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UNDER THEIR SKINS

Tackling the health of the teenage nation

The effects of poor health during the teenage years can last a lifetime. Keeping adolescents healthy is a valuable investment in the nation's future.

KEY POINTS

- There are almost 6.5 million 10 to 19-year-olds living in England and 600,000 new young people enter this age cohort each year.
- Many teenagers cope well with the transition to adulthood and their growing responsibilities.
- The minority of teenagers who are involved in risk taking in England is, however, a cause for concern; the numbers are large.
- Approximately 1,600 10 to 19-year-olds die in a year but many adolescents suffer from illness: e.g. 690,000 11 to 15-year-olds report a longstanding illness.
- There are increasing numbers of survivors of congenital and childhood illnesses and these young people have particular needs.
- Inpatient and outpatient hospital attendances for 10 to 19-year-olds have increased more than 10% in recent years (notably for asthma, epilepsy and diabetes).
- Despite these health issues, young people are less likely than other age groups to visit their general practitioner, although many say they have concerns they would like to discuss.
- New approaches are needed to make health programmes and health services more teen-centred.

Adolescence can be a challenging time. Childhood is left behind, and the transition to adulthood can seem a slow journey. The physical and emotional changes of puberty must be adjusted to, whilst educational assessments become increasingly significant. Entering adolescence involves encountering risks and making hard choices. The health system too often focuses on single issues, such as teenage pregnancy, while neglecting the wider need to balance risks and manage consequences. Decision-making skills are central to health in adolescence. Adolescence is also a critical time. New habits in adolescence will form behaviour for adulthood. The effects of poor health in adolescence can last a lifetime, or even shorten it. Keeping adolescents well is a valuable investment for the health of the population in the future.

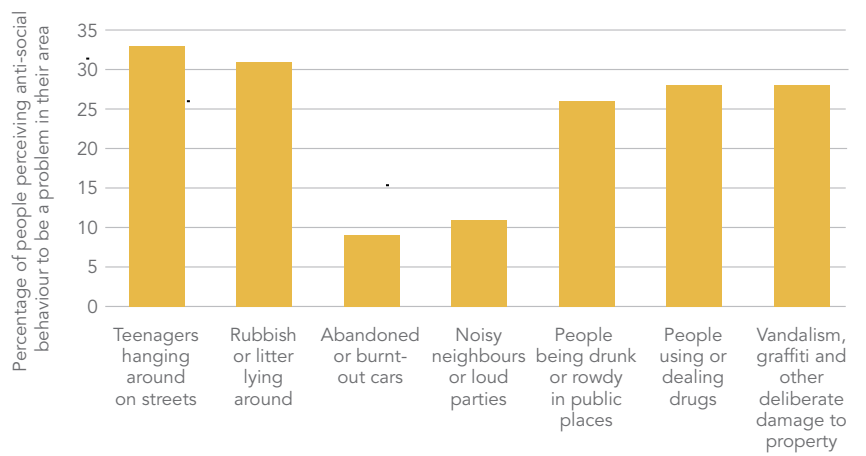
Young people are too often seen as risks to others, unfairly feared and stigmatised by adults. A third of the adults who see antisocial behaviour problems in their areas cite teenagers hanging around on the streets (see **Figure 1**). In fact, adolescents are vulnerable to many harms, and their health can suffer significantly from inappropriate risk-taking behaviour.

The period of life between true childhood and adulthood is variably defined in both demographic and social terms. Similarly, official statistics are available for some age groups and not others.

I have used different teenage age groups, depending on the problem being described and the availability of data. Clearly though, skills, maturity, level of education and parental supervision vary enormously across this wide span of years, and my intention has been to highlight the wide range of health issues confronted. At any one time, in the World Health Organization definition of 'adolescence' (10–19 years), there are 6.5 million adolescents living in England (see **Figure 2**). They are fairly evenly distributed around the country but the two local authorities with the highest proportion of teenagers are both in the top 10 areas of deprivation in the country. The adolescent population is more ethnically diverse than other age groups.

