Adolescent health



British Medical Association Board of Science and Education



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December 2003

Editorial board

A resource from the BMA science and education department and the Board of Science and Education

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Foreword

The Board of Science and Education, a standing committee of the British Medical Association (BMA), provides an interface between the medical profession, the government and the public. One major aim of the board is to contribute to the improvement of public health. It has developed policies on a wide range of issues such as alcohol, smoking and eating disorders, and specific groups such as children and the elderly. The board's work on public health has resulted in a number of publications including School sex education: good practice and policy (1997), The misuse of drugs (1997), Alcohol and young people (1999), Growing up in Britain: ensuring a healthy future for our children (1999), Eating disorders, body image and the media (2000) and Sexually transmitted infections (2002).

This report focuses on the problems facing adolescents and examines the evidence surrounding adolescent health, behaviour and interventions. It reviews four important areas in adolescent health: nutrition, exercise and obesity; smoking, drinking and drug use; mental health; and sexual health. For each area this report discusses the prevalence of the problems involved, examines which adolescents are affected, describes the interventions used to address the issues and evaluates the effectiveness of these strategies.

This report is intended to raise the profile of adolescent health and to help inform future policy. In addition, this report acts as an information resource for healthcare professionals, providing an overview of adolescent health issues and the policy environment.

Professor Sir David Carter

Chairman, Board of Science and Education

December 2003

Editorial note

There are many definitions of the age range covered by the term adolescence. This report does not define adolescence by age and the age groups chosen by the sources used in this report vary. Most cover young people aged between 11 and 19 years old.

The BMA has a number of policies relevant to the topics addressed in this report. These are listed separately in annex 1.

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Introduction

It is clear that many aspects of adolescent health and health behaviour could be improved. In light of the available evidence, the future health of the population and pressure on the health service are legitimate causes of concern.

This report reviews four areas of adolescent health: nutrition, exercise and obesity; smoking, drinking and drug use; mental health; and sexual health. It also provides an overview of adolescent health and outlines some of the influences that determine health behaviour and outcomes. The BMA outlines possible approaches for improving adolescent health through publicly lead initiatives.

Adolescent health and its implications

In general, adolescents are not eating optimal diets, and many do not meet recommendations for exercise. As a result of these factors, in common with the general population, overweight and obesity are increasingly prevalent: in 1998, over one fifth of 13 to 16 year olds in England were overweight or obese. Poor nutrition, obesity and low levels of exercise not only have an immediate impact on the health of adolescents but also contribute to adult susceptibility to diseases, such as diabetes and coronary heart disease.

Almost a quarter of 15 and 16 year olds in the United Kingdom (UK) smoke at least once a week and over a fifth of this age group report having used drugs in the last month. UK adolescents have begun to drink greater quantities of alcohol and now have one of the highest levels of alcohol use and binge drinking in Europe. Smoking increases the risk of morbidity and mortality while heavy drinking and drug use can lead to physical, emotional, mental and social problems, many of which are not yet fully elucidated. All three types of substance abuse pose risks of dependence.

Up to one in five adolescents may experience some form of psychological problem.² These range from behavioural disorders to depression, eating disorders, self-harm and neurosis. Mental health problems which develop in adolescence often persist into adulthood and can deteriorate over time. They are often associated with other problems including risk taking behaviour.

The prevalence of sexually transmitted infections (STIs) among adolescents is high and increasing. As many as one in 10 females aged 16 to 19 may be infected with chlamydia. STIs can result in preventable infertility, ectopic pregnancy, pelvic inflammatory disease and psychological stress. Rates of 'teenage pregnancy' (where the woman is under 20 years old) have remained high and fairly stable in the UK for the past 10 years; around 3 per cent of women conceive under the age of 20. Adolescent maternity can lead to physical and social disadvantages for the offspring. Like mental health problems, it can have an adverse impact on adolescents' education and social development.

Influences on adolescent health **Socio-economic background**

It is well known that socio-economic factors are related to rates of morbidity and mortality in both childhood and adulthood. One of the surprising findings from reviewing adolescent health is that overall, by comparison with both earlier and later stages in the life-course, adolescence is characterised by relative health equality. Most of the problems and behaviours reviewed in this report are shared by adolescents from different social backgrounds.

Despite this relative equality, socio-economic background is related to certain areas of adolescent health:

- the eating habits of younger adolescents are related to social class and income
- although recreational drug use, smoking and drinking are not confined to any particular groups,

heavier smoking, drinking and more problematic drug use are all more pronounced among lower social groups

- in early adolescence, behavioural, emotional and relationship difficulties are more common among those from lower social groups and lower income households
- · socio-economic deprivation is associated with a greater risk of teenage pregnancy.

Gender

There are important gender differences in adolescent health:

- boys are more physically active from an early age and are significantly more likely to engage in vigorous activity during adolescence. Girls are more likely than boys to be dissatisfied with their body size and shape
- adolescent girls are more likely to be regular smokers than boys. The prevalence of drinking, the amount drunk and the use of drugs is, however, slightly higher among boys. Gender differences in lifestyle now appear to be diminishing, meaning that girls are increasingly at risk of substance use and misuse⁷
- there are pronounced differences in mental health by gender, although effects differ by type of disorder
- girls are more vulnerable to STIs and are normally more affected by young parenthood.

Age

Physical activity declines with age. Throughout adolescence there is an increase with age in smoking, drinking, drug use and mental and sexual health problems. Age also affects the drugs and alcohol which adolescents are exposed to and the type of mental health problems experienced.

Family and peer influences

There is considerable evidence that both family and peer factors influence adolescent health. For example, nutrition and exercise are related to family and peer modelling and support. The behaviour of family and peers has also been found to influence adolescent smoking. Coming from a non-intact family, and favouring peer opinion over that of the family, are risk factors for smoking, drinking and drug use. Reliance on the peer group rather than the family for support may also increase adolescent vulnerability to peer pressure to engage in substance abuse and risky sexual behaviour.

Mental health difficulties are more common in lone parent households than in two parent families. The quality of family relationships, levels of parental stress and family type have all been linked to adolescent mental health. A history of child abuse, parental substance misuse, mental illness, personality disorder and marital disharmony can all influence the mental health of adolescents.

Environment

Individuals bear some responsibility for their own health, even during early adolescence. It is clear, however, that health is subject to social and economic circumstances that are often beyond individual control. The social environment plays an especially important role in nutrition through social norms and the availability of healthy food. Access to appropriate recreational facilities also influences adolescents' physical activities.

Social and psychological circumstances can cause long-term stress. Continuing anxiety, insecurity, low self-esteem and social isolation can have powerful adverse effects on health, and are associated with emotional disorders such as depression and anxiety.⁸

Co-morbidity

There is evidence that many of the health problems and risk taking behaviours of adolescents examined in this report can influence and exacerbate one another. The likelihood of smoking, drinking or using drugs is higher among adolescents who use another substance. Adolescents report having more risky sex

when they are under the influence of alcohol. There is a strong link between alcohol and substance misuse and mental health problems. Overall there is a strong correlation between psychiatric disorders, substance misuse and risky sexual behaviour. Health problems in adolescence can compound one another. For example, mental health problems may act as a potent risk factor for substance misuse and such substance misuse can contribute to existing mental health disorders.

Although many health behaviours are common to adolescents, risk factors for more acute problems are identifiable. Socio-economic group, family and peer influences, and an adolescent's environment all influence health behaviours and mental and sexual health. Additional influences include youth offending, truancy, school exclusion, family problems, homelessness and deprived communities.

Social disadvantage plays an important role in adolescent health. Smoking, drinking and drug use are all more likely among adolescents who have been in trouble with the police, suspended from school or who have poor academic performance and low future expectations. Low educational attainment is also associated with early motherhood.

It becomes clear that, while many health concerns are common to all adolescents, it is possible to identify several especially vulnerable groups who are more likely to experience health problems.

Interventions in adolescent health

Governments throughout the UK use health education to improve adolescents' nutrition and sexual health, and to discourage the use of alcohol, tobacco and drugs. In addition, they are seeking to improve adolescent health through increasing access to healthy food and decreasing access to alcohol, tobacco and drugs. UK governments are also working on improving addiction and sexual health services for adolescents. Current strategies involve targeting drug and sexual health services to groups of adolescents most at risk.

Evidence for the effectiveness of many interventions in adolescent health is equivocal. However, it is possible broadly to evaluate intervention strategies in adolescent health. A number of approaches emerge which could be adopted to improve adolescent health: a full list is included at the end of this report.

Early intervention and targeted intervention are valuable approaches in all aspects of adolescent health. Health education offers some potential benefits but needs to be approached in the right way. School-based education will not reach all adolescents and does nothing to tackle environmental influences on adolescent health. Across all areas of adolescent health, more could be done to make structural and environmental influences more positive. Improving access to services is vital if adolescent health is to be improved: this involves ensuring not only adequate resources but also age appropriate, welcoming environments and the provision of information and support to service users. Multifaceted interventions in adolescent health (those using several different types of approach) are a useful way of countering the many different influences on adolescents. Similarly, multiprofessional approaches (those involving several services) are useful because of the interrelation between different areas of adolescent health and between health and other aspects of adolescents' lives.

Nutrition, exercise and obesity

Nutrition, exercise and obesity in adolescents

Adolescents in the UK are not eating optimal diets, often exercise too little and are increasingly likely to be overweight or obese. This section discusses the current nutritional status of adolescents, their activity patterns and the prevalence of obesity amongst this group. It outlines the policy approaches that have been adopted to improve the situation in these areas and reviews the effectiveness of various interventions.

The nutritional status of adolescents

The diet of adolescents is important. Nutritional status can have an immediate impact on the health of adolescents, contributing to obesity, susceptibility to illness and general health. Also, there is increasing evidence that adult susceptibility to disease is associated with nutrition in childhood and adolescence. ¹⁰

The National Diet and Nutrition Survey (2000) examined the diets of British school children aged four to 18 years. It found that adolescents ate more than the recommended level of sugar, salt and saturated fat. The most frequently consumed foods were white bread, savoury snacks, biscuits, potatoes and chocolate confectionery. Although in general, average vitamin intakes exceeded recommendations, there was evidence of low intake of some minerals in adolescents, especially in girls. On average, adolescents fail to eat the recommended amount of fruit and vegetables. The Health Survey for England 2001 found that less than 20 per cent of boys and less than 15 per cent of girls aged 13 to 15 managed to eat five or more portions of fruit and vegetables per day. In 2000 less than half of 15 to 16 year olds in Wales reported eating fresh fruit on a daily basis.

Much attention has recently focused on adolescents' high consumption of fast food and confectionery. Fast food typically incorporates all of the potentially harmful dietary factors including saturated and trans fat (fat from partially hydrogenated vegetable oils), a high glycaemic index, high energy density and, increasingly, large portion size. These foods also tend to be low in fibre, micronutrients and antioxidants; dietary components that affect risk of cardiovascular disease and diabetes.¹⁴

High salt consumption (over 6 grams per day, or over 5 grams per day for children aged seven to 14) may also pose a health risk to adolescents. Eating too much salt, especially during childhood, has been associated with the development of hypertension and may even contribute to hypertension in the young. Adolescents' diets are typically high in salt. Some pre-prepared meals, including many of those marketed as healthy, have been found to contain more than the recommended daily intake of dietary salt for an adult.

Adolescent consumption of soft drinks is also a cause of concern. The physiological effects of energy intake on satiation appear to be different for energy in fluids as opposed to solid food.¹⁷ This means that consumption of energy at meal times may not be adjusted to take into account the energy consumed in the form of soft drinks, thus contributing to obesity.¹⁸

The Food Standards Agency and the Department for Education and Skills have recently undertaken qualitative research into 14 to 16 year olds' dietary knowledge and choices. Preliminary analysis suggests that adolescents have a broad sense of the key constituents of a healthy diet but do not critically assess their own diet in the context of recommendations. Respondents did not tend to check nutritional labelling and generally did not weigh up the nutritional content of the foods that they chose for themselves. ¹⁹

Adolescents and exercise

Physical activity is an increasingly important focus for health promotion. In 1997 the Health Education Authority (HEA) recommended that all young people should participate in one hour of moderate physical activity per day and that young people who currently do little activity should participate in physical activity of at least moderate intensity for at least half an hour per day.²⁰

As a key determinant of energy expenditure, physical activity is fundamental to energy balance and weight control. ¹⁷ It can help to prevent and reduce the risk of coronary heart disease, stroke, high blood pressure, non-insulin-dependent diabetes mellitus, osteoporosis and cancer of the colon. ²¹ It can also improve psychological wellbeing by reducing symptoms of depression and anxiety and enhancing self-esteem. ²²

The rationale for adolescents to take part in physical activity includes:

- optimising fitness, current health and wellbeing, and growth and development
- developing an active lifestyle that can be maintained throughout adult life
- increasing bone mineral density and thereby reducing the risk of osteoporosis
- reducing the incidence of overweight and obesity and the risk of chronic diseases of adulthood. 22

Measuring physical activity is notoriously difficult since, in addition to organised sport, it involves activities such as walking and physical effort expended at work, at home or in other settings. It also involves consideration of the frequency, duration and intensity with which an activity is undertaken.⁶

The National Diet and Nutrition Survey (2000) estimated that 40 per cent of boys and 60 per cent of girls surveyed in Britain were failing to meet the HEA recommendations. Boys are more active than girls from an early age and, during adolescence, are significantly more likely to engage in vigorous activity. The Health Survey for England 1997 found that, overall, participation rates in four categories of activity declined with age after the age of about eight to 10. The decline was steeper among girls, so that, from the age of 12, fewer than half of girls participated in physical activities for at least 30 minutes on most days. By the age of 15, only 36 per cent of girls undertook 30 minutes physical activity on most days, compared with 71 per cent of boys. Rates of adolescent participation in physical activity are similar for Scotland. The 1997 survey showed that inactivity ('sitting') increases with age among both boys and girls.

Several determinants of adolescent participation in physical activity have been identified. These include psychological determinants such as enjoyment, feelings of competence, control and autonomy, confidence, positive attitudes, definition of personal goals; and perceptions of benefits. Social and environmental determinants that also play a role include family and peer modelling and support, access to appropriate environments, the influence of mass media; and cultural factors. ²²

Adolescents and obesity

Obesity has come to be considered a global epidemic and excess body weight is now the most common childhood disorder in Europe. ²⁵ Measuring and monitoring childhood obesity has recently been made easier by the development of centile curves for children, based on internationally acceptable cut off points. ²⁶

There has been an increase in the prevalence of overweight and obesity in British children over recent years. An analysis of data collected in the Health Survey for England in 1998, shows that there has been a sharp increase in the prevalence of overweight among seven to 11 year olds, rising by 60 per cent between 1994 and 1998 and by 150 per cent between 1980 and 1994. Moreover, trends in waist circumference of 11 to 16 year olds have greatly exceeded those in body mass index. ²⁷

The data for 1998 shows a 21 per cent prevalence of overweight and obesity for adolescents aged 13 to 16. The Health Survey for England 1997 found that, in the 16 to 24 year old age range, 23 per cent of men and 19 per cent of women were overweight, and a further 6 per cent of men and 8 per cent of women were obese. The prevalence of obesity in adolescents does not differ markedly between England and Scotland. The prevalence of obesity in adolescents does not differ markedly between England and Scotland.

In childhood, excess weight can cause dyslipidaemia, hyperinsulinaemia and hypertension. Recently, the first obesity-related cases of type 2 diabetes in white adolescents have been reported in the UK. In children, as in adults, centralised or upper body fat carries an increased risk for metabolic complications. Overweight children are more likely to become overweight adults. Adult obesity increases the risk of suffering significant health consequences. These include hypertension, type 2 diabetes, cardiovascular and gallbladder disease, dyslipidaemia, insulin resistance, breathlessness, sleep apnoea, asthma, osteo-arthritis, hyperuricaemia and gout, reproductive hormone abnormalities, polycystic ovarian syndrome, impaired fertility and lower back pain. Obesity has also been linked to the development of certain cancers.

Obesity and overweight can have a significant impact on psychological wellbeing, with many adolescents developing a negative self image and experiencing low self-esteem. Psychological ill health related to obesity may be expressed in eating disorders, poor social relations and educational disadvantage. Obese adolescents show declining degrees of self-esteem associated with sadness, loneliness, nervousness and high-risk behaviours.

