused alcohol. She also had recurrent and intrusive thoughts and images of her abuse which distressed her greatly. These responded well to treatment. She was then able to tackle her alcohol misuse as she had been drinking to blot out the thoughts and pictures of the abuse. Her mood improved greatly and she is hoping to get her children returned.

There is a growing realisation that the APA trauma criteria may not be very good at separating out those who develop psychological problems from those that don't post-traumatisation. For example several studies have suggested that PTSD symptoms are just as likely to develop in those who don't demonstrate intense fear, helplessness or horror at the time of the event. Traumatic events that don't meet the APA severity criteria can also be associated with psychological problems including but not limited to PTSD symptoms. One example of this is emotional, physical or sexual child abuse.

THE ADVERSE CHILDHOOD EFFECTS (ACE) STUDY SHOWED THAT EXPOSURE TO CHILDHOOD TRAUMA IS ASSOCIATED WITH INCREASED RISK OF PHYSICAL HEALTH PROBLEMS.

It is very difficult to give estimates of how commonly this degree of traumatisation occurs in the community in part because of problems with definitions. It would not seem unreasonable however to assume that it is more, and perhaps substantially more, common than the estimates for APA defined traumatic events discussed above.

There are studies that suggest that this level of trauma exposure can result in substantial problems. It has been linked to chronic anxiety, psychotic symptoms, personality disorders, eating disorders, treatment resistant depression, and dissociation. Trauma victims are more likely to have substance-abuse problems, violence victimization and perpetration, and self-harming behaviour. The Adverse Childhood Effects (ACE) study showed that exposure to childhood trauma is associated with increased risk of physical health problems (e.g. heart disease, cancer, chronic lung disease,

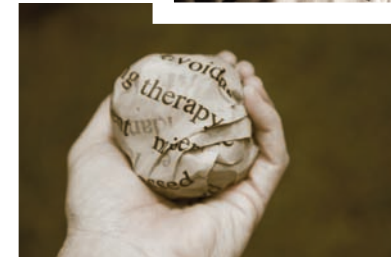
liver disease; from alcohol misuse, HIV/AIDS) as well as social problems (e.g. homelessness, prostitution, delinquency and criminal behaviour, and inability to hold a job).

There has been substantial progress in the treatment of PTSD. Medication may be helpful including SSRI antidepressants. Fairly recently evidence has emerged suggesting that the drug prazosin which was originally prescribed for high blood pressure may reduce traumatic nightmares. However psychotherapies, where available, remain the mainstay of treatment. Mostly this would involve trauma-focused cognitive behavioural therapy or a relatively new treatment called Eye-Movement Desensitization and Reprocessing which both have a fairly strong evidence base. Other treatments are showing promise but their effectiveness requires confirmation in properly-conducted clinical trials.

There is much less evidence on the best way of managing those in whom trauma is thought to play a part in their problems but may not be the main focus. For example there is evidence that those with depression who don't respond well, or at all, to antidepressants are more likely to have a trauma history. Likewise there is increasing evidence that

those presenting with a substance misuse problem often have a trauma history and ongoing trauma symptoms. There is currently little evidence on what role treating the trauma symptoms plays in the management of these patients but anecdotal clinical experience would suggest it is important.

In conclusion it is known that exposure to traumatic events is common in the general population and that some people will develop psychological problems as a result. In some this will be PTSD which tends to be under-diagnosed and under-treated. Others may develop alternative conditions which are probably more common but precise evidence is lacking. Although much can be done for those who come for treatment, there remains a considerable challenge to increase the awareness and recognition of, and provision for treatment of PTSD and other psychological problems related to trauma exposure.



ADHD in adults

“Peter was diagnosed with ADHD (Attention Deficit and Hyperactivity Disorder) as a child. Medication helped him stay at school and parenting support saved the family. Peter is now 18, and no-one is willing to continue to prescribe his medication.”

Peter is not alone. Each year around 500 Scottish teenagers with active ADHD leave under 18's services, having received a lot of help and support. Because ADHD is under-diagnosed in Scottish children, this figure is less than half what it should be. They move on to services for over 18's where ADHD is at best an unfamiliar diagnosis and at worst its existence is denied.