It is important also to recognise that this is not a static group. Each year, approximately 600,000 new young

Figure 1: Teenagers hanging around on the streets are commonly perceived as a problem



Source: British Crime Survey 2006/07

Figure 2: The population of young people in England

	Age (years)														
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Adolescent	6,464,000														
Teenage				4,620,000											
Youth						6,696,000									
Young people	9,826,000														

Source: Data from Office for National Statistics, 2006

people enter the adolescent period. They are essentially a new focus for risk-taking behaviour and the influences that fuel it.

Living with risk

Adolescence is a time of life when peer pressure is a key element of the forces that shape behaviour and attitudes. On top of this, family, the formal education process and the less tangible forces of media, marketing and advertising all influence the young person. Self-expression, individualism, feeling and appearing grown-up as well as impressing peers also strongly influence behaviour.

During this period of life, young people are exposed to and have easy access to behaviours, opportunities and products that have the capacity to harm their health in both the short and the long term. Good health in adolescence is also inextricably linked to a young person's ability to fulfil their potential in life through learning and achievement.

These are very diverse but six principal risk-taking behaviours stand out (see Box 1).

Adolescents may be meeting risk for which they are not ready. In 2000, over a quarter of 16 to 19-year-old women surveyed were under 16 years when they first had sex. Based on their reported regret, willingness, autonomy and use of contraception, less than half were ready to make this decision.

Tobacco use

Approximately 290,000 11 to 15-year-olds in England smoke cigarettes regularly (9% of this age group). The percentage has not fallen since 2004 and girls are more likely to smoke than boys. Someone who starts to smoke aged 15 years is three times more likely to die of smoking-related cancer than someone who has smoked from their mid-20s.

Alcohol and drugs

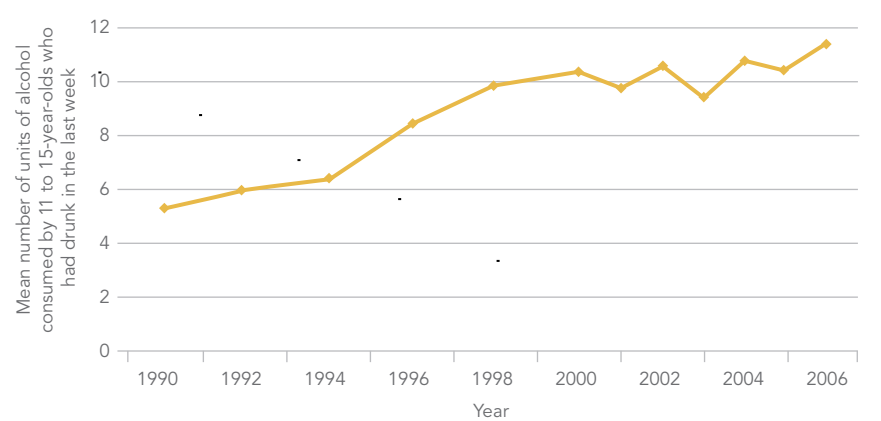
Approximately 610,000 11 to 15-year-olds in England are estimated to have been drunk in the previous four weeks, girls more frequently than boys. The proportion of 11 to 15-year-olds who drink has decreased, but those that do drink consume more, more frequently and favour higher strength alcoholic drinks (see Figure 3).

Box 1: Health risk taking in adolescence

The 'Big Six'