Obesity, and the significant health problems associated with it, have serious social, as well as individual, implications. A report by the UK National Audit Office ³² predicted that social and health sector costs of adult obesity in England would rise to £3.6 billion annually by 2010. ¹

The aetiology of overweight and obesity is complex. Predisposition alone seems to be related to at least 250 obesity-associated genes and perhaps perinatal factors. ¹⁴ Twin studies suggest a heritability of fat mass, and disorders of energy balance that arise from genetic defects. For example, serum leptin concentrations have been found, in general, to correlate positively with indices of obesity. ³³

Unhealthy diets and sedentary lifestyles, as outlined above, both contribute to obesity but expert opinion is divided on the primary causal factor. While much emphasis is placed on dietary content, there is evidence, based on the National Food Survey's annual measures of household food consumption, that the British are becoming more overweight in spite of consuming less energy than in the 1970s. In recent decades children and adolescents have engaged in less exercise. Importantly, this decline in exercise has coincided with an increase in sedentary activities: proxy measures of physical inactivity such as car ownership, computer use and television viewing seem more closely related to changes in obesity than household food consumption.³⁴

Weight gain and obesity is caused by an excess of calories consumed over energy expended. The growing prevalence of adolescent obesity can therefore probably be attributed to a combination of physical inactivity and high energy in the diet.¹⁷

The 'obesogenic' environment

The term 'obesogenic' has been used to describe modern environments which encourage and promote high energy intake and inactivity. This environmental factor is distinguishable from genetic causes of obesity. ³⁵ A recent World Health Organisation report concluded that the obesogenic environment appears to be largely directed at the adolescent market, making healthy choices more difficult. ¹⁷

Changes in family eating patterns and the consumption of fast foods, pre-prepared meals and carbonated drinks, have taken place over the past 30 years while the amount of physical activity has been greatly reduced both at home and in school. Eating behaviours that have been linked to overweight and obesity include snacking/eating frequently, binge-eating patterns, and eating out; in contrast, exclusive breastfeeding of infants has a protective effect. The contract of the co

Though the increase in obesity among adolescents is a worrying trend, it is important not to contribute to unnecessary anxiety among adolescents about their weight. Various studies of children and adolescents have shown that a sizeable proportion are dissatisfied with their body size and shape. This concern increases with body mass index (BMI) and is more prevalent in females than in males. Research also suggests a rise over time in dieting among adolescent females. The Health Survey for England 1997 found that 20 per cent of 16 to 24 year old females who had a desirable body mass index (a BMI of between 20 and 25) thought they were too heavy. A significant proportion who were not overweight were trying to lose weight (10% of the underweight and 45% of those with desirable weight).

Which adolescents have poor nutrition, are inactive or obese?

The Health Survey for England 1997 found that the eating habits of two to 15 year olds, though not those of 'young adults', were related to social class and income. There was a decrease from social classes I and II (combined) to IV and V (combined), and also from the highest to the lowest income quintile, in the proportion consuming fruit and vegetables more than once every day. There was a corresponding increase in the proportions consuming sweet foods, soft drinks and crisps more than once every day, or consuming chips at least five days a week. More recently, foods consumed by 14 to 16 year olds have been found to be similar across socio-economic groups. Despite this similarity, those in higher social groups report wider exposure to different foods while adolescents in lower social groups report greater independence in food choices and more responsibility for organising these choices.

The Health Survey for England²³ and the Scottish Health Survey²⁴ both found some socio-economic gradient in physical activity. The Health Survey for England found no consistent relationship between *overall* activity (sports and exercise, active play, walking and housework/gardening) and social class or household income. However, there were differences in participation in the different activity types according to social class and equivalised household income. In particular, there was a marked social class gradient in participation in sports and exercise among younger boys and all girls, with participation being lower among social classes IV and V. Participation rates in sport among 11 to 15 year old girls of social class I and II was 63 per cent in 1997; by contrast the participation rate among girls in social class IV and V was 47 per cent.²³ The Scottish Health Survey found subtle differences in the relationship between participation in physical activity and social class. Girls in manual social class households were slightly less likely to have a low level of activity but those in social class I/II were more likely than girls in other groups to have participated in sports and exercise activities in the week before the interview.²⁴

Children and adolescents are at greater risk of gaining excess weight if one or both of their parents are overweight. They may also be at greater risk in households with low incomes. ²⁵ Children who suffer from neglect, depression, or other related problems are at substantially increased risk of obesity during childhood and in later life. ¹⁴

Interventions in adolescent nutrition, exercise and obesity

As concern about nutrition, exercise and obesity among adolescents, children and the population as a whole has grown, interventions have been introduced to improve nutritional status, increase physical activity and prevent and manage obesity. With regard to obesity in particular, many non-governmental organisations do not view current interventions as radical enough to prevent the growing crisis which some predict will end in epidemic rates of serious adult diseases such as diabetes and chronic heart disease.

Interventions in adolescent nutrition

Intervention in nutrition in early life has the potential to bring about major reductions in the incidence of several adult diseases. ¹⁰ Unfortunately there is little agreement on the best way to improve the diets of adolescents. Two main strands of current policy can be identified; first, educating adolescents about the importance of making better nutritional choices and second, limiting the availability of unhealthy food and providing healthy alternatives.

To date, most health policy has focused on educational interventions in schools. This approach has recently been expanded; a new Healthy Schools Programme has been developed to promote health education through local education and health partnerships. The government is encouraging schools to adopt a whole school approach to food and nutrition. This involves integrating knowledge about nutrition into all areas of the curriculum. The Food Standards Agency is currently involved in several initiatives to raise the knowledge and skills of young people as they relate to food and nutrition. These initiatives include travelling classrooms for cookery lessons and resources for schools and youth organisations. The Food Standards Agency is also investigating peer education approaches.¹⁹

Educational interventions in adolescent nutrition need not be limited to diet and health awareness. The Food Standards Agency and Department for Education and Skills have identified several 'competencies' for health education including consumer awareness, food handling and preparation and food hygiene.¹⁹

In addition to health education initiatives, the government has introduced several programmes to improve the nutritional content of adolescents' diets through the provision of healthy food. For example, in 2001, minimum nutritional standards for school lunches were re-introduced in England. In Scotland nutrient standards for school lunches in secondary schools will be introduced by 2006. The government has also recently introduced a National School Fruit Scheme, which will be fully operational by 2004, entitling school children in England aged four to six to a free piece of fruit each school day. A similar scheme is being introduced in Scotland while Wales has launched a national strategy to improve physical and economic access to healthy food. This is aimed at priority groups, including infants, children and young people. Although not targeted at today's adolescents, the fruit schemes may help to encourage habits of healthy eating among young children which will last until adulthood. Initial evaluation of the scheme in England has been encouraging and ongoing monitoring may provide a basis for adopting similar schemes for older children and adolescents. If these current healthy eating initiatives are evaluated positively, they could be sustained and built upon in the future.

Interventions in adolescent exercise and obesity

There are currently no overweight and obesity targets for England, Wales, Scotland or Northern Ireland. However, the NHS Plan stated an intention to tackle obesity and the government currently has a number of school-based initiatives to improve dietary habits (see above). Wales is working to develop and manage initiatives to prevent and manage overweight and obesity among the population. The Children's National Service Framework, due to be launched at the end of 2003, will address childhood obesity as part of the broader issues around promoting a healthy diet and physical activity.

In 2002 the English government published *Game plan: a strategy for delivering government's sport & physical activity objectives.* This set an extremely challenging target that by 2020, 70 per cent of the English population will be reasonably active. Young people (aged both under 11 and 11 to 16) were identified as a target group for intervention. The government is currently involved in several schemes to increase physical activity in these age groups. For example it is investing in school sport coordinators to increase sports opportunities for young people. The Department for Education and Skills, and the Department for Culture, Media and Sport are implementing a joint public service agreement target to provide two hours of physical education and school sport to 70 per cent of pupils by 2006. A cross departmental Sport and Physical Activity Board (SPAB) has been established: it is hoped that this will raise the levels of mass participation in sport for young people and adults.

Evaluating the effectiveness of interventions in adolescent nutrition, exercise and obesity

Numerous systematic reviews have recently been undertaken to evaluate the effectiveness of interventions in adolescent nutrition, exercise and obesity.⁴² This section provides a brief overview of the main types of intervention.

The importance of early intervention

There is growing consensus that good nutritional practices and physical activity should be encouraged as early as possible in children's lives before unhealthy habits become established. It appears, for example, that access and exposure to a range of fruit and vegetables in the home is important for the development of preferences for those foods. Furthermore, parental knowledge, attitudes and behaviours related to healthy diet and physical activity are important in creating role models.¹⁷

The social gradient in nutritional status makes it especially important that parents, including adolescent mothers and fathers, are provided with good, simple information on feeding their children. This should include information on the benefits of breastfeeding. The weaning period is important for introducing nutritional variety and there is evidence that food preferences developed during these years may affect food preference behaviour throughout life. Inappropriate weaning foods including those with excess sugar and salt, can set harmful dietary patterns for life. Since an excess of overweight and obesity in children in the UK has been found before the age of school entry, efforts to prevent obesity should also ideally begin in early childhood.

The effectiveness of education

There is some evidence that multifaceted school-based programmes that promote physical activity, the modification of dietary intake and the targeting of sedentary behaviours may help to reduce obesity in school children, particularly girls. ⁴⁶ The government hopes that its Healthy Schools Programme will have an impact on nutrition, physical activity and obesity. Within the sphere of health education, peer education has become a popular strategy. Peer-led nutrition approaches in schools designed to increase fruit and vegetable intakes and lower the intake of fatty foods have been found to be feasible and have high acceptability.

Adolescents may be confused as to where to go for advice about their diet. The Trust for the Study of Adolescence found that 30 per cent of adolescents would seek dietary advice from their GP, 9 per cent would go to the school nurse and 50 per cent would not go to anybody for advice. Within the sphere of health education it would seem important that adolescents know where to turn for advice about nutrition, exercise and weight management. This may also help to counter widespread, unnecessary worry among adolescents about their size.

^{*} Sport policy is a devolved matter. In *Let's make Scotland more active: a stategy for physical activity* (2003), Scotland set a target to get 50 per cent of adults, and 80 per cent of those under 16, active by 2022. Both Wales and Ireland have committed to increasing activity among their populations.

The efficacy of traditional educational interventions in preventing obesity, increasing physical activity and improving nutritional status among adolescents has been questioned. A recent American attitude study found that healthy eating messages are reaching adolescents but interventions are needed to assist them to translate this knowledge into healthy behaviours. Following the perceived failure of traditional educational approaches, structural and environmental factors are increasingly considered important.

The importance of structural and environmental change

The World Health Organisation recently concluded that, for adolescents, prevention of obesity implies the need to:

- promote an active lifestyle
- limit television viewing
- promote the intake of fruit and vegetables
- restrict the intake of energy-dense, micronutrient-poor foods (eg packaged snacks)
- · restrict the intake of sugar-sweetened soft drinks.

Additional measures identified included modifying the environment to:

- · enhance physical activity in schools and communities, and family interactions
- limit the exposure of young children to heavy marketing practices in respect of energy-dense, micronutrient-poor foods
- provide the necessary information and skills to allow healthy food choices.

It is important that health policy programmes recognise the wide range of structural and environmental factors, principally inadequate income and inadequate access to healthy food, which can make it much more difficult for low income families to improve their diets and thus their health.

The modern economy provides a perverse incentive to eat the 'wrong' foods because, in general, the cheapest calories come from fatty, oily foods which are often high in salt and sugar. Research in 1997 found that households in the bottom tenth of the income distribution spend on average 29 per cent of their disposable income on food (after allowance for housing costs); those in the top tenth spend 18 per cent. Low income families with children spend a relatively small amount of money per person on food. This leads to the purchase of foods richer in energy (high in fat and sugar) to satisfy hunger. These are much cheaper per unit of energy than foods rich in protective nutrients (like fruit and vegetables). The Joseph Rowntree Foundation found that among low income families the cost of food and the money available were the most important factors when deciding which foods to eat. The Poverty and Social Exclusion Survey reported that around one in 10 'poor children' did not eat fresh fruit or vegetables daily.

Several studies have suggested that low income not only restricts the ability to buy foods rich in protective nutrients, but also limits access to the food retailers where healthy food can be purchased more cheaply. 53,54

Food deserts

Since the mid 1990s the term 'food desert' has been used to describe areas (usually densely populated and urban) where residents do not have access to an affordable and healthy diet. The fact that few poor families have access to a private car to transport them to out of town retailers, is often given as a reason for poor health. ⁵⁵ The evidence supporting this theory has recently been questioned. ⁵⁶ However, it has already begun to inform government policy in the UK. ⁵⁶

The inability to afford, or have reasonable access to, food which provides a healthy diet is known as 'food poverty'. Those experiencing food poverty may have limited money for food after paying for other household expenses or live in areas where food choice is restricted by local availability and transport to supermarkets. They may also be lacking in the knowledge, skills or cooking equipment necessary to prepare healthy meals. ³⁸

The International Obesity Task Force has attributed the rise in obesity to societal factors and has called on the government to move away from approaches based on health education – which rely on an unrealistic expectation of sustained behavioural change – to a more structured approach which targets the 'toxic environment'. These approaches focus on increasing the opportunities for participation in physical activity, increasing the availability of healthy food, and sometimes, in addition, legislating to reduce the availability of unhealthy food. For example, it has been suggested that curriculum standards may need to be developed to ensure adequate attention is given to children's physical activity needs – especially for girls, people of low socio-economic status and older adolescents. This may include capital projects or the extension of the school day. In the light of several studies which suggest an association between fast-food consumption and total energy intake or bodyweight in adolescents and adults, several organisations and health experts are calling for tighter regulation of the food industry, pricing and advertising. These interventions may prove more effective in improving nutrition and stemming the rise in obesity among adolescents. They are, however, unlikely to be politically feasible in the short term.

Clinical interventions

Pilot schemes involving systematic and comprehensive approaches to childhood and adolescent overweight and obesity are currently under way. To date, however, evidence about what can be done for obese and overweight adolescents is limited. Many of the studies undertaken have methodological problems such as small sample size and high levels of attrition. As a consequence, guidance on the clinical treatment of adolescent obesity often has to be extrapolated from research studies in adults or in children receiving specialist services.

Few paediatric studies have sought to ascertain the effect of dietary composition on bodyweight controlling for treatment intensity, physical activity, and behavioural modification techniques. ¹⁴ There is little evidence about how qualitative aspects of physical activity, such as frequency and intensity, affect body composition and health risk. ¹⁴

Most drugs used in the treatment of obesity over the past century have had serious side effects. When there is no inherent biological cause, it has therefore been suggested that pharmacological treatment should only be prescribed for children with obesity-related complications. Even in these cases prescription should follow careful consideration of immediate and long-term risks and benefits in the context of a comprehensive weight-management programme. Similarly, the potentially serious consequences of bariatic surgery make it, at best, a last resort for severely obese adolescents.

Studies of the effectiveness of obesity management in adolescents have covered behaviour modification programmes and pharmacological interventions. Behaviour modification programmes involving parents have been shown to help children and adolescents lose weight. For older children and adolescents there is some evidence that cognitive-behavioural modification programmes with no parental involvement may reduce weight over time.

Providing 'exercise on prescription', where patients are referred to a programme of exercise, usually delivered via a local leisure facility, has become increasingly common practice in the treatment of overweight and obese adults. Published reviews of these programmes demonstrate small but possibly meaningful improvements in physical activity patterns and other related measures. Many studies of the treatment of adolescent obesity have also used conventional exercise prescriptions. In both cases, strategies focused on increasing lifestyle activity, which carry fewer sport and fitness connotations, may prove to be more conducive for long-term weight control. ^{14,21}

The treatment of individuals within the health service may not be a sufficient means of tackling the rising epidemic of childhood and adolescent obesity. Excess weight is difficult to treat and there is a high failure rate. Reviews of recent studies have suggested that most paediatric obesity interventions are marked by small changes in relative weight or adiposity and by substantial relapse. The relative intellectual and psychological immaturity of some adolescents compared with adults, and their susceptibility to peer pressure, present practical obstacles to successful treatment.