Some children grow out of ADHD, and symptoms do mature, but one-third of childhood sufferers will still have active symptoms. Most adults with ADHD will have less hyperactivity but still struggle with their attention and impulsive behaviour. There are the added problems of easier access to alcohol, needing to keep a job and being allowed to drive a car – resulting in increased substance misuse, anti-social behaviour and poor employment prospects.

“An adult with ADHD who is not taking medication will have the reaction times of someone who is over the limit. They may think they are sharp and quick witted, but on a range of driving skills they underperform badly.”

However ADHD is a treatable mental health problem. For the majority of sufferers, a small amount of medication and some simple behavioural strategies will help them live a normal life. But most adult mental health services do not see enough people with ADHD to develop expertise or to see it as a problem. Without careful transition from under-18's services, young people often try to manage without

SOME CHILDREN GROW OUT OF ADHD, AND SYMPTOMS DO MATURE, BUT ONE-THIRD OF CHILDHOOD SUFFERERS WILL STILL HAVE ACTIVE SYMPTOMS.

help as they take back responsibilities from their parents. They think they don't need it any more, based on a widespread belief that ADHD is only a disorder of childhood.

There are also many adults with ADHD but in whom it has never been diagnosed – for example, up to

one-third of struggling parents of ADHD children and 10% of the prison population. This is not to say that with treatment they would be perfect parents or not commit crimes, but getting help for their ADHD is the first step in getting help for their children and cutting down the reoffending rate.

What would a service for adults with ADHD look like? It would have enough specialist knowledge to manage tricky decisions around diagnosis, and would also make people more aware of the problem and ensure that young people with ADHD continue to get the treatment they need. It would conduct research into the long-term effects of these medications.

A service is being planned in Lothian and a national network is being set up covering all Health Board areas. Scotland also has a unique opportunity to build a national database covering all ages to check that we are diagnosing the right number of cases and to monitor long-term treatment.

Mental health in older people

When people think of psychiatry for older people, naturally the topic of dementia is foremost as this makes up the largest part of the specialty. However there are many other areas of mental health which affect older people which are currently under-recognised. These include depression, particularly where the picture is atypical, delirium, substance misuse as well as emerging areas such as older prisoners and older people with learning disability.



Dementia

The recognition and management of people with early dementia has rightly been recognised as a priority for NHSScotland. The development of a Health Efficiency Access and Treatment (HEAT) target for dementia is helping to shape how services are delivered. The target is based on General Practitioners' registers of people diagnosed with dementia. The ethos behind the HEAT target is to promote and encourage earlier diagnosis of dementia, but at the moment the main focus of Health Boards is on setting up the registers, which involves registering people with dementia who are already known.

The number of people diagnosed with dementia is increasing. In Scotland it is estimated that over 65,000 people have dementia, with the figure predicted to rise to over 100,000 by 2031. The challenge to social and health services posed by this is a direct result of society's success in increasing lifespan – we live longer, dementia is commoner in older people, so we will see many more cases.

Some facts about dementia

- At present only 50-60% of people with dementia are currently recorded on Primary Care registers.
- Dementia affects around 5% of people aged over 65 and approximately increases by 5% with every 5 years of age so that by the age of 85 there is a 25% chance of the person having dementia. There are also a significant number of people who develop dementia before the age of 65. Since services in health and social work for dementia lie with older people's services, providing care raises other issues.
- The average length of time between someone developing noticeable symptoms and being referred for diagnosis is 2 years. During this period potentially irreversible changes occur in their relationships with their spouse, family and friends. This delay complicates a person's reaction to receiving their diagnosis and this in turn affects their future acceptance of other interventions. Diagnosis allows families to plan for the future.

- The UK lies well within the bottom third of countries in Europe with respect to the use of cholinesterase inhibitors, the only drugs generally available for the treatment of dementia (specifically for moderate stage Alzheimer's disease, which makes up around 60% of dementia).
- People with dementia are much more likely than others to be admitted to institutional care, usually a nursing home in the private sector. A recent Glasgow survey showed that 89% of people in care homes had cognitive impairment, 50% of whom had not been given a formal diagnosis and none of whom was taking cholinesterase inhibitors.
- Nursing home care particularly for people with dementia has often been criticised in the media. Much of this may be unjustified, but it is important that bodies such as the Care Commission monitor standards of care in this setting. It was shown in the mid 90s that there was high use of drugs for behaviour problems associated with dementia in such homes, and recent work has shown that this remains an issue. Being on such drugs increases mortality independently of other factors.
- Admission to acute hospitals is much more common in people with dementia than in other people. There has been recent criticism of care for people with dementia in Accident and Emergency Units as well as in medical and surgical wards. None of these is set up to deal with dementia. The presence of dementia significantly increases the length of hospital stay, and thus is a major contributor to bed blocking.