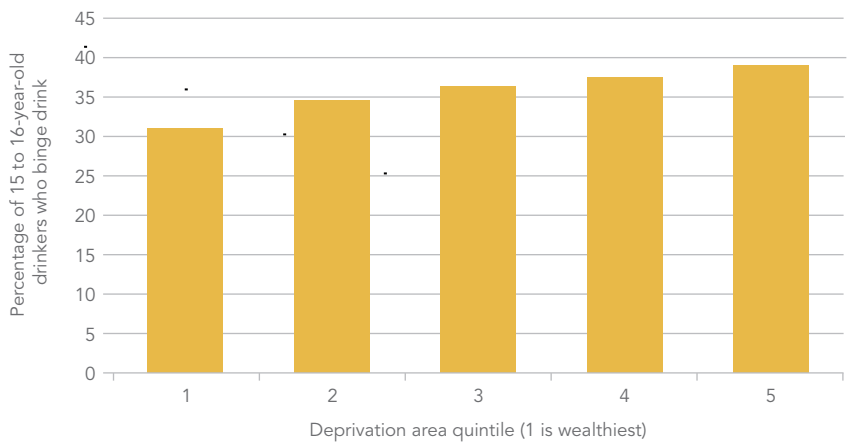
- Tobacco use
- Alcohol and drugs
- Exposure to injuries and violence
- Physical inactivity
- Unhealthy diet
- High-risk sex

Figure 3: Young adolescent drinkers are drinking more heavily



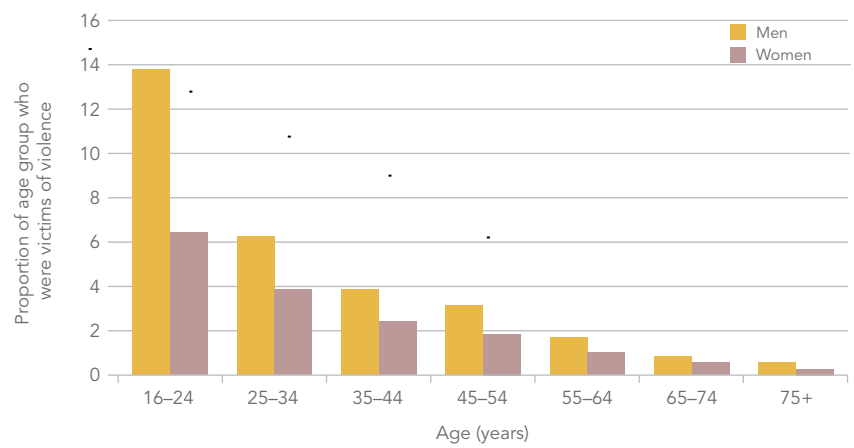
Source: The Information Centre

Figure 4: Binge drinking patterns are more likely among drinkers from more deprived areas



Source: Hughes et al, 2008

Figure 5: Young people are most at risk of violent crime



Source: British Crime Survey 2006/07

Binge drinking (drinking five or more alcoholic drinks once a week or more) is a particularly harmful pattern of drinking in adolescence, associated with alcohol-related violence and regretted sex. It is more common among those from deprived areas (see **Figure 4**). Alcohol-related hospital admissions of children under 16 years increased by a third to 5,280 in the decade 1996 to 2006. Adolescent binge drinkers are 50% more likely than their peers to be dependent on alcohol or taking illicit drugs when they reach 30 years old. The rate of liver cirrhosis amongst young adults has increased in the last 10 years, likely to be associated with heavier drinking in the teenage years.

Roughly 770,000 11 to 15-year-olds have tried drugs, and 170,000 have taken Class A drugs. The percentage who have ever taken any drugs has decreased slightly in the last 10 years, but the percentage taking Class A drugs has stayed constant. Substance misuse in young people has been linked to suicide, depression, conduct disorders, educational problems and long-term mental health effects. There is also evidence that cannabis use is linked to serious mental illness, such as schizophrenia.

Exposure to injuries and violence

About 1,000 15 to 24-year-olds die each year in accidents. Most are transport accidents. These death rates have remained steady over the last five years. Those aged 15–24 years are twice as likely as any other age group to die in a transport accident. Young people are also most at risk of being the victim of a violent crime (see **Figure 5**). Twenty-five per cent of firearms offence victims are

aged 11–20 years yet they form only 12% of the population and there is growing concern about the number of young people who are the victims of knife crime.

Physical inactivity

The recommended activity level for children and young people is 60 minutes of moderate-intensity physical activity per day. Around 470,000 boys and 740,000 girls aged 11–15 years did not meet this recommendation in 2006. This has not improved since 2002. Childhood inactivity affects weight gain and weight loss, but also affects skeletal health and growth, influencing the risk of osteoporosis in adulthood.