Screening has been suggested as a means of identifying overweight at an early stage. However, in the absence of effective treatment, this approach has not been recommended in the general population. ⁶¹

Despite the well documented difficulties in weight management, health professionals (including GPs, school and practice nurses, nutritionists and clinical psychologists) may be able play an important role in the recognition and management of adolescent obesity. More research should be undertaken on the value of a multiprofessional team in the treatment of overweight and obesity. Description of the company of the professional team in the treatment of overweight and obesity.

The Royal College of Paediatrics and Child Health, in conjunction with the National Obesity Forum, have published guidelines on the weight management of children and adolescents. These emphasise the importance of providing ongoing support to make incremental changes in the behaviour of an individual or family willing to make lifestyle changes. The Health Education Board for Scotland (HEBS) has developed a comprehensive guide for primary healthcare professionals for the identification, understanding and treatment of obesity, including a thorough guide to childhood weight management. ⁶²

In order to establish good practice in the clinical management of adolescent obesity, future research must be sound methodologically, involve appropriately large numbers of participants in appropriate settings and be of longer duration and intensity. A priority for future research at this stage must be to identify the efficacy of the methods and treatments available to overweight and obese adolescents.³⁰

Summary

Nutrition, exercise and obesity can all have an impact on the health of adolescents and contribute to adult susceptibility to disease. These factors, particularly obesity, can also influence psychological wellbeing.

Adolescents in the UK are not eating optimal diets. Girls in particular fail to meet recommendations for exercise. As a result, in common with the rest of the population, overweight and obesity is increasingly prevalent among adolescents. There are socio-economic gradients in adolescent dietary habits and physical activity.

The government is increasingly concerned with interventions in adolescent nutrition, exercise and obesity. Across the UK, measures are being introduced to educate young people about nutrition and increase access to healthy food. The forthcoming National Service Framework for Children will address the issues of obesity and exercise.

Obesity is difficult to treat. Multidisciplinary teams may be able to help reduce weight and promote healthy habits among adolescents. Early intervention in children's lives is however, crucial for the promotion of good nutrition and exercise. Teaching parents, including adolescents, the importance of good early nutrition may be an effective way of promoting the health of future generations. Despite some evidence that school-based education can be effective in promoting better nutrition and exercise, there have been calls for an approach which addresses the structural and environmental causes of poor nutrition, inactivity and obesity. These include enhancing the opportunities for physical activity, increasing access to healthy foods and even limiting exposure to unhealthy food.

Smoking, drinking and drug use

Adolescents and smoking, drinking and drug use

The use of addictive substances by adolescents is an issue of great concern. This section reviews the prevalence of smoking, drinking and drug use and examines which adolescents are most likely to be involved with these behaviours. Interventions are examined and their effectiveness is assessed.

Smoking

A succession of studies affirm the causal connection between smoking and increased morbidity and mortality, the diseases concerned including many cancers, chronic obstructive airways disease, coronary heart disease and stroke. Although the major impact of smoking occurs later in life, even after a relatively short smoking career young smokers have poorer respiratory health. Most smokers begin in adolescence and the younger someone starts, the less likely they are to give up. Early initial use of tobacco also greatly increases the risk of lung cancer.

A recent report by the Schools Health Education Unit, examining trends between 1983 and 2001 in young people's attitudes to smoking, found that in 2001 adolescents were more likely than in previous years to 'experiment' with smoking. Around 40 per cent of 12 to 13 year olds and around 60 per cent of 14 to 15 year olds had tried a cigarette. 65

Adolescent girls are more likely to be regular smokers than boys. The national survey of 11 to 15 year olds *Smoking, drinking and drug use among young people in England 2002*, found that 11 per cent of girls smoked regularly (usually at least one cigarette a week) compared with 9 per cent of boys.⁶⁶

There is a sharp increase in smoking prevalence as adolescence unfolds. One per cent of 11 year olds in England smoke regularly compared with 23 per cent of 15 year olds. Among 16 to 24 year olds prevalence rises to 30 per cent among men and 26 per cent among women. The figure is higher still in Scotland where self-reported cigarette smoking among 16 to 24 year old men is 37 per cent.

Statistics for the prevalence of adolescent smoking across the various parts of the UK are not strictly comparable but prevalence figures are very similar. For example, the survey *Smoking, drinking and drug use among young people in Scotland in 2000* shows that 10 per cent of 12 to 15 year olds smoked at least one cigarette a week. As with England, there was a gender difference (13% of girls and 8% of boys smoking every week) and an age difference (2% of 12 year olds and 19% of 15 year olds being regular smokers). ⁶⁸

The prevalence figures for smoking among 15 to 16 year olds are the easiest to compare across the UK. In England 23 per cent of 15 year olds smoked at least one cigarette a week (2002)⁶⁶ while in Scotland this figure is 19 per cent (2000)⁶⁸ and in Wales 25 per cent (2000).¹³ In Northern Ireland 20 per cent of 15 to 16 year olds reported smoking daily and 32 per cent reported smoking in the last 30 days (1999).⁶⁹

Drinking

The drinking habits of adolescents arouse considerable concern due to both the prevalence of alcohol consumption and the amount drunk. Adolescents in the UK have one of the highest European levels of alcohol use, binge-drinking (consuming more than five drinks in a row) and getting drunk.

The survey *Smoking, drinking and drug use among young people in England 2002* found that 24 per cent of 11 to 15 year olds had an alcoholic drink in the last week: ⁶⁶ in Scotland the figure for 12 to 15 year olds was 21 per cent in 2000. ⁶⁸ In 2000, 55 per cent of Welsh 15 to 16 year olds reported drinking at least once a week. ¹³ In 1999, in Northern Ireland, 66 per cent of girls and 70 per cent of boys reported drinking in the past 30 days. ⁶⁹

As with cigarette smoking, there is a sharp increase in prevalence of drinking with age: only 5 per cent of all pupils aged 11 had had an alcoholic drink in the last week, but 47 per cent of 15 year olds had done so. 66 In Scotland in 2000 the figures stood at 6 per cent for 12 year olds and 39 per cent for 15 year olds. 68

In 2002, the average weekly consumption among English 11 to 15 year old pupils who drank alcohol in the last seven days was 10.5 units, a significant increase from the 5.3 units drunk in 1990. Both the prevalence of drinking, and the amount drunk, was slightly higher among boys than girls. In Scotland in 2000 12 to 15 year olds who drank reported drinking an average of 11.1 units a week. The amount drunk, but not the prevalence of drinking, was higher for boys than girls. The medically recommended alcohol limit for adults is 14 units per week for women and 21 units for men. Among 16 to 24 year olds, in 1997, 33 per cent of young men were estimated to be drinking more than 21 units of alcohol a week, and 9 per cent more than 50 units a week. Twenty-two per cent of women were estimated to be drinking more than 14 units of alcohol a week, and 5 per cent more than 35 units a week.

The Centre for Social Marketing carried out qualitative research on behalf of the Health Education Board for Scotland in 2000 exploring alcohol use and misuse among 15 to 24 year olds in Scotland. The attitudes which emerged from this study are likely to be representative of attitudes throughout the UK since England, Wales, Scotland and Northern Ireland have similar cultures and patterns of adolescent drinking. The study found drinking and intoxication to be pervasive behaviours and perceived as the norm in the context of leisure activities. Drinking experience is seen by adolescents to follow a 'natural' progression which starts in the early teens, increases over the following few years and is reduced as adolescents emerge unscathed into a life of increased responsibilities. These perceived patterns of drinking are substantiated by the Health Survey for England 1997. This showed that alcohol consumption increases during adolescence with age to a peak at about age 19 to 23 for men and 19 to 21 for women before it started to decrease by the age of 24. Attitudes and behaviour towards drinking were found to reflect few social limitations and considerable disposable income and time. However, they were bound by certain limitations such as work and study and therefore tended to be confined to one or two days a week where intoxication (rather than intense drunkenness) and value for money were the key aims.

Regular heavy alcohol consumption and binge drinking are associated with physical problems, antisocial behaviour, violence, accidents, suicide, injuries and road traffic accidents. They can also affect school performance and crime. Alcohol misuse is associated with a range of mental disorders and can exacerbate existing mental health problems. Adolescents report having more risky sex when they are under the influence of alcohol; they may be less likely to use contraception and more likely to have sex early or have sex they later regret. Drinking too much on a regular basis increases the risk of damaging one's health, including liver damage, mouth and throat cancers and raised blood pressure. Unhealthy patterns of drinking by adolescents may lead to an increased level of addiction and dependence on alcohol in adulthood. However, alcohol dependence is not confined to adulthood. In 2000, nearly 14 per cent of 16 to 19 year olds in Great Britain were found to experience dependence on alcohol. Although alcohol misuse is an issue relevant to the UK as a whole, adolescents and young adults are of particular concern because of the high prevalence of binge drinking and heavy alcohol consumption among this age group.

Drug use

Among the key findings of the survey *Smoking, drinking and drug use among young people in England in 2002* was the fact that 11 per cent of 11 to 15 year olds had used drugs in the last month and 18 per cent had used drugs in the last year; the proportion of boys was slightly higher than that of girls. Thirty-eight per cent of pupils had been offered drugs at some time; cannabis was the most common but 21 per cent reported that they had been offered stimulants and 17 per cent volatile substances to sniff. In Scotland in 2000, 14 per cent of 12 to 15 year olds reported using drugs in the past year (again a higher proportion of boys than girls) and 47 per cent reported that they had ever been offered drugs.

The use of illicit substances, and the likelihood of having been offered drugs, is significantly related to age. The Drug taking is considerably less common during the years of compulsory schooling than in the young adult years and rates of experimentation with drugs peak at the end of adolescence. In 2002 only 6 per cent of 11 year olds in England had used drugs in the last year, while 36 per cent of 15 year olds had done so. The British Crime Survey of 2001/2 found that 30 per cent of 16 to 24 year olds in England and Wales had used drugs in the last year and 19 per cent had done so in the last month. The figure for Scotland in 2000 was 19 per cent for use over the last year. The pattern for volatile substance use differs from that of other drugs, peaking in the mid-teens.

Cannabis is by far the most likely drug to have been used by adolescents in England, Scotland and Wales. The 2002 survey found that 13 per cent of 11 to 15 year olds in England had used it in the past year. ⁶⁶ In 2002 cannabis was used by 27 per cent of English and Welsh 16 to 24 year olds; ⁷⁶ the figure for this age group in Scotland was 15 per cent in 2000. ⁷⁷ Among 11 and 12 year olds however, use of volatile substances is more common than the use of cannabis. ⁶⁶ Volatile substance abuse is more common in Northern Ireland than in the rest of the UK. Though cannabis is the drug most widely used by adolescents in Northern Ireland, in 1999, 28 per cent of boys and 23 per cent of girls in the 15 to 16 year old age group reported ever having used volatile substances.

Recreational drug use among adolescents – defined as the use of psychoactive substances to 'have fun' in nightlife settings – is increasingly common. ⁷⁹ In dance settings, stimulant drugs such as MDMA (ecstasy), cocaine, and amphetamines are frequently used. Hallucinogenic drugs and plants and amyl nitrate ('poppers') are also taken. Cannabis, sedatives, hypnotic drugs and tranquillisers are sometimes used in conjunction with recreational drugs.

In 2002, 4 per cent of 11 to 15 year olds reported using Class A drugs in the last year. The British Crime Survey of 2001/2 found that, among 16 to 24 year olds in England and Wales, Class A drug use had not changed significantly since 1994. However, the use of cocaine, crack and ecstasy had increased and, overall, 9 per cent reported using Class A drugs in the last year.

The risks associated with acute and chronic drug misuse are well documented; a comprehensive summary can be found in the joint Department of Health and National Addiction Centre publication *Dangerousness of drugs*. Many associated risks are indirect but nevertheless important, such as the increasing number of fatalities caused by drug driving and the viral infections which can be transmitted by injecting users. ⁸¹

The greatest public health issue regarding the use of recreational drugs by adolescents is the possibility of long-term impairment caused by regular or 'binge' use of amphetamine-type stimulants such as ecstasy. There is also growing interest in the possible links between drug use and psychosis. Recent research has highlighted links between ecstasy use and long-term mental health problems including memory loss, lack of concentration and clinical depression. A recent study suggests that frequent cannabis use in teenage girls predicts later depression and anxiety, with daily users carrying the highest risk. There is also evidence that about one-fifth of adolescents who smoke cannabis become dependent on the drug by early adulthood. The risk of young adult cannabis dependence is most likely for regular adolescent users; weekly cannabis use seems to mark a threshold for increased risk of later dependence, with selection of cannabis in preference to alcohol possibly indicating an early addiction process. More immediate risks of recreational drug use include dehydration due to prolonged dancing in poorly ventilated rooms, traffic and other accidents, and the health risks of tablets taken and sold as ecstasy but containing other psychoactive substances.

Which adolescents smoke, drink and use drugs?

Several investigations have been made into the correlation between personality type, social circumstance and adolescent smoking, drinking and drug use.

It is clear from the rates of drug use, smoking and, especially, drinking among adolescents that these activities are not confined to the margins of adolescent life. Of the three activities, drug use is most commonly associated with social disadvantage. From reviewing recent studies however it is evident that no specific personality type, family background, socio-economic grouping or environmental situation categorically predicts drug use. The Joseph Rowntree Foundation published research in 1997, based on quantitative re-analysis of a survey and qualitative interviews, which showed that adolescents who had tried an illicit drug tended to be similar to those who had not in terms of sociability, self-esteem, 'puritanical' outlook and levels of trust and respect for their families. The findings of the Joseph Rowntree Foundation have more recently been repeated by the European Monitoring Centre for Drugs and Drug Addiction which stated that, contrary to common stereotypes, adolescents using recreational drugs are found predominantly among the young, studious, employed and relatively affluent.

Although smoking, drinking and drug use are widespread among adolescents, 'risk' and 'protective' factors have been identified which help to predict these activities. A survey of 11 to 16 year old pupils in five English schools identified several social factors influencing these activities. These 'risk factors' were ranked in the following order of importance:

- concurrent use of second and third substances
- · having been in trouble with the police
- · perceived poor academic performance and low academic expectations
- a lack of religious belief
- coming from a non-intact family
- favouring peer over family opinion
- having been suspended from school.

Many of these relationships were age-sensitive. Substance use peaked at age 15.85

A number of risk factors have been associated specifically with the uptake of smoking. These include the smoking behaviour and attitudes of parents, siblings and peers, family structure, school factors, risk behaviours, self-esteem and health concerns. Across Europe smoking prevalence among 15 year olds is lowest among those in intact families and highest among adolescents in stepfamilies. 87

Young people are more likely to smoke if family and friends are smokers. The Health Survey for England 1997 found that levels of smoking among 13 to 15 year olds were higher in households where at least one adult smoked (24%) than in households where no adults smoked (7%). However, parents who smoke influence young people's smoking habits less than same sex siblings who smoke. A 'smoking' close friend consistently appears to be an important influence. Studies have also found that peer group structure, consistently described by young people as hierarchical, is closely related to smoking behaviour. In one study, girls at the top of the social pecking order who projected an image of high self-esteem were identified as the most likely to smoke. The Teenage Smoking Attitudes Survey of 1998 found that 11 to 15 year olds with higher educational expectations were less likely to take up smoking.

The prevalence of 'regular' or 'current' smoking among adolescents does not normally appear to be significantly differentiated by social class. 'Regular' smoking can, however, be defined by surveys as having smoked at least one cigarette a week. A study in the west of Scotland, which examined the association between social class and adolescent smoking, found that the ratio of smokers from unskilled compared with professional backgrounds rose with increasingly stringent definitions of smoking. The Health Survey for England 1997 also found that both self-reported cigarette smoking and cotinine (a metabolite of nicotine) tests showed relatively low levels of cigarette smoking among adolescents in households in social class I and high levels among those in households in social class V. In analysis by accommodation type,

smoking prevalence was highest among young people in social housing and lowest among those in owner-occupied accommodation.²³

Lists of 'risk' and 'protective' factors associated with drug misuse have also been published. 81

In contrast to the term 'drug use', 'drug misuse' is often defined as drug taking which harms health or social functioning. Drug misuse may entail dependency (physiological or psychological) or drug taking that is part of a wider spectrum of problematic or harmful behaviour.