Since the 1990s there have been drugs available for the cognitive symptoms of Alzheimer's disease. Their effects are modest. They only help around 50% of people with Alzheimer's disease, and they are not licensed for use in other forms of dementia. However it is important that everyone suitable for treatment is given the chance of treatment. In the hopefully near future, more effective treatments will become available. Since the symptoms of dementia only appear long after changes in the brain have begun, it will become even more important to diagnose people early. This requires a much greater awareness of dementia by members of the public as well as by health professionals.



Depression

Under-awareness of depression amongst older people almost certainly leads to unduly low published prevalence rates. Probably 10% of people over 75 have depressive disorder, a third of whom will have major depression. In the elderly minor depression is not “minor”. At one year outcome the presence of minor depression at baseline carries a sevenfold risk of developing major depression. Of the 50% of people who are ever identified as being depressed by their GP only one in six ever have an effective dose of antidepressant prescribed. The HEAT target to reduce the use of antidepressants may inadvertently be discouraging the use of antidepressants in this age group.

There are various risk factors for depression which are much more common in older people. These include the presence of chronic disease, losses in life, including loss of a spouse, loss of previous roles in society, loss of independence; and relative poverty. Dementia is also associated with depression. The presence of depression is associated with an increase in mortality rates.

Substance misuse

As yet, illicit drug use in people over 65 is uncommon but those who were in their twenties in the 1960s are now approaching old age. In the UK in 2006/2007 2% of 55-59 year olds reported use of illicit drugs in the previous year. 4% of those receiving treatment for drug misuse are over 50. However many older people receive opiate drugs from legitimate sources. One study found that 40% of elderly primary care patients on low dose opioid analgesics for a year fulfilled the research diagnostic criteria for dependence syndrome.

Alcohol misuse is more problematic. 25% of men and 12.5% of women drink on a daily basis with 21% of men exceeding safe weekly limits. Given the changes in physiology which occur as we age, current limits established for under adults are almost certainly too high for older people so 21% is an under-estimate. Alcohol withdrawal symptoms in the elderly may present following a lower absolute intake than in younger people. This may be important in the management of older people in general hospitals. Alcoholic liver disease remains largely an illness of middle age and is increasing in those over the age of 65. This could represent the cohort of younger people carrying forward their drinking behaviour into old age.

Psychosis

When thinking of delusions or hallucinations in older people one tends to concentrate on dementia and on the “graduate” population of people with severe and enduring mental illness who age beyond 65. However one-fifth of people who survive to age 85 without dementia may develop psychotic symptoms and 2.4% of 95 year olds develop schizophrenia like symptoms. These figures are considerably higher than in the younger population and, although absolute numbers are small at present, the demographic shift means that an increased prevalence of psychotic disorders in Old Age is inevitable. Given the paucity of research into treatment it is not clear how we will respond. However there is a need for further thinking as to how best to meet the needs of this group.



Delirium

In General Hospitals for instance it is not infrequent to find wards with 80% of people over the age of 80. Delirium can occur in up to one in three people in medical units and is poorly recognised and managed. There is good evidence that the prevention of delirium leads to a better outcome than management of delirium but also that the presence of symptoms of delirium after four weeks at sub-syndromal level carries a poorer outcome for both morbidity and mortality than those in whom delirium has resolved. So far there does not appear to be a systematic process for the identification and management of people at risk of delirium in hospital nor intensive work with them over a four-week period if delirium is identified.