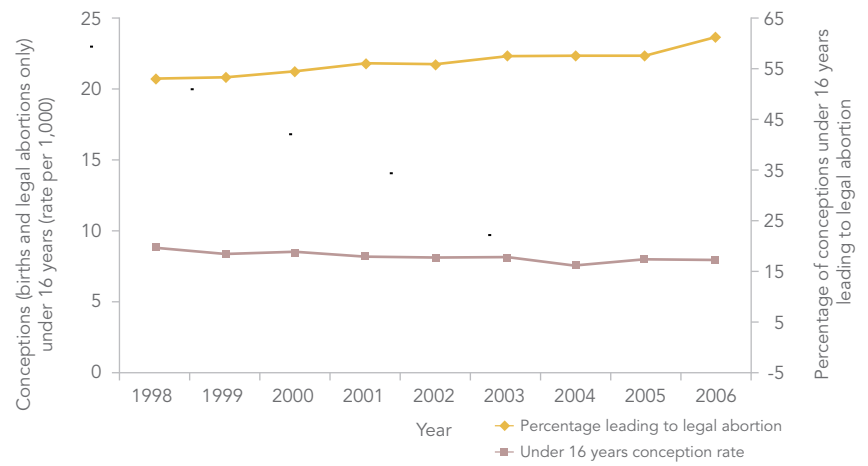
Unhealthy diet

In 2006, 1.5 million boys and 1.2 million girls aged 11–15 years did not eat the recommended five portions of fruit and vegetables per day, although this was an improvement from the previous few years. Fruit and vegetable consumption protects against cancer and heart disease in adulthood.

The most commonly eaten foods in the 11 to 18-year age group are pizzas, burgers, sausages, chips and carbonated soft drinks, with over 40% consuming them once or more in a week. Carbonated soft drinks alone were consumed by 95% of children in this age group and were a major source of added sugar (25%) in the diet; however, average mean daily energy intakes are lower than the estimated average requirement.

In England in 2006, 300,000 boys and 260,000 girls were obese. For boys, this is worse than 10 years ago. For girls, the percentage who are obese is the same as a decade ago, though childhood obesity in girls has risen in younger ages. Obesity increases the risk of developing type II diabetes, cardiovascular disease, respiratory disease, liver disease and some cancers. Furthermore, up to 79% of obese adolescents remain obese in adulthood.

Figure 6: The rate of teenage pregnancies is declining, but the proportion of abortions is increasing