The factors associated with drug misuse include environmental influences such as availability, family influences including whether or not there is appropriate supervision, individual and personality factors including links with poor mental and emotional health⁹¹ and educational factors.^{78,92}

In 1996 the Health Advisory Service (HAS) detailed the factors associated with adolescent or adult drug misuse: 93

- physiological factors: physical disabilities
 - family factors:

belonging to families who condone substance misuse, where there is parental substance use, where there is poor and inconsistent family management, where there is family conflict

 $\bullet \ psychological \ and \ behavioural \ factors:$

mental health problems, alienation, early peer rejection, early persistent behavioural problems, academic problems, low commitment to school, association with drug-using peers, attitudes favourable to drug use, early onset of drug or alcohol abuse

• economic factors:

neighbourhood deprivation and disintegration.

Many of these risk factors also predict other adolescent problem behaviours such as alcohol problems, smoking, crime and sex-risk behaviour.

Although experimentation with drugs cuts across the social spectrum during adolescence, problematic patterns of use are concentrated among those who are worst-off. The risk factors which have been associated with problematic drug use in adolescence include youth offending, truancy, school exclusion, family problems and deprived communities. These are likely to be more prevalent among particular groups including those who are in the care of social services, those with parents who misuse drugs, young offenders, the homeless, school excludees and truants and those involved in prostitution: a combination of these experiences seems to increase adolescents' vulnerability to substance misuse. 93

Vulnerable adolescents have higher lifetime prevalence rates for the whole range of substances than their non-vulnerable peers. Those that use drugs generally start at an earlier age than do young people generally and commonly try an illegal drug by the age of 13 (they also initiate alcohol and tobacco use between one to two years earlier than their peers). The period following the transition to secondary school can be a particularly vulnerable time during which 'at risk' adolescents may become progressively disengaged from

school while experiencing poor levels of supervision in the home. 93

Comorbidities are vital to understanding smoking, drinking and drug use among adolescents. Concurrent use of the second and third substance is the highest risk factor for involvement in any one of these three activities. The Health Survey for England 1997 found that among 16 to 24 year olds, there was an association between alcohol and cigarette smoking: smokers were considerably more likely than non-smokers to drink more than 21 units a week (males) or 14 units (females). Moreover, many of the risk factors associated with these activities are common to all three.

It has been estimated that at least two-thirds of young people with substance misuse disorders are likely to have co-existing (usually pre-existing) psychosocial problems. Positive correlations have been found between substance misuse and suicide, depression, conduct disorder, school dropout and poor achievement. Traumatic events such as family conflict, bereavement and sexual abuse seem to initiate or increase drug use. It is likely that there is reciprocity between mental health disorders and substance misuse: the former acts as a potent risk factor for the latter, and substance use can contribute to the existing disorder.

Interventions in adolescent smoking, drinking and drug use

Interventions in adolescent smoking

The white paper *Smoking kills* set targets to reduce the prevalence of regular smoking among adolescents from a baseline of 13 per cent in 1996 to 11 per cent by 2005 and 13 per cent or less by 2010. ⁹⁵ The Government's tactics include making clear the risks of smoking and enforcing the law on under age sales.

Scotland has also set targets to reduce adults' and children's smoking behaviour. It hopes to reduce the prevalence of smoking for 12 to 15 year olds from 14 per cent in 1995 to 12 per cent in 2005 and 11 per cent by 2010. It also aims to reduce the social class gradients in the prevalence of smoking.⁹⁶

Interventions in adolescent drinking

The government has made a commitment to implement a National Alcohol Harm Reduction Strategy by 2004.

The Home Office has an interest in adolescent alcohol consumption because of the crime and disorderly behaviour that can result from irresponsible use. Its current strategy includes the enforcement of licensing regulations and consideration of education policy. The Department for Culture, Media and Sport, which is responsible for licensing laws, will introduce new measures to back-up restrictions on underage drinking. These are set out in the *Time for reform proposals for the modernisation of our licensing laws* white paper. ⁹⁷

During the nineties, new ranges of alcohol drinks such as alcopops were introduced onto the market. There has been significant debate on the appeal and marketing of these drinks to adolescents. Since 1990 there has been a substantial increase in the popularity of spirits and alcopops among 11 to 15 year olds, and especially among girls. Currently there is a voluntary code of practice governing the marketing of alcoholic drinks. Complaints can be made if it is considered that alcoholic drinks are marketed to appeal in particular to under-18s. However, there are no legislative powers to undertake enforcement. The UK government considers that non-statutory controls are effective in subjective areas of advertising and promotion content where they believe formal regulation is apt to be contentious.

In 2002 the Scottish Executive launched a plan for action on alcohol problems. Two key priorities of the plan are to reduce binge and harmful drinking by children and adolescents. Methods include a national communication strategy, prevention and education including school-based education and a framework leading to the improvement of and support for treatment services.

Interventions in adolescent drug use

Prevention of drug misuse is one of the Secretary of State for Health's 13 priorities and is subsumed within the NHS Plan. 100

The government's 1998 10-year strategy for tackling drug misuse *Tackling drugs to build a better Britain* announced significant new investment in drugs education and prevention. The strategy had four main aims:

- helping adolescents to resist drugs misuse
- protecting communities
- improving treatment
- stifling the availability of drugs.

When launched in 1998, the 10-year drugs strategy aimed to reduce 'last year' and 'last month' use of cocaine and heroin among adolescents under 25 by 25 per cent by 2005 and 50 per cent by 2008.

All local public agencies including the NHS, social services, police, probation, youth offending teams and education, are required to work together in planning drug misuse services. Each area has a Drug Action Team (DAT) coordinator to facilitate this work and provide substance misuse education for all adolescents and their families, advice and support for vulnerable groups, early identification of need and tailored support to those that need it. In 2001 *The young person's substance misuse plan* set out to ensure that drug interventions for adolescents are part of the provision of mainstream children's services.

In 2002 the government launched the *Updated drug strategy 2002*. ¹⁰³ This modifies the targets established by the 1998 drugs strategy to reduce Class A drug use to a set of vaguer promises. In addition, the *Updated drug strategy 2002* will:

- aim to increase participation of problem drug users in treatment programmes by 55 per cent by 2004 and 100 per cent by 2008
- launch a new communications campaign
- expand drug education and prevention programmes
- improve services for parents and carers
- expand substance misuse treatment within the youth justice system.

The *Updated drug strategy 2002* also aims to improve treatment and support. This involves, among other measures, increasing the involvement of GPs and other primary health care professionals working with drug users. Drug prevention takes place in the context of the Health Advisory Service four-tiered model of service interventions for adolescents where Tier 1 targets the general population, Tier 2 identifies the vulnerable, Tier 3 responds to those in need and Tier 4 provides specialised and intensive forms of therapy and other interventions for young drug misusers with complex needs.⁸¹

The government's current strategy focuses early interventions on people in vulnerable groups including the homeless, children in care, truants and children excluded from school, young offenders and children of drug users. Non-school services such as ConneXions and Positive Futures are intended to play an important role in ensuring vulnerable adolescents have access to education, diversions and support. ¹⁰²

NHS funding has been allocated for primary healthcare professionals to offer support to teachers in delivering drugs education as part of Personal Social and Health Education. These schemes have been piloted and interesting case studies and guidance are available. During these pilot interventions GPs have worked in primary school lessons to assist with drugs education. Under similar future schemes, schools will be encouraged to work in partnership with other primary healthcare professionals, police, drugs agencies and the youth service.

Although the UK government is responsible for setting the overall drug strategy, each devolved administration exercises its delegated powers to shape the strategy to address local circumstances. The Scottish Executive set out its drugs strategy in *Tackling drugs in Scotland: action in partnership* and in 2000 Wales launched *Tackling substance misuse in Wales: a partnership approach.*

Evaluating the effectiveness of interventions in adolescent smoking, drinking and drug use

Many risk taking behaviours such as binge drinking and drug use, peak during adolescence and early adulthood. Most adolescent use of recreational drugs is limited to a particular phase in a young person's life before work and family responsibilities take over. Evidence suggests that the main limiting factor of these behaviours is change in circumstance. Powertheless, the risk taking behaviours of adolescents are of concern to the government. Effective intervention would improve adolescents' current and future health and may prevent the development of addiction. This section reviews some of the most common types of intervention in adolescent smoking, drinking and drug use.

Limiting the availability of cigarettes, alcohol and drugs

Controlling access to cigarettes is a well established strategy in attempts to prevent adolescents from becoming addicted to tobacco. This forms part of the government's strategy set out in the white paper *Smoking kills* to reduce the prevalence of smoking among young people. The government is also hoping to reduce drinking among adolescents by enforcing the law on under age drinking. In drugs policy too, limiting the supply of illegal substances has consistently represented an important strand of the government's tactics.⁷⁸

There are two main strategies for limiting the access of adolescents to cigarettes and alcohol. Firstly, the government can enforce existing age restrictions on the purchase of these commodities in the hope that this will decrease their physical availability, secondly, it can choose to increase the price of tobacco and alcohol products thereby reducing their economic availability. In the case of drugs, the government can attempt to reduce both the physical and economic availability to adolescents by decreasing supply in the UK.

A reduction in the availability of illegal substances in the UK as a whole would reduce their use among adolescents. However, the efficacy of efforts to reduce the availability of cigarettes and alcohol for a specific age group is debatable. There is ample evidence that the great majority of young smokers have little or no difficulty purchasing cigarettes from a variety of retail outlets. Enforcement of licensing laws can have an effect on retailer behaviour but it is less clear whether these measures are likely to have much impact on adolescent behaviour. The Schools Health Education Unit found that, in 2001, 14 and 15 year olds were less likely to buy cigarettes from a shop than in previous years. As this activity is illegal for the under-16s, the downward trend suggests that attempts to dissuade young people from buying cigarettes from shops may be working. However, there are many potential sources of cigarettes for adolescent smokers including parents, friends and vending machines. A survey of drinking behaviour among 11 to 15 year olds in 2000 found that 49 per cent of pupils who have ever had a drink never buy alcohol. Purchasing from off-licenses (17% in 2000) or shops/supermarkets (9%) has become markedly less common since 1996, whereas increasing numbers have been purchasing from friends or relatives (17%).

Increasing the cost of cigarettes and alcohol may be a more effective method of reducing their use by adolescents. The evidence that tax and price increases reduce alcohol-related harm is stronger than that for the efficacy of educational measures. Increasing the price of cigarettes quickly and sharply has also been suggested as a potentially effective area for policy change to impact upon adolescent tobacco use. Smoking habits among adolescents have been found to be driven by the availability of both cigarettes and money. One study found youth, minorities and low-income smokers to be two to three times more likely to stop smoking than other smokers in response to price increases. However, while a packet of cigarettes can be perceived as expensive, adolescents do not necessarily consider individual cigarettes themselves to

be expensive given the amount consumed, the availability of single cigarettes from friends or unscrupulous retailers, and the relative availability of cheap cigarettes on the black market. For this reason there can be no guarantee that increasing the cost of cigarettes will reduce adolescent smoking. Unless tobacco tax closes the price gap between products, an increase in the price of premium brands can only lead to an increase in consumption of cheaper brands, including hand-rolling tobacco.

Managing the availability of cigarettes, alcohol and drugs does not directly tackle the attitudes of adolescents to these substances. This makes it unlikely that adolescents will modify their behaviour where these substances are still available. Attempts to limit the availability of cigarettes and alcohol also fail to take into account the maturity and autonomy that adolescents often feel lies behind their decision to smoke or drink. It has been found that adolescent smokers believe that they are old enough to make up their own minds about smoking and, as a result, tend to hold negative opinions about the importance and effectiveness of tobacco control.¹⁰⁵

Regulating the advertising and marketing of cigarettes and alcohol

Advertising and marketing are likely to be relevant in adolescents' decisions to start smoking or drinking. The Teenage Smoking Attitudes Survey of 1998 found adolescents' awareness of cigarette advertising and sponsorship of sport to be well established. The Centre for Social Marketing study found not only that peer activity and social norms support drinking and intoxication, but that active marketing and retailing strategies positively encourage and enable the process. In the wider environment perceived general population norms and marketing activity generate a sense of acceptability and encouragement of drinking among adolescents. The strategies positively encouragement of drinking among adolescents.

Calls for tighter regulation of advertising, broadcasting, sponsorship and packaging of both alcohol and cigarettes have wide support. Alcohol Concern has recently made detailed recommendations for controlling the promotion of alcohol and for promoting responsible drinking. ¹⁰⁹ Appropriate, clear labelling may also help promote healthy behaviour among adolescents. Health warnings against excessive alcohol consumption could be incorporated into alcohol advertisements while lower cost, low alcohol and non-alcoholic drinks are promoted. ¹¹⁰

Educating adolescents about the dangers of tobacco, alcohol and drugs misuse

School-based education, has been the most common method used to prevent the uptake of adolescent smoking, drinking and drug use. For example, educating adolescents about the risks of smoking is one of the key tactics currently used by the government to reduce the prevalence of regular smoking. Similarly, the Scottish plan for action on alcohol gives priority to public information and education, with less emphasis on control policies and treatment.

This approach can have several drawbacks, the most obvious being that school-based programmes often fail to reach the most vulnerable adolescents who may be excluded from, or non-attenders at, school. Education programmes for adolescents may also be provided too late since attitudes towards smoking may already be established. Where education is provided, it has therefore been suggested that policy makers should consider targeting children as young as four to eight years of age. ¹⁰⁴

The approaches traditionally used in school-based education have also been questioned. A review of recent studies, mostly from the US and Canada, found that evidence for the effectiveness of school-based programmes in preventing the uptake of smoking is limited. The Schools Health Education Unit found that the proportion of adolescent smokers wanting to give up had not risen between 1983 and 2001, despite anti-smoking campaigns and health education programmes. This suggests that anti-smoking information is not effective for these adolescents or that the other 'smoking' influences are too great for anti-smoking campaigns and health education programmes to overcome.

In the past, education strategies have often included scare or shock tactics, based on the assumption that adolescents started to smoke because they lacked knowledge about the adverse effects associated with smoking. However, a study of adults in Britain found no evidence to suggest that smokers deny the health risks of smoking: a study of adolescent smokers in the UK and US found that most respondents perceived themselves as mature, informed, autonomous and knowledgeable adults at low risk from the long-term consequences of smoking. 105

Health promotion messages and advice on smoking cessation generally focus upon the negative aspects of continuing to smoke and contrast these with the benefits of giving up; yet many smokers perceive a number of benefits from smoking, and health and social problems with the process of cessation. The 1998 Teenage Smoking Attitudes Survey found that smokers were more likely than non-smokers to perceive benefits from smoking – such as its perceived calming effects and role in image and slimming. Another study of adolescent smokers' perceptions found that they identified many benefits of smoking, enjoyed the physiological effects and social benefits and perceived it to relieve stress, reduce boredom and boost self-image and identity.

It has been suggested that perceived benefits of alcohol consumption, based on personal positive experiences, also play an important role in the drinking behaviour of adolescents. Therefore, like smoking policy, alcohol education may need an increased focus on positive outcomes.¹¹³

Though acknowledgement of the attractive, pleasurable aspects of smoking and drinking and even drug use may be seen as unacceptable and irresponsible, it could provide an opportunity to relate better to adolescents. Understanding adolescents' attitudes and behaviours before implementing education policies is likely to increase the effectiveness of interventions. It is the perception that adults do not understand adolescent choices that may sometimes limit the impact of health education. Where education is used to encourage prevention there is evidence that peer-led programmes are more effective than teacher-led programmes.

More methodologically sound evaluations of interventions undertaken in schools are needed to judge the efficacy of health education programmes and promote good practice.

Education promoting the development of social skills

Health education policy in schools has recently begun to move away from the traditional emphasis on risk, towards an emphasis on social and environmental factors which influence smoking, drinking and drug use. The government's present drug strategy for example seeks to teach people from the age of five upwards 'the skills needed to resist pressure to misuse drugs'. Evidence for the effectiveness of these strategies is scarce. Adolescents may reject such approaches if they feel that their behaviour is determined by personal choice. Moreover, these programmes are unlikely to reduce initial experimentation if, as some evidence suggests, People who try drugs possess similar or greater levels of attributes such as self-esteem as the general population.