Conclusion

Throughout the lifespan of people who are now 65 and over the population has become healthier and more affluent. Housing and travel have improved and the population trend has been away from large cities. Older people consequently have small nuclear families and are vulnerable to the development of long-term illnesses. Dementia, depression, substance misuse and psychosis are all problems from which older people suffer. We will see substantially greater number affected as life expectancy increases. An increasing proportion will live alone and have physical co-morbidity. The need to develop care models such as those provided to people with learning disability may be the difference between successful and unsuccessful management in the future although the interweaving of all these strands in individuals means that specialist services will require further development if the recognition and management of these disorders is to be successful.

CHAPTER 3

Communicable diseases

Communicable diseases

Infections are still a relatively common cause of death. Between three and four thousand Scots die every year from infections or diseases such as cervical cancer which result directly from them (between 6 and 7% of all deaths). Infections can be a contributing factor to deaths from other causes, e.g. hepatitis C and liver cancer. However, the burden on the public health from infection is not shared equally. It falls mainly on the young, the old and the disadvantaged.

Deaths in children due to infections are thankfully rare (around 3% of deaths in 2008) but emergency admissions to hospital because of an infectious disease are not. About a third of all admissions of children aged 0-15 years in Scotland in 2008 were due to infectious diseases, over 40 per cent in the under 5 year olds. The greatest burden of childhood infections in terms of both morbidity and mortality is seen among the most deprived sectors of the population. Deaths from infectious or respiratory diseases are 2.5 to 3.0 times higher in children in social class V (unskilled) compared with Social class I (professional). One study showed increasing hospital admission rates with increasing social deprivation for all respiratory infections in all children, but particularly those aged less than 5, where admission rates were nearly twice as high in the most deprived quintile compared to the least.

In older people, pneumonia is a major cause of death in the over 75 year olds with 6% of deaths being attributed directly to this cause. Pneumonias are often secondary to viral infections, e.g. influenza, and as such rates are highly influenced by seasonality with a marked increase in the winter. The over 65 and 75 year olds and spend more time in hospital, undergo more invasive procedures and are more likely to have decreased physiological reserves and suffer from chronic diseases. Rates of healthcare associated infection (HAI) are therefore on average two to three times higher in the over 65 year olds compared to adults aged less than 65 years old.

Almost all infections can spread directly or indirectly from an infected to a non-infected person. They therefore have the potential to cause outbreaks or epidemics with the possibility of significant disruption to how we live our lives. Microorganisms can evolve into new strains or change host from animal to human. Given international travel and trade, they can now traverse the globe in weeks. We need to be prepared to respond to the resultant risks to health and welfare.

The Health Protection Advisory Group (HPAG) is an independent group which reports to the Chief Medical Officer in Scotland and works closely with Health Protection Scotland (HPS). One of its functions is to identify and review priorities for health protection in Scotland. Table 1 presents data on the current most important communicable diseases.

Table 1: Isolates of organisms of public health significance reported to HPS 2008

Organism isolated	Number of reports in 2008	Type of infection
Campylobacter	4,998	Gut infection transmitted via food, water, direct contact with animals or person to person
Hepatitis C*	1,720	Liver infection transmitted via infected blood (usually in injecting drug users) or sexually
Clostridium difficile	6,325	Organism usually transmitted person to person or through the environment which presents as an infection after antimicrobial therapy
Salmonellas	1,021	Gut infection transmitted via food, direct contact with animals or person to person
MRSA bacteraemias	689	Blood poisoning due to an organism transmitted in healthcare settings principally from person to person
Tuberculosis	450	Respiratory infection transmitted in the air via coughing
Chlamydia	19,054	Infection of the reproductive system transmitted sexually
Hepatitis B	8	Liver infection transmitted via infected blood (usually in injecting drug users) or sexually
HIV	372	Infection of the immunological system transmitted sexually or via infected blood (usually in injecting drug users)
<i>E. coli</i> 0157	241	Gut infection transmitted via food, water, direct contact with animals or person to person

*HPAG has reviewed these and the burdens and likely impact of infections.

A pandemic of influenza

Although this report covers 2008, at the time of writing, readers will be aware Scotland is presently managing the impact of an influenza pandemic. On 11 June 2009, the World Health Organization (WHO) declared a pandemic of Influenza A H1N1v was underway, raising the worldwide pandemic alert level to Phase 6. The definition of a pandemic is human-to-human spread of the virus into a least two countries in one WHO region, with community level outbreaks in at least one other country in a different WHO region. This action was a reflection of the spread of the new H1N1v virus and not the severity of illness caused by the virus. This will be reported on in more detail in subsequent reports.