Source: Statistical Bulletin. Abortion Statistics, England and Wales 2006

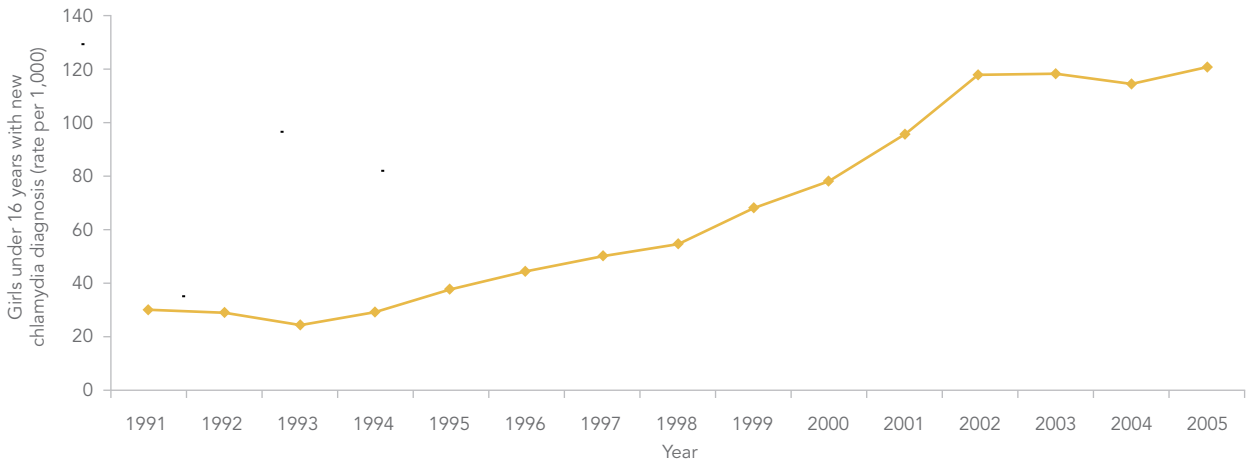
High-risk sex

Sexual behaviour is often unsafe in adolescence; teenagers have more sexual partners than other age groups and may use condoms inconsistently or unsuccessfully.

Approximately 3,100 girls under 16 years gave birth in England and Wales in 2006, and 4,700 had a termination of pregnancy. Women from poorer backgrounds or areas with higher unemployment are more likely to become teenage mothers. The rate of teenage pregnancies is declining, but the proportion of abortions is increasing (see **Figure 6**). Children of teenage girls have lower birthweights, higher infant mortality and more of certain congenital anomalies.

Overall, 1,191 girls under 16 years and 37,199 women aged 16–24 years were diagnosed with genital chlamydia in England in 2006. The numbers have increased (see **Figure 7**). Between 10% and 40% of untreated infections result in pelvic inflammatory disease, and sometimes infertility. Other sexually transmitted diseases are also increasingly common amongst adolescents, for example anogenital herpes and syphilis.

Figure 7: Rates of chlamydia have risen among girls under 16 years in the United Kingdom



Source: Health Protection Agency

Living with disease

Deaths in adolescence are much less common than in other stages of life, but it still accounts each year for 1,600 adolescents. The causes are distinctive. Among young adolescents, cancers are a major cause of death, and diseases from which children also suffer, such as the late effects of congenital abnormalities, are still fairly frequent killers. In later adolescence these wane, and transport accidents and self-harm are the major killers (see Figure 8).

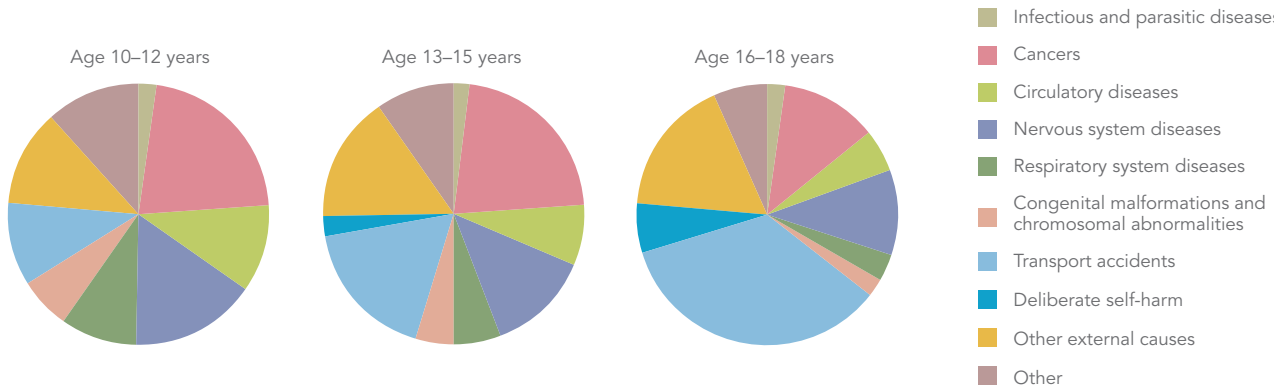
Many adolescents live with the burden of long-term conditions or disabilities. In total, 690,000 young people aged between 11 and 15 years report having a longstanding illness, which can have a major impact on quality of life. These range from serious diseases such as cystic fibrosis, through challenging conditions such as diabetes and epilepsy, to apparently minor conditions such as acne, which nevertheless cause psychological distress. Some conditions are very common in adolescence: at the last estimate, 590,000 teenagers in the United Kingdom had asthma. Others are rare but can also be serious: last year, 121 adolescents received an organ transplant and 136 are currently on the organ transplant waiting list. There are other conditions that are particularly prominent in this period of life such as anorexia nervosa and bulimia. More young people with serious disabilities are living longer, surviving to adolescence and adulthood. In addition to this, acute illnesses are common; 375,000 11 to 15-year-olds surveyed had