Nevertheless, reviews of the existing evidence suggest that programmes which combine components on short-term health, information on social influences and training on how to resist pressure, seem to be more effective than traditional knowledge-based interventions. The Health Development Agency has found that interactive programmes, which foster the development of interpersonal skills, may reduce alcohol use. While life skills programmes may not prevent initial experimentation, they may help to prevent misuse and could be targeted at those most likely to develop problems. Before the development of the prevent misuse and could be targeted at those most likely to develop problems.

The use of mass media

Mass media campaigns have become increasingly popular and are seen as a particularly appropriate method for delivering health messages to adolescents. There are methodological problems with many of the studies of media interventions but some support seems to be provided for their effectiveness. ¹⁰⁴ There

is potential to use the media, not only to publicise the risks of smoking, drinking and drug use, but also to disseminate information on substance abuse and how specifically to access medical services to help.¹¹⁰

The intensity and duration over which health education messages are delivered appear to be important factors. Research suggests that health education messages also need to come from a credible source; a government or even NHS provenance may be rejected. Campaigns should be adequately funded and their messages must be kept simple and relevant. Consideration needs to be given to the information presented in media campaigns, especially since, by its nature, it is not targeted at key populations.

Targeting interventions in adolescent smoking, drinking and drug use

As discussed earlier, some adolescents are more vulnerable than others to smoking, hazardous drinking and the misuse of drugs. It is important that health policy recognises this fact and, especially where resources are scarce, targets interventions to 'at risk' populations. Responses to widespread recreational drug use and drinking should focus specifically on those who are most at risk of developing problematic habits and long-term health problems, even though general use is widespread. Because the most vulnerable adolescents are often disengaged from the education system, targeted intervention must be integrated into the wide range of other services provided for vulnerable young people. This suggests that successful intervention strategies will be multiprofessional in nature and necessitate a good awareness of drugs issues among staff in all adolescent services.

Targeting interventions at the most vulnerable adolescents is often associated with early, pre-emptive, interventions. In the context of substance misuse for example, it has been suggested that interventions should focus on children who, in primary school, begin to display educational or behavioural problems, or appear to be disengaging from education. Early, targeted intervention in these cases could consist of extra support in the last few years of primary school to ease the transition to secondary schools. The government's current drugs strategy is commendable in that it aims to target resources on the most vulnerable adolescents.

Multifaceted interventions

There is evidence that community approaches involving multiple coordinated intervention components can influence adolescent behaviour, particularly when multiple sites within a community are targeted. For example, age restrictions for tobacco purchase, smoke-free public places, media campaigns and school programmes can be combined in an integrated approach. Multifaceted approaches to smoking prevention recognise the complex range of individual, social and environmental factors influencing decisions to smoke, drink and use drugs.

There is evidence to suggest that restrictions on smoking at home, even when parents smoke, more extensive bans on smoking in public places, and enforced bans on smoking at school may reduce adolescent smoking. Such measures give an unequivocal message to adolescents about the unacceptability of smoking. The government's Healthy Schools Programme recognises the influence of the school environment. Although school smoking bans are common, they are often poorly complied with. Both the absence of smoking policies in schools, or lapses in enforcement, may be instrumental in shaping adolescents' views about the acceptability of smoking. Schools should aim to create supportive environments by consistently enforcing bans on pupil smoking.

Harm minimisation approaches

Harm minimisation approaches to mainstream recreational drug use are common throughout the EU. For example, simple, basic rules in the organisation of dance events can effectively prevent some immediate harm caused by drugs such as ecstasy. Dissemination of information on long-term risks to recreational drug users at nightlife venues may also be useful. For injecting drug users, harm minimisation interventions such as needle exchange schemes have been in operation for many years in an attempt to prevent the transmission of blood borne diseases such as hepatitis C and HIV.

Treatment

The treatment of adolescents involved in substance misuse has not traditionally been high on the government's agenda. While there is a growing body of evidence on the effectiveness of treatments in the adult addiction literature, there is a dearth of literature regarding the treatment of adolescents. Services and programmes for the treatment of smoking, drinking and drug use have been fragmented and are often ill-equipped for dealing with adolescents. Many treatment programmes are biased towards adults and involve adopting adult treatment models. However, given the already high prevalence of regular smoking and drug use in this age group, and the worrying levels of alcohol dependence, helping adolescents to change their habits may be as important as prevention. In contrast to alcohol or drug use, *misuse* is likely to necessitate clinical intervention.

Brief interventions in hospital emergency departments or in primary care settings have been shown to reduce hazardous and risky drinking. There is also strong evidence for the effectiveness of brief interventions in the treatment of adolescents with early signs of drug misuse. A brief intervention typically consists of two or three sessions in which education on substance use is combined with attempts to increase the participant's motivation to think about and address their substance using behaviour. ⁸¹

Cessation counselling and substitute prescribing can help modify smoking and drug taking behaviour. Many adolescent smokers may have tried to quit at least once. The Schools Health Education Unit found that, in 2001, 75 per cent of adolescent smokers wanted to give up. The three most common reasons regular smokers of 11 to 15 try to give up is worry about health, cost and fitness. Knowing this may help to inform education and treatment policy. One study in 1991 found that 60 per cent of teenage smokers who received smoking cessation counselling agreed a contract with the GP to give up. Trials are currently under way to assess the effectiveness of nicotine replacement therapy for people under 16. In the case of drug use, substitute prescribing can prevent or reduce harm to the individual or the public.

Many of the problems facing dependent drug users are far beyond the remit of medical interventions and working in multiprofessional teams is becoming an increasingly popular approach in treating and intervening in adolescent smoking, drinking and drug use. This may involve collaboration between doctors, school health services, young offenders teams, social workers and specialist treatment centres. This is a particularly valuable approach in drug prevention, where adolescent use is frequently related to other complex, non-medical social problems.⁸¹

The answers to adolescent smoking, drinking and drug use are unlikely to be simple and will probably require multiprofessional and multi-tiered service provision. Alcohol Concern, and similar organisations, are calling for coordinated core services for those in need of support and treatment. This would include outreach work, screening in primary healthcare and hospital settings, minimal interventions and brief treatments within primary healthcare, hospital and alcohol services settings, longer term specialist remedial treatment and self-help support groups. ¹⁰⁹

Summary

Adolescents in the UK are increasingly likely to experiment with smoking and use recreational drugs. Over time they have begun to drink greater quantities of alcohol and now have one of the highest levels of alcohol use and binge drinking in Europe. Smoking, drinking and drug use are all significantly related to age and their use increases throughout adolescence. There are slight gender differences; girls are more likely than boys to smoke, but drinking and drug use are slightly more common among boys. The use of addictive substances is spread across all sections of the adolescent population. However, certain social, educational, family and peer factors are associated with the use of alcohol, tobacco and drugs and problematic use is concentrated among the worst off. Many young people who misuse substances are likely to have co-existing mental health problems.

The risks of using addictive substances are well documented. Adolescents who smoke suffer increased mortality and morbidity including poorer respiratory health, lung cancer, heart disease and stroke. Heavy drinking and drug use can lead to physical, emotional, mental and social problems. All three types of substance abuse pose risks of dependence.

The government has set targets to reduce the prevalence of smoking and drug use among adolescents and is working on interventions to tackle alcohol misuse. It is also working to provide targeted education and coordinated services for adolescents and drug users.

Changes in circumstance and the acquirement of responsibilities are often the most effective factors in stopping the abuse of alcohol and drugs. However, in view of the damage that these substances can inflict and their addictive nature, policy makers are bound to continue to seek effective interventions. Reducing the availability of drugs, cigarettes and alcohol may have an impact on adolescent use. In particular, there is evidence that increasing the price of cigarettes and alcohol may be an effective intervention. However, these policies can prove impractical and do nothing to tackle adolescents' attitudes. Stronger regulations of the marketing of cigarettes and alcohol may help to change attitudes and reduce abuse. Education, though an important strategy, may fail to reach the most vulnerable adolescents. If it is used, incorporating an understanding of adolescents' attitudes and an element of social skills development is likely to be important. Media strategies and multifaceted community interventions can help to reduce smoking, drinking and drug use among this age group. Harm minimisation and treatment, though not historically a focus of intervention, may become more important, particular in helping to reduce the prevalence of smoking. Since misuse of alcohol and drugs is concentrated among the disadvantaged, targeting successful intervention is likely to be both efficient and effective.

Mental health

The mental health of adolescents

The mental health of adolescents is extremely important, not only in itself, but also because of the strong links that it has with adolescent health risk behaviours, violence and delinquency. In many senses, mental health is at the centre of adolescent health frameworks. Poor mental health can influence exercise patterns, obesity and body image, substance abuse and sexual behaviour.

A recent Office for National Statistics (ONS) survey reported that one in 10 children and young people suffer from a mental disorder. However, many commentators suggest that, at any one time, up to one in five children and young people experience some form of psychological problem. Young Minds, a child mental health charity, has calculated that in any secondary school of 1,000 pupils there are likely to be 50 pupils who are seriously depressed, 100 suffering serious distress, between 10 and 20 pupils with obsessive compulsive disorder and between five and 10 girls with an eating disorder.

This chapter reviews the mental health of adolescents in the UK. It begins by outlining common definitions of mental health and explaining some of the methods used to measure it. It then explores the prevalence of mental health disorders among different groups of adolescents. Finally, current interventions in the mental health of adolescents are outlined and assessed.

Defining and measuring mental health

As a recent review of mental health data notes, inconsistency arises because there is no agreed definition of what constitutes mental health. The clinical model tends to focus on 'mental disorders', or illnesses usually associated with considerable distress and interference with an adolescent's everyday life. 122

'Mental disorders' can include:

- emotional disorders such as phobias, anxiety and depression
- conduct disorders
- hyperkinetic disorders such as attention deficit disorder
- · developmental disorders
- habit disorders
- eating disorders
- post-traumatic syndromes
- somatic disorders such as chronic fatigue syndrome
- psychotic disorders such as schizophrenia and drug-induced psychosis.

An alternative definition of mental health includes general happiness and overall satisfaction with life, rather than just the absence of clinical disorders. Some commentators refer to this as 'emotional wellbeing'.¹²⁵

Measuring the mental health of adolescents is difficult. Medical records focus on narrow clinical definitions and record only those people who use services. For this reason, most data sources rely on questionnaires administered to the general population to gain information on adolescents' mental health. For example, the ONS uses a combination of clinical measures and the General Health Questionnaire (GHQ12) for 13 to 24 year olds, or the Strengths and Difficulties Questionnaire (SDQ) for four to 15 year olds. The self-administered GHQ12 asks about general levels of happiness, depressive feelings, anxiety and sleep disturbance while the SDQ is filled out by parents and focuses on emotional and behavioural problems.

Mental health problems in adolescence

Adolescence is an important phase for mental health. Early adolescence (11 to 14 years) is characterised by high rates of conduct and emotional disorders, with adult-type depressive disorders beginning to make an appearance. Mid and late adolescence are peak ages for the onset of depressive disorder, schizophrenia¹²⁴ and other mental health disorders. While statistics are available on the general mental health of adolescents, certain disorders are commonly isolated by researchers due to their relatively high prevalence among adolescents or their high rates of related mortality.

Conduct disorders, the most frequently diagnosed disorders for children and young adolescents, are characterised by a repetitive and persistent pattern of dissocial, aggressive or defiant conduct. Conduct disorders in childhood predict many adverse developmental outcomes, including educational underachievement, juvenile offending, substance misuse and dependence, anxiety, depression and suicide attempts. ⁹⁴

Depressive symptoms are very common in adolescence. There is now good evidence for a modest genetic component of these symptoms. ⁹⁴ The ONS survey of 2000 estimated that depression occurs in 1.7 per cent of boys and 1.9 per cent of girls between the ages of 11 and 15. ¹²² Most depressive disorders at this age are comorbid with anxiety states or, slightly less commonly, with conduct disorder. ¹²⁷

One of the most widely discussed mental health disorders is self-injury or self-harm. Deliberate self-harm involves intentional self-poisoning or injury. Common examples include; hitting, cutting or burning oneself, pulling hair or picking skin, and self-strangulation. As with other mental health issues, the prevalence of self-harm can be hard to gauge. A recent National Statistics survey found that about one in 17 people from 11 to 15 years old had tried to harm, hurt or kill themselves. However, this figure could be as high one in 10. Deliberate self-harm is especially common in adolescent girls but rates are increasing among males. Although the mean age of the self-harm population is in the early 30s for both sexes, the peak age for presentation is 15 to 24 years for women and 25 to 34 years for men. Risk factors for female self-harm include self-harm by friends or family members, drug misuse, depression, anxiety, impulsivity and low self-esteem. In males, risk factors include suicidal behaviour in friends and family members, drug abuse and low self-esteem.

Eating disorders such as bulimia and anorexia nervosa tend disproportionately to affect young females. They have one of the highest death rates of all psychiatric illnesses and, even when not fatal, can lead to serious chronic medical complications. ¹³³

The mental health issues affecting adolescents, unlike those affecting younger children, extend to suicide. Although the rate of suicide is very low under 14 years old, attempted suicide begins to occur around 11 to 12 years old and rapidly increases in frequency in the early and mid-teens. There are 13 suicides per 100,000 15 to 19 year olds each year; young men in this age group are particularly at risk and are less likely than girls to show their distress beforehand.

Which adolescents have mental health problems?

Evidence suggests that age, gender and family-related factors are extremely important in explaining the mental health of adolescents.

Adolescents are more likely to experience mental health problems than younger children, and the likelihood of having a mental disorder increases throughout adolescence. These age differences are particularly pronounced for emotional disorders. ¹²⁵ The Health Survey for England of 1997 reported that while only 6 per cent of boys aged 13 to 15 had a score of over 4 on the GHQ12 (the threshold used to identify possible psychological illness), 10 per cent of young men aged 16 to 19 did. This compared to 14 per cent of girls aged 13 to 15 and 21 per cent of young women aged 16 to 19. ²³

Most studies have found pronounced differences in mental health by gender, although effects differ by type of disorder. The Health Survey for England's study of four to 15 year olds found that boys were more likely than girls to have conduct and hyperkinetic disorders and peer problems; girls were more likely to experience emotional symptoms. A Scottish study of 11, 13 and 15 year old pupils found that, by the age of 15, a clear excess in female general ill-health and depressive mood had emerged. 135

The Health Survey for England 1997 found GHQ12 scores of 13 to 24 year olds did not vary significantly by social class or household income. The prevalence of high GHQ12 scores was greater among lone parent families than among two parent families. Females' scores were significantly associated with those of their mother, but not their father, while scores of males were not associated with those of either parent.²³

For children and younger adolescents, the SDQ revealed that behavioural, emotional and relationship difficulties increased from social class I to social class V and from higher to lower income households; there was a significant inverse relationship between the SDQ score and the mother's educational attainment. These difficulties were more common in lone parent households than in two parent families.²³

Using different instruments for measuring mental health, the 2000 report *The mental health of children and adolescents in Great Britain* also found that the quality of family relationships, levels of parental stress and family type were linked to adolescents' mental health. The study found that mental disorders were more common among five to 15 year olds who

- were children of lone parents (16% were defined as having a mental disorder, compared to 8% of children of couples)
- came from reconstituted families or larger households
- came from families where parents stated that there was poor communication and low levels of support (18% were defined as having a mental disorder compared to 7% in other families)
- had parents who were assessed as having a neurotic disorder (18% compared to 8% respectively)
- had experienced three or more stressful life events (31% of children with mental disorders).

In this survey of children and younger adolescents, a clear relationship was found between social class and mental health, with nearly three times as many children in social class V families having a mental disorder compared to children in social class I families. In particular, 10 per cent of children in social class V families suffered a conduct disorder, compared to only 2 per cent of children from social class I. The ONS study also found that the probability of a child having a mental disorder in a family where both parents were unemployed was nearly twice that of a child in a family where both adults in the family were employed. ¹²⁵

Risk factors for conduct, depressive and anxiety disorders include:

- adverse temperamental characteristics in the child
- parental mental illness, substance misuse, marital disharmony or personality disorder
- chronic or acute stress at school, at home or in the neighbourhood
- use of tobacco, alcohol and illicit drugs.