Healthcare associated infections and antimicrobial resistance

Healthcare associated infections (HAIs) contribute to significant morbidity and mortality worldwide. Multiple factors contribute to the risk of HAI in Scotland, including an ageing population, emerging and re-emerging antimicrobial resistant microorganisms and widespread use of complex therapeutic interventions.

The Scottish Government's HAI Task Force has made good progress in 2008 – the first year of its new 3-year HAI programme – and has taken strong leadership in directing a sustainable package of measures focused on controlling and bringing down rates of infection.

Encouragingly, monitoring of environmental cleaning standards and standards of hand hygiene compliance show that levels are improving all the time and recent reports published by Health Protection Scotland show that MRSA and clostridium difficile infections are falling sharply – with rates of clostridium difficile which are now at their lowest level since records began.

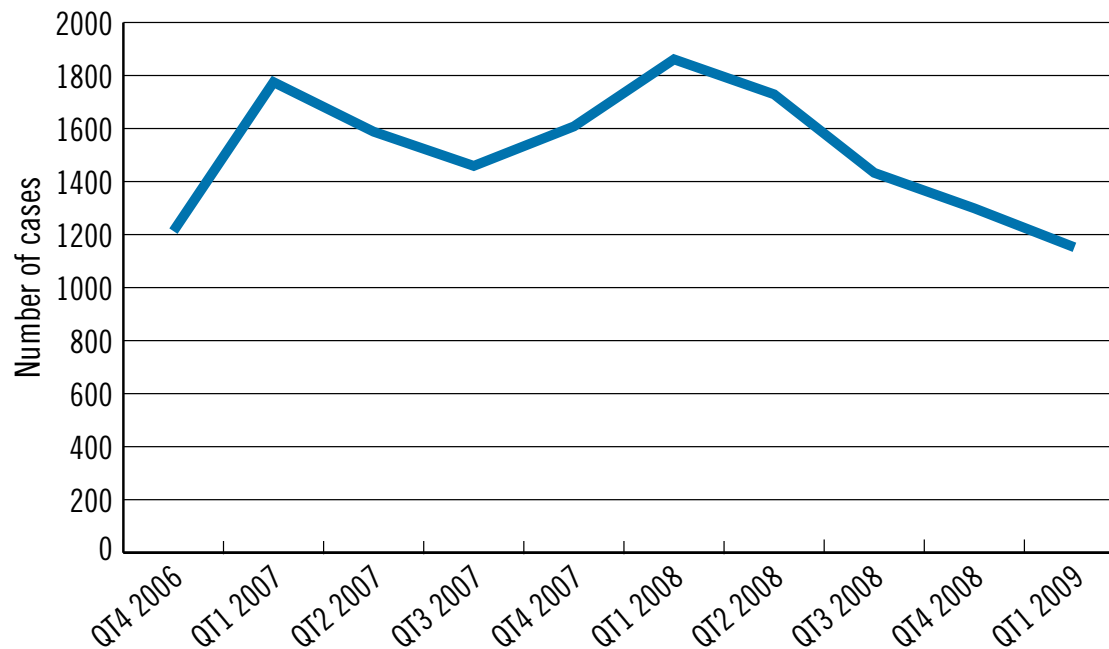
Key progress in 2008 included:

- investment in a £3.5 million pilot MRSA Screening Programme to determine the shape of the National Screening Programme;
- providing NHS Boards with £1.5 million to employ key Infection Control personnel including Infection Control Managers, Hand Hygiene Local Health Board Coordinators, Nurse Consultants and antimicrobial pharmacists;
- releasing £3 million to support the development of robust local surveillance systems for the prevention and control of infection and to prepare for the roll-out of the national MRSA Screening Programme; and
- ensuring progress by NHS Boards towards meeting the Health Efficiency Access Treatment Target (HEAT) to reduce all staphylococcus aureus bacteraemia (including MRSA) by 30% by 2010.