Box 2: Teen health in numbers

- 290,000 11 to 15-year-olds in England smoke regularly.
- 610,000 11 to 15-year-olds in England are estimated to have been drunk in the previous four weeks.
- 170,000 11 to 15-year-olds in England have taken Class A drugs.
- 300,000 11 to 15-year-old boys and 260,000 girls in England are obese.
- 3,100 girls under 16 years gave birth in England and Wales in 2006, and 4,700 had a termination of pregnancy.
- 19,246 girls under 18 years in England had an abortion in 2007.

Figures relate to 2006 and are approximate

Figure 8: Causes of death in adolescence



Source: Office for National Statistics

to cut down on things they usually did in the previous two weeks due to ill health. Many young people also live with the disease of others, acting as informal carers to those with long-term conditions, often parents or siblings.

Mental health is a big issue in adolescence. At any one time, 320,000 11 to 15-year-olds have clinically significant emotional or behavioural difficulties. In any secondary school of 1,000 pupils there are likely to be 50 pupils with serious depression, 100 suffering serious distress, 10 to 20 with obsessive-compulsive disorder and five to ten girls with an eating disorder. Deaths from suicide and deliberate self-harm increase with age through adolescence. Rates of deliberate self-harm in 15 to 24-year-olds in the United Kingdom are among the highest in Europe.

Many of these diseases amongst adolescents are not static. For example, malignant melanoma in the 15 to 19-year-old age group increased by 160% during the period 2002 to 2005. In the meantime, rates of gonorrhoea among 16 to 19-year-olds fell by 36% between 2002 and 2005.

Adolescents on average visit their general practitioner less than other age groups, yet studies suggest that they have concerns about their health which they would like to discuss. Concern about confidentiality is one of the barriers to visiting the general practitioner. However, large numbers are admitted to hospital every year and are seen in outpatient departments, and the trend shows a marked increase. In 2002/03, around 624,000 10 to 19-year-olds were admitted to hospitals in

Box 3: Teen cancer in numbers

- In 2005, 176 boys and 155 girls aged 10 to 14 years were diagnosed with cancer.
- Older adolescents were more at risk: 355 males and 287 females aged 15 to 19 years were diagnosed with cancer.
- The most commonly diagnosed cancers amongst 10 to 14-year-olds were:
  - leukaemia
  - lymphoma
  - malignant brain tumours.
- Adolescent cancer incidence is higher in boys than girls.
- Cancers which are more likely to affect adolescents than any other group include osteosarcoma and ovarian germ cell tumours.

Source: National Cancer Registries, 2005

Table 1: Hospital admissions of 10 to 19-year-olds for selected causes in England					
Year	2002/03	2003/04	2004/05	2005/06	2006/07
Epilepsy	37,186	37,964	39,601	42,683	43,187
Asthma	58,845	64,212	70,907	66,055	70,136
Diabetes	53,342	53,271	54,943	57,435	55,916

Source: Hospital Episode Statistics

Box 4: Teen illness in numbers

- 690,000 11 to 15-year-olds report a longstanding illness.
- 375,000 11 to 15-year-olds, when surveyed, had to cut down their usual activities due to ill health in the previous two weeks.
- Last year, 121 adolescents received an organ transplant.
- 136 adolescents are currently on the organ transplant waiting list.
- 685,000 10 to 19-year-olds are admitted to hospital each year.
- 320,000 11 to 15-year-olds have clinically significant emotional and behavioural difficulties.
- 590,000 teenagers in the United Kingdom have asthma.
- 8,428 10 to 19-year-olds have diabetes.