Specific risk factors for conduct disorder include:

- inadequate parental supervision
- use of physical methods of punishment
- violence in the home
- a family history of criminal behaviour
- a history of attention-deficit/hyperactivity disorder (ADHD) in the child
- a delinquent peer group
- academic underachievement
- attendance at a 'failing' school.

Specific risk factors for anxiety and depressive disorders include a family history of these conditions, and earlier experience of child abuse. ¹²⁷

A longitudinal study of over 4,000 families found that maternal anxiety and depression, poverty, parent relationship conflict and marital break-up during early childhood are associated with a small, but significantly increased risk, of anxiety-depression symptoms in adolescence. ¹³⁶

Childhood and adolescent abuse can have a significant impact on mental health. Adolescents who experienced physical and sexual abuse as children are significantly more likely to experience moderate to severe depressive symptoms and moderate to high levels of life stress as well as regular smoking, alcohol consumption and illicit drug use. ¹³⁷ Evidence suggests that adolescent and persistent maltreatment have stronger and more consistent negative consequences during adolescence than does maltreatment experienced only in childhood. ¹³⁸

A recent study of the psychological effects of stress in childhood and adolescence found a significant association between stress and psychological symptoms. In adolescence high levels of stress, whether assessed in terms of negative life events or negative circumstances, were found to be associated with emotional disorders like depression and anxiety. The study suggested that, since there is an association between the total number of stressors and the probability of having mental health problems, societal-level factors place certain populations of children at risk.

Some groups of adolescents are known to be at high risk of mental disorders. These include adolescents who:

- have physical or learning disabilities
- are in care or are care leavers
- are excluded from school
- are in the criminal justice system
- are homeless
- are young carers, especially of a parent with mental illness.

Interventions in adolescent mental health

When assessing interventions in adolescent mental health, it is important to stress the difference between promoting 'emotional wellbeing' among adolescents and the treatment of mental health disorders. The arenas and approaches to interventions in these two areas are markedly different.

Promoting 'emotional wellbeing'

It has been suggested that school-based mental health initiatives are appropriate interventions in adolescent mental health. These could include educating school pupils about mental health problems and screening for those most at risk. ¹³¹

Mental health promotion focuses on public awareness and understanding of mental health to encourage the earlier recognition of the signs of emotional and psychological distress and add to knowledge about the help available.⁹⁴

A recent study of secondary school students revealed that adolescents use an extensive vocabulary of 270 different words and phrases to describe people with mental health problems; most of these were derogatory. The same research showed that short education workshops can produce positive changes in participants' reported attitudes towards people with mental health problems.

In 2001 the government issued guidance on promoting children's mental health within early years and school settings. School nurses and other school professionals may be in a key position to help adolescents handle stressful events in their life before a crisis develops. For example, the identification by teachers of children showing sudden or gradual onset of withdrawn and depressive behaviour, followed by the offer of counselling, may have positive effects in the prevention of depressive disorders in early adolescence. In some areas, school nursing services, linked to primary care, have set up drop-in clinics in or close to secondary schools to provide a first-line service for less severe problems to prevent the development of more serious mental disorders.

Schools signing up to the Healthy Schools Initiative are expected to monitor progress to achieve emotional health and well-being. Social skills training in schools and life skills training for at risk groups may help to improve the mental health of adolescents. An anti-bullying programme is now mandatory in all schools. These offer the possibility of reducing rates of depression and suicidal behaviour which may be associated with victimisation and bullying. However, few studies have examined the mental health problems of adolescents who are being bullied. One study found that bullied adolescents are more anxious. It also found that there is a relation between having a high depression score and being a bully.

Sport and physical activity is generally believed to be beneficial to young people's psychosocial health. Physical activity is associated with lower levels of mental health problems, and seems to promote self-esteem. One study concluded that emotional wellbeing is positively associated with extent of participation in sport and vigorous recreational activity among adolescents. 146

Interventions in mental health disorders

The present government has shown some initiative in interventions in mental health. It has for example launched a national suicide prevention strategy for England. Most importantly for adolescent mental health, a children's national service framework, including standards for mental health services, is due to be published in 2004.

Of all the issues discussed in this review of adolescent health, mental health services for adolescents are perhaps the least targeted. Although the government has promised to turn its attention to adolescent mental health strategies, the current English national service framework for mental health focuses almost exclusively on services for adults.

Currently, specialist mental health services for adolescents are provided by either Child and Adolescent Mental Health Services (CAMHS) or by adult mental health services. A recent review by the organisation for children's mental health, Young Minds, found that many CAMHS and other professionals report a dangerous lack of service cover for adolescents with mental health problems. In reality neither CAMHS nor adult mental health services can always provide the services that adolescents need. Many paediatric wards and adult psychiatric wards are unsuitable for young people with mental health problems. Moreover, the transition from CAMHS to adult mental health services can prove difficult for some adolescents who may drop out at this point. At present CAMHS frequently does not address drug and alcohol problems directly, despite evidence of the strong links between alcohol and drug misuse and mental health problems.

Young Minds has recommended that a mental health service for adolescents must have user sympathetic access and facilities which are appropriate and acceptable to young people. Staff should be interested in working with adolescents and have specialist knowledge of typical adolescent mental health issues such as self-harm, eating disorders, early psychosis and complex behavioural problems. A flexible and seamless service must be created to carry adolescents through to adult mental health services. Young Minds believes that this can be best achieved through the creation of local, virtual, multiprofessional teams for adolescents.

The mental health of adolescents is closely related both to other health problems and behaviours. For example, young people who are misusing drugs or alcohol have the highest risk of death by suicide. ¹³⁴ Also, research indicates a link between cannabis and psychosis as well as between marijuana and depression. The National Statistics study of self-harm found that 11 to 15 year olds who had tried to harm, hurt or kill themselves were much more likely to have a physical complaint such as difficulties with coordination or epilepsy. These statistics are important to bear in mind when designing interventions in adolescent mental health. Understanding the prevalence of problems across different groups can help target interventions. It is also vital to recognise the part played by substance abuse in mental health so services can be delivered effectively. The Royal College of Psychiatrists has recommended that preventative measures should be targeted at those young people at high risk of suicide, especially those suffering from conduct disorder, schizophrenia, major affective disorder, drug and alcohol misuse and anorexia nervosa.

There is an ongoing debate about who should be responsible for child mental health services. Health professionals including health visitors, GPs, paediatricians, clinical psychologists and psychiatrists have a part to play in prevention, early detection and management of mental health problems. However, mental health problems are often a result of a combination of biological and environmental forces. For example, self-harm is associated with problems with employment, education and finance. Healthcare practitioners may therefore be involved in the identification and treatment of adolescent mental health in partnership with social services and education. The Acheson Report recommended that primary healthcare should play an important role in identifying and coordinating the management of people at high risk. Community mental health teams can ensure effective working between different disciplines and agencies which should address all the needs of the patient, including employment, housing and social support.

There are many forms of treatment for mental disorders. Psychotherapeutic approaches, for example, can take the form of cognitive-behavioural therapy, family or group therapy or psychodynamic therapy. Until recently, pharmacological treatments were considered inappropriate for the majority of adolescents suffering from psychiatric disorders. However, over the past decade, drug treatments have increasingly come to be recognised as appropriate for adolescents, albeit with caution and often in conjunction with psychological treatments.⁹⁴

Since mental health problems are often the result of a combination of biological and societal factors, changes at a societal level may help to reduce mental illness among adolescents. For example, it has been suggested that reducing exposure to media images of thin women, and increasing awareness of issues

relating to body image, self-esteem and pressure to diet in the school curriculum, may reduce the risk factors for eating disorders and increase young people's resistance to them. ¹⁵¹

The importance of intervention in adolescent mental health

A recent follow up study of children and adolescents with mental health problems suggests that psychopathology often persists into adulthood, particularly among those with conduct disorders and hyperkinesis. Analysis of this persistence led the researchers to suggest that everyone in contact with adolescents should take the symptoms of emotional distress, behavioural difficulty and hyperactivity seriously, as they impair function and development and are unlikely to be transient. Evidence based interventions may help alleviate distress and minimise the secondary handicap that results from disrupted education and impaired social development caused by mental health problems in adolescence. Ongoing research shows that early assessment and treatment of even the more serious and enduring mental health disorders can reduce problems later on. For example, robust evidence exists for the efficacy of behavioural parenting training programmes for children with conduct disorder. School-based behavioural interventions can also be effective.

Summary

Up to one in five adolescents may experience some form of psychological problem. Adolescence is an important time in the development of mental health disorders and the likelihood of having one increases with age. There are gender differences in the mental health problems experienced by adolescents, and some evidence that socio-economic variables are related to mental health disorders in early adolescence.

Family type, educational level of the mother, individual characteristics, substance misuse and educational factors are associated with the likelihood of developing a mental health problem. Some adolescents including those with disabilities, those in care, school excludees, the homeless, those in the criminal justice system and young carers are at a greater risk of developing mental health disorders.

Interventions to promote emotional wellbeing among adolescents can include education about mental health problems and the identification of those in need of help. The provision of school nurses or some sort of first line service may help to promote emotional wellbeing. Social skills training and anti-bullying policies within schools may also help to promote mental health.

There have been some recent interventions by government in adolescents' mental health disorders and the National Service Framework for children is expected to introduce new interventions. To date however, the provision of mental health services has been inadequate and poorly targeted. Provision should be integrated with other services, especially those for substance abuse which is often linked with mental health problems. Early intervention in adolescent mental health problems is essential to try to stop the deterioration of mental health, alleviate distress and minimise the impact of mental health disorders on education and social development.

Sexual health

Adolescents and sexual health

This section discusses the current status of adolescent sexual health in the UK, looking specifically at the issues surrounding sexually transmitted infections(STIs) and teenage pregnancies. It begins by defining sexual health and outlining sexual activity in adolescence. It then explores the prevalence of STIs and teenage pregnancies. Finally, interventions in the sexual health of adolescents are outlined and assessed.

Sexual health and sexual activity in adolescence

As a recent review of sexual health in adolescence has noted, it is important to be clear about the scope of the relevant health issues in order to make a sensible assessment of the sexual health of adolescents.

Sexual health

At its simplest, sexual health is compromised when sex is forced or unwanted and/or it has undesirable health or reproductive consequences such as the transmission of an STI or the conception of an unwanted pregnancy. The World Health Organisation's definition of sexual health goes further to include a state of physical, emotional, mental and social wellbeing related to sexuality.

Sexual competence is an important concept for understanding adolescent sexual health. The National Survey of Sexual Attitudes and Lifestyles (NATSAL) 2000 used four variables relating to circumstance: regret, willingness, autonomy and contraception at first intercourse to construct a measure of sexual competence. Sexual competence may protect adolescents' sexual health by ensuring that sexual intercourse is not coerced and that contraception is used to help prevent unwanted pregnancy or the transmission of STIs.

Although sexual competence, particularly the use of contraception, can help to protect the sexual health of adolescents, no sexual intercourse is risk free. Condoms provide the best protection against STIs but can be an unreliable method of protection, especially among people who lack experience. At least one survey of pregnant teenagers has found a large proportion (in one survey, 80%) of 13 to 19 year olds claimed to be using contraception at the time of conception. Many of the condom users knew why the contraception had failed, attributing conception to the condom splitting, coming off or leaking.

In England, Scotland and Wales it is illegal to have sex under the age of 16. In Northern Ireland the age of consent is 17. This law exists to help protect adolescents from engaging in an activity that they are not ready for. It is assumed that even if adolescents under the age of consent think that they want to have sex, they may not be mature enough to understand the consequences of their actions. A cohort study of New Zealanders in 1993-4 investigated how age at first sexual intercourse is related to the reported circumstances. It found that, among women, there were increasing rates of coercion with younger age at first intercourse. Most women (70%) regretted having sexual intercourse before the age of 16.

NATSAL provides valuable information about early sexual behaviour in Britain. Over 11,000 participants aged between 16 and 44 were interviewed about first heterosexual intercourse, communication about sex, pregnancy and STIs. NATSAL found, among those aged 16 to 19 at interview, the proportion reporting first intercourse at younger than 16 years was 30 per cent for men and 26 per cent for women.

Among adolescents as a whole there is considerable diversity in sexual experience. Evidence suggests that for most of those who have had sexual intercourse it has involved enjoyable, protected sex with one person, often as part of a steady relationship. Peer pressure to have sex has been found to be much more important among younger adolescents and significantly more important to adolescent boys.

It is important to exercise caution about the relationship between age and sexual experience. There is evidence to suggest that age at first intercourse may not take into account variations in individual development and social norms. NATSAL found that more than a third of young women for whom first intercourse occurred at age 15 years were sexually competent, and more than a third of those aged 18 to 24 were not. ¹⁵⁶

Among adolescents there has been a sustained increase in condom use over time; only a small minority of the 16 to 19 year olds interviewed (7.4% of men and 9.8% of women) reported having had unprotected first intercourse. A quarter of young women were already using oral contraception at first intercourse. Among 16 to 24 year olds, non-use of contraception increased with declining age at first intercourse; reported by 18 per cent of men and 22 per cent of women aged 13 to 14 at occurrence. 156

Adolescents and STIs

STIs have increased in the UK in recent years. The Health Protection Agency (formerly the Public Health Laboratory Service or PHLS) collates comprehensive data on communicable diseases seen in genitourinary medicine (GUM) clinics – these do not include cases treated in primary care. Data show that, between 1995 and 2000, diagnoses of gonorrhoea, syphilis and chlamydia all more than doubled in England, Wales and Northern Ireland. ¹⁶⁰ In England, the latest figures indicate an increase of 78 per cent in cases of gonorrhoea since 1997. Chlamydial infection has increased by 73 per cent and syphilis by 374 per cent. ³

Large and increasing numbers of diagnoses of STIs among adolescents, especially females, are of particular concern. Chlamydia is most commonly seen in young people; the peak age is between 20 and 24 in men and between 16 and 19 in women. Two pilot studies of chlamydia screening carried out in the Wirral and Portsmouth reported that 10 per cent of women under 25 years of age attending health services and being screened were infected with chlamydia. Young women have been found to be at greater risk of chlamydial reinfection than those over the age of 25.

One of the reasons for the currently high prevalence rates of STIs is that most, such as chlamydia and gonorrhoea, may go undiagnosed because the infection is asymptomatic and screening is not widely available. This enables STIs to spread rapidly and sometimes reach epidemic proportions. In a single act of unprotected sex with an infected partner, adolescent girls have a 1 per cent chance of acquiring HIV, a 30 per cent risk of getting genital herpes and a 50 per cent chance of contracting gonorrhoea. Costs of STIs to the individual, society and the NHS include preventable infertility, ectopic pregnancy, hospital admissions for pelvic inflammatory disease, and psychological stress.

Adolescents and 'teenage pregnancy'

There is no biological reason to suggest that having a baby before the age of 20 is associated with ill health. In fact it is older women who face increased risk of chromosomal abnormalities and complications of pregnancy. The children of adolescent mothers can fare as well in physical and social terms as those born to older women. Early childbearing can protect women from breast cancer, and their children from diabetes. Many teenage pregnancies are, however, unplanned. Being an adolescent parent can lead to an increase in relative poverty, unemployment, poorer educational achievements and poor health of the child born. Evidence suggests that teenage pregnancy can increase the likelihood of having a low birth weight baby and the risk of sudden infant death syndrome. Children of teenage mothers are also more likely to be admitted to hospital as a result of an accident than the children of older mothers. Forty-one per cent of teenage mothers have an episode of depression within one year of childbirth.

Some people argue that the so called public health problem of teenage pregnancy is really a reflection of what is considered to be socially, culturally and economically acceptable in the UK. However, although teenage pregnancy is not necessarily a public health problem, the cumulative effect of social and economic exclusion on the health of mothers and their babies, whatever their age, is. Teenage motherhood often

interferes with the adolescent's education. High teenage pregnancy rates are linked to high levels of social exclusion and poor knowledge of contraception; they partly reflect poor sexual health practice. ¹⁶⁵

Rates of teenage pregnancy are higher in the UK than in other western European countries.¹⁷⁰ The UK has a teenage pregnancy rate almost five times higher than in the Netherlands and over three times higher than Denmark. In the developed world only the United States has a higher rate of teenage pregnancy.¹⁷¹ Teenage (under 20) conception rates for England and Scotland are broadly similar at 29 per 1,000, but higher in Wales at 35 and lower in Northern Ireland at 26. The teenage conception rate is in decline in England and Wales and Scotland but on the increase in Northern Ireland.⁴

In England and Wales in 2000, 61 per cent of conceptions to women aged under 20 led to a delivery. Being an adolescent parent can lead to the health and social problems outlined above. Terminations of pregnancy can also have an adverse effect on the health of adolescents, and adolescents who have a miscarriage may suffer due to inadequate support. ¹⁷³

Which adolescents experience teenage pregnancy and STIs?