Trends in HAI are routinely monitored in NHSScotland and results in 2008 indicate that there has been a significant reduction in MRSA bacteraemia. *Clostridium difficile* surveillance system is less than 2 years old which makes it difficult to accurately assess trends in these infections, but the table at Figure 8 indicates that cases of this infection have been steadily coming down.



Figure 8 National quarterly number of cases of *clostridium difficile* infection



Vaccine preventable diseases and the impact on them of current and planned immunisation programmes

Vaccination uptake rates have historically been higher in Scotland than in many other parts of the UK. Uptake rates for immunisation in children remain high.

From September 2008 all girls in second year at secondary school will be routinely offered the human papilloma virus vaccine (HPV) against cervical cancer. At the same time all girls aged between 13 and 17 years at September 2008 were also offered the vaccine as part of an introductory 3-year campaign to ensure widest cover at the outset.

Overall, amongst girls in second, fifth and sixth year of secondary school, uptake of the HPV vaccine has reached 93.5 per cent for the first dose, 92.4 per cent for the second dose and 87.7 per cent for the third dose (Table 2).

Table 2: HPV immunisation uptake rates for girls in secondary school in second, fifth and sixth years (S2, S5 and S6) in school year 2008/09

NHS board	Number of girls in cohort	Number 1st dose	% uptake of 1st dose	Number 2nd dose	% uptake of 2nd dose	Number 3rd dose	% uptake of 3rd dose
Ayrshire and Arran	4,562	4,306	94.4	4,271	93.6	4,117	90.2
Borders	1,398	1,342	96.0	1,324	94.7	1,278	91.4
Dumfries and Galloway	1,972	1,876	95.1	1,862	94.4	1,824	92.5
Fife	4,519	4,148	91.8	4,108	90.9	3,931	87.0
Forth Valley	3,960	3,743	94.5	3,711	93.7	3,615	91.3
Grampian	6,845	6,393	93.4	6,334	92.5	6,104	89.2
Greater Glasgow & Clyde	15,218	14,393	94.6	14,213	93.4	13,501	88.7
Highland	4,324	3,966	91.7	3,910	90.4	3,684	85.2
Lanarkshire	7,949	7,214	90.8	7,091	89.2	6,416	80.7
Lothian	10,154	9,538	93.9	9,422	92.8	8,902	87.7
Orkney	268	252	94.0	248	92.5	240	89.6
Shetland	319	294	92.2	294	92.2	284	89.0
Tayside	5,178	4,895	94.5	4,834	93.4	4,610	89.0
Western Isles	398	364	91.5	348	87.4	325	81.7
Scotland	67,240	62,881	93.5	62,122	92.4	58,973	87.7

Source: ISD Scotland
Date: September 2009

Gastro-intestinal and zoonotic infections

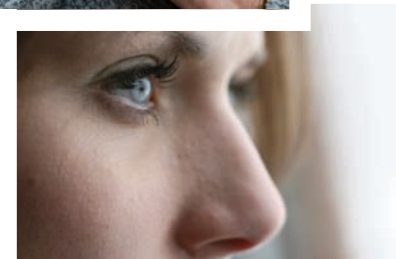
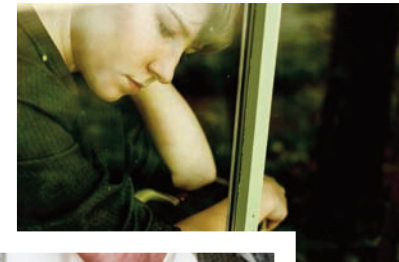
Every year HPS receives over 10,000 laboratory reports of gastrointestinal and zoonotic (infections which are transmitted between animals and man) infections, and identifies over 300 outbreaks.

The most commonly reported infections are:

- Campylobacter, for which there were 4,998 reports in 2008, with one outbreak identified;
- Norovirus, for which there were 2,138 reports in 2008, with 324 outbreaks of confirmed and suspected NV infection; and
- *Salmonella*, for which there were 1,021 reports in 2008.

Although not as numerous, *E. coli* 0157 also remains a priority because of its severity and potentially grave consequences. In 2008, there were 241 reports of *E. coli* 0157.

These infections, together with an awareness and increase in non-foodborne zoonotic infections such as Q-fever and Lyme Disease in Scotland, continues to challenge the health professionals working in health protection.



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