Source: General Household Survey; UK Transplant

England and, by 2006/07, the number was closer to 685,000 (a 10% increase). For outpatients, no data are available before 2004/05, but between then and 2006/07 attendances for 10 to 19-year-olds had increased from approximately 3,228,000 to 3,624,000 (a 12% increase). For specific causes of hospital admission amongst 10 to 19-year-olds there have also been some marked upward trends, notably for epilepsy, asthma and diabetes (see Table 1).

In parallel to their transition to adult life, young people with long-term conditions also transfer from paediatric to adult healthcare services. This can be a difficult time. A coordinated transition can help support adolescents through this move, and there is a need to train staff in children's and adult services with skills in treating young people and awareness of their needs.

Care of children with many conditions is improving, and in future there may be adolescent survivors of diseases which were previously fatal in childhood. For example, universal screening for sickle cell disease and thalassaemia is expected to improve the care of children with these conditions, increasing the number who survive to adolescence. These young people will have new needs, and it is important that services are developed to meet them, including support at the transition of care.

Adolescents in England compared internationally

The World Health Organization recently conducted a survey of the health behaviour of 11, 13 and 15-year-olds across 41 countries and regions. England's rankings are an improvement

Table 2: Health behaviour of England's 13-year-olds compared with other countries

Indicator	Position of England	Best performance
Eat fruit	Best	England, Belgium, Romania
Brush teeth	7th best	Switzerland, Sweden, Netherlands
Watching television	7th best	Switzerland, Luxembourg, Belgium
Medically attended injury in last year	Middle ranking	Former Yugoslav Republic of Macedonia, Poland, Bulgaria
High life satisfaction	Middle ranking	Netherlands, Finland, Belgium
Overweight or obese	Middle ranking	Lithuania, Ukraine, Latvia
Smoke weekly	Middle ranking	Greece, Norway, Former Yugoslav Republic of Macedonia
Exercise	Middle ranking	Slovakia, Ireland, United States
Rate health as fair or poor	10th worst	Former Yugoslav Republic of Macedonia, Slovakia, Israel
Drink alcohol weekly	6th worst	Norway, Greenland, Iceland
Been drunk at least twice	4th worst	Norway, Former Yugoslav Republic of Macedonia, Sweden

Source: World Health Organization

on previous years but still present a mixed picture. English 13-year-olds do take actions to protect their health; they are likely to eat fruit and brush their teeth, for example. However, England's youth are more likely than their counterparts in other countries to drink alcohol regularly and to have been drunk several times (see Table 2).

Conclusion

Many young people have a strong interest both in their own health and in general health matters. Yet, the teenage years are a period in which experimentation and risk taking are part of the rite of passage into adult life. The consequences are clear: a threat to health in the short term but also the concern that behaviours, once established, may persist into adult life posing a hazard to long-term health. In relation to many risk factors, the majority of teenagers do not experiment with them or they do so for a brief period only. However, the numbers who do take risks amount to hundreds of thousands of young people every year.

There are immediate consequences of risk taking in the teenage years. For example, the current pattern of teenage drinking creates antisocial behaviour, involvement in crime, injuries from accidents and violence as well as a greater likelihood of having unprotected sex. More insidiously, over-consumption of energy-dense foods and those high in fats and sugar by some teenagers leads to being overweight and to obesity and the subsequent risk (especially if coupled with low levels of physical activity) of increased levels of diabetes, heart disease and cancer in adult life. Health and social inequalities are reinforced by the long-term consequences of adolescent health problems such as binge drinking and teenage pregnancy.

Whilst young people want more information to guide them about their health, providing information alone will not make major inroads into the problems described in this chapter. Young people want to be listened to in the individual consultation and to have the opportunity to be involved in the design of services.

Key strategic documents over the last few years have sought to address the problems – a White Paper on public health (*Choosing Health*), a set of overall standards (*National Service Framework for Children, Young People and Maternity Services*), a programme to support these standards (*Every Child Matters: Change for Children*), a strategy on obesity (*Healthy Weight, Healthy Lives*), two reports on alcohol (*Safe. Sensible. Social and the Youth Alcohol Action Plan*), guidance on physical activity (*At Least Five a Week*), a good practice guide on transition of care

(*Transition: Getting it right for young people*), general activities and support services for young people (the Ten Year Youth Strategy) and others.