Data comparing teenage pregnancy across ethnic minority groups is sparse. However, analysis of the Labour Force Survey in 2001 indicated that teenage motherhood is more common among Caribbean, Pakistani and especially Bangladeshi women, than among white women. However, young Indian women are less likely than white women to have a baby before they are 20. Rates of teenage births among white and Caribbean women are stable but there has been a marked decline in early parenthood in South Asian communities in Britain.¹⁷⁴

During the 1990s there were marked regional variations in conceptions to adolescents. There was a north-south divide in England with higher under-18 conception rates and lower percentages leading to abortion in the northern regions. London had both high conception rates and high percentages leading to abortion. In the UK, rates of teenage pregnancy are considerably higher in areas of greater socio-economic deprivation. The highest levels of teenage pregnancy in Great Britain tend to be in urban and industrial areas; the lowest rates tend to be in rural and prosperous areas. The association between teenage childbearing and residence in more deprived areas seems to be largely due to personal disadvantage rather than to area characteristics. Research in Scotland revealed that the variations in teenage pregnancy rates between more affluent and more deprived areas widened between the 1980s and 1990s. In general, higher percentages of adolescent conceptions lead to abortion in more prosperous areas, and to maternity in less prosperous ones.

Research using the ONS longitudinal study shows that the risk of unintentionally becoming a teenage mother is 10 times higher among girls from manual unskilled social backgrounds than among those from professional backgrounds.⁴

Early sexual initiation is an important factor in teenage pregnancy and STIs. NATSAL found that early age at first intercourse was significantly associated with pregnancy, motherhood and abortion under 18 years. The prevalence of reported STIs is also higher among men and women for whom first intercourse occurred before age 16. 156

A number of factors are associated with early sexual initiation including social influences (such as family structure and main source of information about sex), available health services, socioeconomic factors and individual characteristics (including educational level and age at menarche).

The association between early sexual initiation, pregnancy and STIs may be explained partly by sexual incompetence. Among adolescents there are wide variations by age in sexual competence (defined by measurements of regret, willingness, autonomy and contraception). However, there is an association between age at intercourse and competence. According to analysis of NATSAL, 91 per cent of girls and 67 per cent of boys aged 13 to 14 at first intercourse were not sexually competent. Sexual incompetence at first intercourse is associated with reported STIs.

Educational level is significantly associated with sexual competence and use of contraception for both men and women; low attainment is also associated with early motherhood. The data collected by NATSAL clearly identifies a group of women vulnerable to teenage pregnancy; 29 per cent of sexually active young women in this study who left school at 16 with no qualifications had a child at age 17 or younger. ¹⁵⁶

Source of information about sex is also significantly associated with sexual competence and use of contraception. Among men, discussion with parents about sexual matters is associated with use of contraception. NATSAL found that the prevalence of reporting STIs was higher among those whose main source of information about sex was friends and others. In 1999 a survey of adolescents' attitudes towards sexual activity found that adolescents who were well informed on sexual health matters were significantly less likely to be influenced by peer pressure or to be sexually active.

The Social Exclusion Unit's report of teenage pregnancy attributed the UK's high rates to three factors: low expectations, ignorance and mixed messages.

Research in the UK has associated teenage pregnancy with certain groups thought to be most likely to become pregnant. These have included young people:

- living in deprived areas
- · who do not attend school
- who are looked after by a local authority
- who are homeless
- who are themselves the children of young parents, particularly teenage mothers.

A recent cross-sectional study in a birth cohort of 21-year-old New Zealanders has highlighted a strong correlation between psychiatric disorders, substance misuse, and risky sexual behaviour. There is an increased probability of risky sex across a range of mental health diagnoses; even the most prevalent, clinical depression, was associated with increased rates of risky sex, STIs and early sexual experience. Many researchers have documented a high prevalence of risky behaviour in association with substance misuse. Increased use of alcohol and marijuana at younger ages is related to subsequent riskier sexual activity. It has been suggested that alcohol and drug consumption may increase the likelihood that adolescents will engage in high risk sexual behaviour, as a result of impaired decision making, mood elevation, and the reduction of inhibitions. Similar mechanisms may apply in the context of psychiatric impairment. Engaging in risky sex may represent an indirect expression of anger or a mechanism to exert some control over one's life. Sexual activity might also be used as a diversion, to relieve tension or as a strategy for affection seeking.

Interventions in adolescent sexual health

The health of the nation: a strategy for health in England, published in 1992, identified HIV/AIDS and sexual health as one of five priority areas, with specific objectives and targets being set. Objectives included reducing the incidence of HIV infection and gonorrhoea and halving the rate of conception among girls under 16 by 2000. Five years after the strategy was published, the gonorrhoea target had been achieved but most other sexually transmitted infections had increased and pregnancy rates had not decreased.³

In June 1999 the Social Exclusion Unit published a report *Teenage pregnancy* examining teenage pregnancy and assessing interventions. The report's 10-year action plan for England included a national campaign, 'joined up action', better prevention and better support for pregnant teenagers and teenage parents. The prevention element includes better education in and out of school, access to contraception and targeting of at-risk groups, with a new focus on reaching young men. ¹⁶² Following the report, a Teenage Pregnancy Unit was established at the Department of Heath to coordinate action across government to reduce teenage pregnancy in England. ¹⁶²

Also in 1999, The National Assembly for Wales published *A strategic framework for promoting sexual health in Wales*. In Scotland the white paper *Towards a healthier Scotland* identified sexual health and the development of a sexual health strategy as a public health priority. ⁹⁶

The English government published its sexual health and HIV strategy for consultation in July 2001. This set out plans to:

- reduce the transmission of HIV and STIs
- · reduce the prevalence of undiagnosed HIV and STIs
- · reduce unintended pregnancy rates
- improve health and social care for people living with HIV
- reduce the stigma associated with HIV and STIs.

In response to the consultation a 27 point action plan was published in June 2002. This strategy is now being implemented. Key elements include a model for sexual health services that can be delivered by every primary care trust and the evaluation of new one-stop sexual health services. A national information campaign has been launched, more money has been allocated to GUM and abortion services, and a chlamydia screening programme is under way. Despite these commitments, concern has already been expressed that the allocated resources are insufficient.

Current policy in the UK aims to halve the conception rate of under 18s and set a downward trend in the rate for under 16s by 2010. It also aims, in the light of evidence of poor social, economic and health outcomes for mother and child, to achieve a reduction in the risk of long term social exclusion of teenage parents and their children. This involves a multifaceted approach which includes helping young people resist pressure to have early sex through improved sex and relationship education, increasing uptake of contraceptive advice through the development of easily accessible youth friendly advice services and support for parents in talking to their children about sex and relationship issues.

A similar approach has been adopted in Wales through its Sexual Health Strategy. In Northern Ireland *Myths and reality: teenage pregnancy and parenthood* was published in 2000. The only country in the UK which has so far not set out its plans to reduce teenage pregnancy in a strategic document is Scotland, although this is currently under consideration. Scotland did set a target in 1994, reaffirmed in 1999, to reduce the pregnancy rate among 13 to 15 year olds by 20 per cent between 1995 and 2010.⁴

The Sex and relationship education guidance for the national teaching curriculum in schools, states that sex and relationship education (SRE) should be firmly rooted within the framework for Personal, Social and Health Education (PSHE) and Citizenship. During key stages 3 and 4 (from 11 to 16 years), pupils should be given knowledge, understanding and the ability to recognise the physical and emotional changes that

take place at puberty. They should be taught how to manage these in a positive way, in a context of the importance of relationships, human reproduction, contraception, STIs, HIV and high-risk behaviours including early sexual activity.

Evaluating the effectiveness of interventions in adolescent sexual health

This section attempts to evaluate the effectiveness of several interventions in adolescent sexual health. To date, most sexual health interventions for adolescents have not been evaluated; consequently there is not a great deal of reliable evidence regarding the effectiveness of different approaches.¹⁸⁵

A recent review of international variations in teenage pregnancies shows that even those adolescents in the most affluent areas of the UK have a higher birth rate than the average for the Netherlands or France. This, the authors suggest, leads to the possibility that teenage pregnancy is susceptible to policy interventions.⁴ Over the past four decades, fluctuations in the adolescent fertility rate seem to track intervention-related factors such as access to, and use of, contraceptive services, and the general climate surrounding the sexual health of young people.¹⁵⁶ This also seems to demonstrate the potential of interventions in improving, or harming, adolescent sexual health.

Education

The UK has a poor record of sex education in comparison to some other European countries. However, school-based lessons are now, according to respondents in NATSAL, the main source of information about sexual matters for adolescents. School-based physical, health and social education can encourage behaviour modification in adolescents to help prevent unwanted pregnancy and the transmission of STIs. Education can focus on increasing awareness of STIs and birth control. It can also develop social skills, such as negotiating in relationships and accessing and using sexual health services.

Some people recommend that sex education for adolescents should focus on abstinence. In the US, medical journals regularly publish articles encouraging healthcare professionals to recommend abstinence and giving detailed advice on how to do so most effectively. Abstinence-based educational approaches generally develop decision-making and refusal skills and rarely provide information on contraceptive methods or services. Reservations about abstinence-based education have been expressed by those who believe adolescents want practical information and help with sexual health rather than didactive approaches emphasising anatomical or moral aspects of sexual behaviour. One review of educational approaches to the prevention of teenage pregnancy found that, in comparison to usual sex education, abstinence programmes had no additional effect on either delaying sexual activity or reducing pregnancy.

Evaluative studies of educational strategies show that school-based sex education can be effective in reducing teenage pregnancy, especially when linked to access to contraceptive services. School-based skills building, combined with factual information and programmes encouraging vocational development, may also help to reduce rates of unwanted teenage pregnancy. The most reliable evidence shows that sex education does not increase sexual activity or pregnancy rates. ¹⁷³

Early intercourse and non-use of contraception is more common among adolescents whose main source of information about sex is not lessons at school. One analysis of NATSAL concluded that the association between school sex education and risk reduction provides grounds for optimism regarding the role of education in improving adolescents' sexual health.

Interviews with pregnant adolescents in inner London found that the major causes of unintended teenage pregnancy are failures to anticipate personal risk and error in the use of contraception. ¹⁸⁸ Successful school sex education needs to combine clear advice about contraceptive methods and how and when to access services, with educational techniques designed to help teenagers assess personal risk. ¹⁸⁹

The timing of educational interventions appears to be important: young people who are already sexually active at the commencement of interventions are less likely to change their contraceptive behaviour. ¹⁷³

Although school education reaches a large proportion of the adolescent population, its impact as an agent of change is affected by variable political and social constraints. It is important to remember that school-based programmes for sexual health promotion are not uniformly administered. They may also lack components shown to enhance the learning of sexual health information and skills.

Peer education has proved popular among adolescents. This can ensure that sex education is delivered in a language and style that adolescents can related to. The House of Commons Health Committee has recommended that the Department for Education and Skills and the Department of Health should work together to promote peer education in all schools, as a supplement to formal schools-based relationships and sex education. Sexpression, a national organisation based in UK medical schools, run mostly by medical students, provides good quality, peer-led sex education in local schools.

Public health campaigns

The decline in the number of STIs in the late 1980s and early 1990s in response to government publicity about the HIV epidemic illustrates the importance of continually conveying the 'safer sex' message to maintain the public's awareness of STIs. Popular television programmes aimed at adolescents may be able to raise the issues of STIs and family planning.¹⁶⁰

Community-level programmes using social networks and institutions (such as the media) and providing a supportive environment have led to reductions in sexual risk behaviour as well as to the maintenance of low-risk behaviours over time.

Improving access to services

Check-ups for STIs should be encouraged among all those who are sexually active, including adolescents. The BMA publication *Consent, rights and choices in health care for children and young people* offers comprehensive practical guidance on the ethical and legal issues which arise in the healthcare of patients under 16 years of age. In the UK, adolescents under the age of 16 can, with some exceptions, be provided with contraceptive care even if unwilling to inform their parents. Nonetheless, many adolescents express doubts about confidentiality in these circumstances as well as fear of being judged. It is important that adolescents understand professional confidentiality and are reassured that their consultations will remain private.

Immediate treatment of STIs can help to identify and treat sexual partners, avoid complications, and prevent potential onward transmission.³ Offering sexual health promotion counselling to individuals newly diagnosed with an STI is also important because of the association between a history of STI and the likelihood of re-infection. Theoretically-based, individual counselling programmes in clinical settings have been shown to reduce sexual risk behaviours and STI re-infection. ¹⁹⁰

Studies show an association between conception rates and the level and type of contraceptive services available locally. Recent evidence suggests that variations in teenage pregnancy rates may be associated with local general practice characteristics. A survey of pregnancies of 13 to 19 year olds in Trent between 1994 and 1997 found that general practices with female doctors, young doctors or more nurse time had lower teenage pregnancy rates. Services appear to have a more positive effect on adolescent sexual health when they are provided by (youth-oriented) clinics. One study found that most adolescents who became pregnant attended general practice in the year before pregnancy; many had sought contraceptive advice. There was an association between the provision of emergency contraception and pregnancy ending in termination, suggesting the need for continuing follow up of teenagers consulting for this form of contraception.

Given the private nature and social stigma associated with sexual health, it is vital to improve service structure to facilitate simple and unrestricted access to treatment and diagnoses. For adolescents, this may necessitate more young people's clinics and referral to GUM clinics by school-based professionals (including school nurses). Community family planning clinics have a key role to play in the prevention of STIs and are able to target their services directly at adolescents via accessible, drop-in services. Young people's perceived barriers to using services might be overcome through clinic or GP visits to schools and youth settings, or through school visits to the contraceptive service. Increasing the availability of contraceptive clinic services for young people is associated with reduced pregnancy rates. Services should be based on an assessment of local needs and ensure accessibility and confidentiality.

The increase in infections, pregnancies and high risk sexual behaviour puts considerable demands on the existing services for STIs and HIV, contraception, abortion and health promotion. In England, clinics for STIs and GUM departments have seen a substantial rise in attendance over the past 10 years. The length of waiting times has consequently increased and immediate access is increasingly difficult to deliver. In 1988 the Monks Report set a target for patients with a new problem to be seen in GUM clinics within 48 hours. However, evidence now indicates that waiting times for appointments are on average 12 days for males and 14 days for females. In large urban areas patients may have to wait for over a month until the next available appointment. These waiting times pose a considerable threat to public health.

Screening

The government's sexual health and HIV strategy specifies chlamydia as an area needing development. Screening may be vital for preventing the transmission of asymptomatic infections. Evidence shows that a significant reduction in pelvic inflammatory disease can be achieved through screening and management of chlamydial infection among women. There have been two pilot studies of opportunistic chlamydia screening of sexually active young women in the UK. These have shown that screening is feasible and acceptable, achieving high levels of population coverage. The high prevalence of infection found in these pilot screening programme has lead to the conclusion that screening is likely to be cost effective. Since the prevalence of infection in partners of positive women is high, effective partner notification is an important part of screening programmes.

Targeted interventions

It has been suggested that, as adolescents are not homogenous, programmes should be tailored to the group they serve. The frequent clustering of risk among adolescents makes the identification of high risk groups a sensible strategy in intervention. For example, adolescents who drop out of school will have special and often complex needs; they may have high rates of risky sexual behaviour, mental health problems and drug misuse. In light of an association between mental health problems and sexual risk taking, there may also be potential for exploring the sexual behaviour of young people with depression, anxiety and other mental health disorders.

There is a great need for providing adolescent boys with sound and accessible services. Service provision has tended to centre on girls with little encouragement or emphasis being made towards boys. One study of adolescents' attitudes to sexual activity concluded that the provision of some single-sex sex education, and a determined effort by community family planning services and primary care to inform teenage boys of the services available to them, may help to address the imbalances found in attitudes and behaviour between girls and boys.

The strong association between low educational attainment and early motherhood supports the government's current strategy to involve education and social services in a bid to reduce teenage pregnancy. ¹⁵⁶ General anti-poverty strategies are likely to influence rates of teenage pregnancy and help reduce adverse outcomes. ¹⁷³

Helping adolescent parents

The health and development of teenage mothers and their children has been shown to benefit from programmes promoting access to antenatal care, targeted support by health visitors, social workers or 'lay mothers' and provision of social support, educational opportunities and pre-school education. ¹⁷³ Specific interventions including the provision of supplementary nutrition, social support, education opportunities and pre-school education, are likely to be effective in reducing the adverse outcomes of teenage pregnancies. Improving the housing conditions of some teenage parents and their children may also be important. ¹⁷³

Summary

There is considerable diversity in sexual experience among adolescents. Many enjoy safe, consenting, sex, often as part of a steady relationship. However, there is a great deal of concern about the growing prevalence of STIs among this age group. These can cause preventable infertility, ectopic pregnancy, hospital admissions for pelvic inflammatory disease and psychological stress. Policy makers also wish to lower the rates of unwanted adolescent pregnancy, which is often associated with social disadvantage and poor mental and physical health of mother and child.

Rates of teenage pregnancy are higher in areas of socio-economic deprivation. Both STIs and teenage pregnancy are associated with early sexual initiation, sexual incompetence, lower education level and informal sources of information about sex. Certain groups of adolescents are more likely than others to experience teenage pregnancy and STIs.

Governments across the UK have developed targets and strategies for reducing STIs and unwanted pregnancies. These strategies involve multifaceted approaches including improving adolescents' social skills, providing better sex education and increasing the uptake of contraceptive services. The sexual health of adolescents does seem to be amenable to intervention. School based education can be effective, especially when linked to access to contraceptive services. Public health campaigns and community-level programmes have also proved successful in the past. Prompt diagnosis and treatment of STIs is crucial and good contraceptive services can result in lower conception rates. The services available to adolescents are therefore important for their sexual health. It is often suggested that services for adolescents are most effective when youth-oriented and geared to local needs. Adequate follow up after service use is vital to avoid unwanted pregnancy and the recurrence of STIs. Education and services for adolescents should be targeted towards those at greatest risk. In light of the social disadvantage that can follow adolescent parenthood, it is vital that young parents are well supported to avoid unnecessary psychological strain and ensure the best possible start to the lives of their children.

Interventions in adolescent health

Evidence for the effectiveness of health promotion interventions aimed at adolescents is often inadequate. Some interventions are not evaluated at all and many of the studies that have been undertaken involved small samples. Evaluations of many interventions, such as some clinical interventions, are therefore based on studies of adults. In other cases, the effectiveness of interventions can be evaluated against knowledge of adolescent behaviour and motivations.

Early intervention

In all the areas discussed in this report, early intervention emerges as an important factor in improving adolescent health. Early intervention is crucial for the promotion of good nutrition and exercise and there is growing consensus that these should be taught as early as possible before unhealthy or addictive habits become established. This might entail providing parents with information on breastfeeding and weaning as well as teaching young children the importance of good nutrition. Early assessment and treatment of mental health problems can reduce problems later on. It can also help to minimise the secondary handicap that results from disrupted education and impaired social development. Early intervention is also crucial for the promotion of sexual health, since young people who are already sexually active at the commencement of intervention are less likely to change their contraceptive behaviour.

Targeted intervention

The government has acknowledged that certain groups of adolescents are particularly vulnerable to risky behaviour and health problems. The governments' *Updated drugs strategy 2002*¹⁰³ deliberately targets the most vulnerable groups. There is also scope for targeting mental and sexual health interventions to those groups who are most likely to experience problems. Once adolescents are pregnant, targeted advice and support can help to improve the life prospects for both parent and child.

Education

School-based programmes may help to promote physical activity, improve nutrition and help to prevent obesity. However, school-based education measures may fail to reach the most vulnerable adolescents. When education is used to address smoking, drinking and drug use, it is important to understand adolescents' attitudes and behaviours and to acknowledge the perceived benefits of these behaviours. Recent education interventions have begun to include the development of life skills. Evidence for the effectiveness of these strategies is scarce but information on social influences and resisting pressure may be a useful addition to traditional knowledge-based education.

Education may be effective in promoting emotional wellbeing among adolescents and has potential for raising awareness about mental health problems. Education also has a role in improving adolescent sexual health. Those who are well informed on sexual health matters are significantly less likely to be influenced by peer pressure or to be sexually active at an early age. Education may also have a less direct role to play in reducing teenage pregnancy by raising educational aspirations and promoting expectations. School-based sex education is most likely to be effective when it is linked to access to contraceptive services and when it helps adolescents to assess risk.

Improving access to health services

Improving access to appropriate services is an important intervention in all areas of adolescent health. As a recent report concluded, there is a relative dearth of specific or discrete services for adolescents within health provision. This applies particularly to addiction and mental health services which have often been fragmented and ill-equipped for dealing with adolescents.

There is a need for improved adolescent health services including outreach work, screening and treatment, coordinated with education and social services and the youth justice system. Some adolescents

are more difficult to reach than others, so services must be capable of providing advice and help through diverse environments.

Often neither children's nor adults' services are appropriate for adolescents. There may be difficult transition issues, especially in mental health care provision, where adolescents can fall between CAMHS and adult mental health services. Mental health services in particular should be capable of treating the conditions common among adolescents in an appropriate age environment. Recently there have been calls for every healthcare organisation to have a policy and identified lead professional for the provision of services for young people. Professionals dealing with adolescents may sometimes benefit from specialised training.

Improving adolescents' access to services must involve adolescents' perceptions of the services provided. Adolescence is often a time when individuals use health services independently for the first time. In this sense, adolescents can be considered 'new' users of healthcare services and should be provided with the necessary information, support and encouragement. Adolescents should also perceive services to be user friendly. For example, sexual health services appear to have a more positive effect on adolescents when they are provided by youth-oriented clinics. Resources have been developed to help professionals provide appropriate services for adolescents.

Taking into account the views and self-defined needs of adolescents may be one way to improve their use of health services. Article 12 of the United Nations (UN) Convention of the Rights of the Child states that children should have the right to express their views freely in all matters affecting them and that these views should be given weight in accordance with the age and maturity of the child.

A key concern for adolescents, which may affect their use of services, is confidentiality. Young people over 16 are considered competent and should be assured of confidentiality in consultations. However, even under this age, adolescents are assumed to be competent for confidentiality purposes if the clinician is confident that they understand the consequences of their decisions. Adolescents presenting for contraception services are generally given complete confidentiality. Health services may need to explain patient confidentiality to adolescents in order to encourage them to use the services provided. *Consent, rights and choices in health care for children and young people* (2001) contains a full discussion of adolescents' confidentiality issues.

Clinical interventions

Although many interventions in adolescent health focus on prevention, clinical treatment is also important. Treatment of adolescent addiction has not traditionally been high on the government's agenda. However, in the context of smoking, drinking and drug use, helping adolescents to change their behaviour may prove to be as important as prevention. There is evidence that brief interventions, cessation counselling and substitute prescribing may help to modify behaviour. Appropriate and effective clinical interventions are vital for treating mental and sexual health problems. Adolescent obesity may also be tackled in a clinical environment, though success is typically limited.

Multifaceted interventions

Multifaceted interventions involving, for example, education, the media and community, may be successful in improving adolescent health. Multifaceted approaches have the advantage of recognising the individual, social and environmental influences on behaviour. The most important criteria for multifacted interventions is that the messages delivered are consistent and straightforward. For example, the most effective way to prevent adolescents from smoking may be to use a combination of school-based education, media campaigns, price increases, cessation support and smoking bans in public places.

Multiprofessional interventions

Health problems can impact on many other areas of adolescent life. Problems facing dependent drug users are, for example, often far beyond the remit of medical interventions. For this reason, many commentators advocate a multiprofessional approach to intervention. This may involve collaboration between doctors, school health service professionals, young offenders teams, social workers and specialist treatment centres. This can be a particularly valuable approach in drug prevention where adolescent use is frequently related to other complex, non-medical social problems. Liaison between health and education services is also valuable to adolescent sexual health. Local multiprofessional forums can inform strategy, monitor performance and develop joint commissioning. Multiprofessional collaboration may help to ensure that adolescent health services are provided seamlessly and that adolescents do not suffer harm during the transition between children's and adult services.

Structural and environmental change

Structural and environmental factors are increasingly recognised as playing an important role in adolescent health. Ensuring adequate access to good, affordable food and recreational activity may make more difference to adolescents' diets and activity than health education. Reducing the availability of cigarettes and alcohol by enforcing age restrictions or increasing their price may help to reduce tobacco and alcohol use. Regulating the advertising and marketing of cigarettes and alcohol may be able to change adolescents' attitudes to substance use. Since mental health problems are often the result of a combination of biological and societal factors, changes at a local or societal level may help to reduce problems among adolescents. Raising educational attainment and reducing poverty may help to reduce rates of teenage pregnancy and adverse outcomes.

The way forward

This report has reviewed a range of adolescent health problems and has evaluated the effectiveness of interventions used to tackle them. In the light of the evidence, this section summarises possible approaches for improving adolescent health.

Possible approaches for improving adolescent health

- Early intervention in all areas of adolescent health should be encouraged to help prevent problems escalating.
- Interventions to improve adolescent health should be especially targeted at the most vulnerable groups of adolescents.
- Health services must be adequately funded if adolescent health is to improve. In particular, sexual health services, which are already over-stretched, should receive enough resources to minimise waiting times for assessment and treatment.
- Improving access to health services is crucial:
 - services for adolescents should be provided in an age-appropriate environment and be seen to be user-friendly.
 - the continuity of services must be improved so that users do not fall in a gap between paediatric and adult care.
 - adolescents must be provided with the information, support and encouragement needed to access health services independently.
 - adolescents may need to be reassured of professional confidentiality in order to encourage use of health services.
- Prevention strategies are not sufficient to improve adolescent health. Where prevention fails, effective clinical support and treatment must be available to help adolescents adopt healthier lifestyles.
- Multifaceted approaches to intervention have the advantage of recognising the influence of, and complex interaction between, individual, social and environmental factors on adolescent behaviour.
- There is a strong relationship between adolescent health and other aspects of adolescent life such as education, employment and housing. Moreover, school-based education may fail to reach the most vulnerable adolescents. Interventions in adolescent health should therefore be multiprofessional and involve cooperation between health, education and social services.
- Interventions should recognise the structural and environmental influences on health behaviour.
 - Healthy, affordable food and opportunities for at least the recommended amount of physical activity should be available to all children and adolescents.

- The media has an important role to play in forming adolescents attitudes to nutrition, exercise and substance misuse. There is scope to harness this potential and further regulate its more harmful impact. In the light of the damaging effect alcohol has on the health of our society and the rising levels of binge drinking among the young, the BMA has called for a ban on the advertising of alcohol, as there is for cigarettes. In order to protect adolescents, the BMA has also recommended that broadcasters adopt a more responsible approach towards body image and healthy eating patterns.
- Messages to adolescents about healthy behaviour should be as consistent as possible. For
 example, where bans on smoking exist they should be enforced. School environments must be
 supportive in order to reinforce health education messages on nutrition, smoking and drinking.
- Parents, children and adolescents should be made aware of the importance of good nutrition
 and exercise and should be equipped with the knowledge, skills and confidence necessary to
 integrate these into their lives.
- When education is used to address smoking, drinking and drug use, it is important to understand adolescents' attitudes and to acknowledge the perceived benefits of these behaviours. Peer education should be considered as part of health education strategies.
- Health education should help promote awareness about, and better attitudes towards mental health problems.
- Mental health services must be equipped to deal with substance abuse.
- Screening should be considered for the detection of asymptomatic infections such as chlamydia.
 Where sexual health screening exists, it should be accompanied by appropriate partner notification, support and follow up.
- Adolescent parents should receive help and support to reduce any possible adverse outcomes of teenage pregnancies.

Annex 1

BMA policy on adolescent health

The British Medical Association has policies on topics relating to adolescent health. Those that are most important to the topics discussed are listed below. The term 'this Meeting' refers to the annual meeting of the BMA's representative body. The representative body is the BMA's main policy making body made up of nearly 600 elected members.

Nutrition, exercise and obesity

That this Meeting recognises the importance of diet to health and calls for national food and agricultural policies which take account of health issues in production, advertising, labelling and pricing of food. [1984]

Smoking

That this Meeting regrets that the government is not acting forcefully or rapidly enough to reduce cigarette smoking in the country. It suggests:

- (i) a ban on smoking in public places
- (ii) a ban on advertising in or on shops
- (iii) stronger penalties for shopkeepers who serve under 16s with cigarettes. [1999]

That this Meeting views with increasing concern the apparent indifference of teenagers to the dangers of smoking and calls upon the BMA to press the new government to redouble its effort in campaigns to curb smoking in this age group. [1997]

That this representative body asks that:

- the BMA should press for a significant health tax to be added to the cost of each packet of cigarettes
- (ii) government should legislate to ensure tobacco smoke-free public buildings. [1994]

That this Meeting asks the government to do everything in its power to reduce tobacco smoking by:

- (a) complying with EC directive on tobacco advertising
- (b) removing tobacco from the cost of living index so that fiscal measures could be taken without detriment
- (c) specifically targeting anti-smoking in primary schools
- (d) reducing smoking in public places. [1992]

That the minimum legal age for the sale of tobacco and tobacco products should be raised to 18 years. [1984]

That this Meeting puts its full weight behind the BMA in pressing the government for immediate implementation of the tobacco advertising directive. [1998]

That this Meeting recommends a total ban on tobacco advertising. [1997]

That this representative body believes that the advertising of tobacco should cease. [1992]

Drinking

That this Meeting believes that because of the damaging effect alcohol has on the health of our society and the rising levels of binge drinking among the young that the government should legislate a ban on the advertising of alcohol as it has for cigarettes. [2003]

That this Meeting is concerned about the proliferation of sweetened, flavoured spirits sold in predispensed shot glasses. [2002]

That the BMA should work to ensure that alcoholic drinks should not be advertised in cinemas, unless shown with a film having an '18' certificate. [1999]

That this Meeting calls for tough action to protect children from the dangers of alcohol. [1999]

That this Meeting is concerned that unacceptable levels of alcohol is present in some of the drinks which are aimed at the teenage market and believes that the deliberate targeting of this group by purveyors of alcohol should be made illegal. [1997]

Drug use

That, while recognising that alcohol is a major factor, this Meeting is concerned that an increasing number of road traffic accidents is due to drivers using illicit drugs and requests the board of science and education to consider ways of supporting the police in their fight against 'Drug Driving' by raising awareness and educating the public on the dangers. [2001]

Sexual health

That this Meeting feels that patients should continue to have the choice of attending either a family planning clinic or general practitioner for contraceptive advice. [1992]

That in view of the increasing numbers of teenage pregnancies, this Meeting recommends that the BMA initiate talks with the Department of Education to include teaching on reproductive health and responsible relationships in the national curriculum. [1992]

That this association believes that the correct interpretation of the House of Lords judgement in the case of Gillick v Wisbech Health Authority is as follows:

- (1) that children of under 16 must be entitled to expect that both the existence and the content of a consultation in connection with pregnancy or contraception will normally remain secret
- (2) that in the case of any departure from this rule doctors should be liable to justify their action. [1986]

That the government must, as a matter of urgency, invest resources in preventative health care for the young and adolescent to reduce unwanted pregnancies, drug dependency and addiction. [1998]

Mental health

That this Meeting fears that some forms of advertising may be contributing to an increase in the incidence and prevalence of anorexia nervosa. It calls for greater responsibility in the use of such images in the media. [1998]

Health inequalities

That this Meeting congratulates the government on its commitment to improve and reduce inequalities in the public's health, but emphasises that a 'healthier nation' can only be achieved with policies to reduce the gross disparity of income distribution and wealth in the British population. [1998]

That government should continue to confront the most potent cause of poor health – poverty. [1998]

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