There is no shortage of guidance or reports. There have been important developments, such as the 'You're Welcome' criteria for teen-friendly services, and work between the Department of Health and the Royal Colleges on training for healthcare professionals treating adolescents. The challenge should now be on implementation and addressing the policy gaps, keeping under review subjects such as taxation, age limits and service provision.

The burden of acute and chronic illness is fortunately lower than in older people. Nevertheless, the implications remain significant and long-term for some. Young people with diseases like diabetes, epilepsy, kidney failure and rarer conditions like cystic fibrosis are in double jeopardy. They experience the illness and its consequences but they are also coping with the turbulence of adolescence and frustration with the actual and perceived barriers that the illness creates. The opportunity to fully participate with their peers may be constrained or denied. Young people may feel less comfortable with conventional health services. For those with chronic diseases, the transition from children's services to adult services can be very difficult, breaking a continuity of care with clinical teams with which they have become particularly familiar over many years. There are many examples of good practice in this and other countries (the teenage cancer units in England are a recent example). All share the feature of services much more tailored to the needs of young people and designed around their ideas and experience. There is no simple solution to the risks posed by adverse behaviours and experiences in the teenage years. However, major shifts in behaviour in the fields of fashion, technology use and entertainment show that change can be achieved. Why not the same for health? Efforts need to be oriented to implementing existing strategies and plans but also to seeking new and imaginative ways of getting the health messages across in a way that appeals to youthful minds and outlooks.

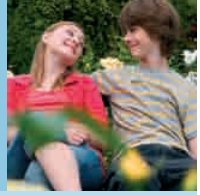
Whatever the solution is, it must be identified and developed in partnership with young people themselves. The active participation of young people in making decisions about their health, both at an individual level and at the strategic level of healthcare provision, is key. The free expression of views, given due weight according to the age and maturity of the child, is not only a human right, it is also known to improve health.

On the healthcare front, it is clear that young people have special needs, whether it is advice and support with acute or minor illnesses, or long-term support for life-threatening or chronic diseases. Health services need to be designed, again with the help of young people, which address these needs.

Box 5: 10 top tips for keeping healthy for young people

1. Have a close friend that you can talk to about things you really mind about.
2. Eat at least five portions of vegetables or fruit a day, especially tomatoes (including ketchup), red grapes and salad.
3. Don't smoke. If you haven't started – don't. If you have started – stop.
4. Eat lots of bread, rice, or pasta at least four times a week. It really, really helps you keep fit and going.
5. Alcohol – the chances are that you will try it sometime but stay in control of the situation at all times.
6. Sex – think of all the lovely sexy things you can do without actually 'doing it' and if you do 'do it' be safe and use a condom.
7. Eating fish once a week may not help the fish's health but it will certainly help yours.
8. Get breathless by good exercise at least three times a week (enough to make you sweat or glow) – fast walking, biking, playing football – whatever.
9. Illegal drugs – find out as much as you can about drugs and don't do them.
10. If you are being bullied, or abused – tell someone you trust about it. Telling helps, them doing something about it helps even more.

Source: Macfarlane and McPherson, personal communication



"Good health in the teenage years is inextricably linked to a young person's ability to fulfil their potential."

RECOMMENDATIONS

- A national summit should be held to take stock of the state of health promotion and healthcare services for teenagers. An action plan should come out of it.
- NHS organisations should open a dialogue with the Youth Parliament to take account of concerns and ideas of young people about the design of their services.
- A high level national group should review the current health provision for young people with chronic diseases who move to adult services.
- A small tranche of senior academic appointments should be made to establish a research and teaching discipline of teenage health.
- A young people's panel should be established to advise on national campaigns addressing risk-taking in the teenage years.
- The Association of Public Health Observatories should run a free online database on adolescent health, and produce an annual surveillance report, including positive indicators of health.
- The legal blood alcohol limit for drivers aged between 17 and 20 years should be reduced to zero.