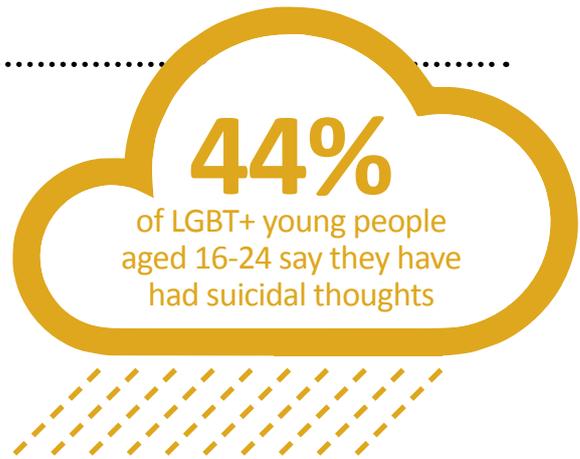


# CHAPTER 8: Inequalities in health outcomes

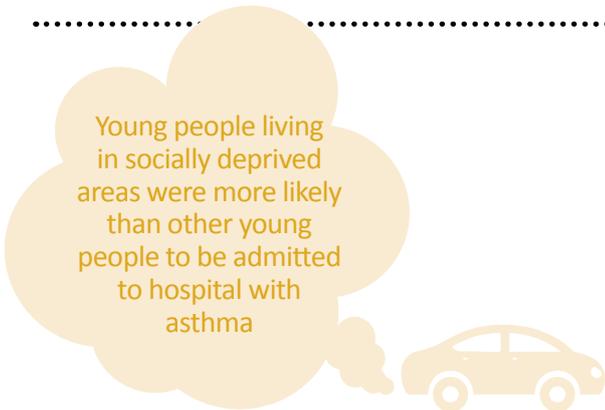
**26%** of young people aged 11-19 live in households with the lowest incomes



**44%** of LGBT+ young people aged 16-24 say they have had suicidal thoughts



Young people living in socially deprived areas were more likely than other young people to be admitted to hospital with asthma



10-14 year old pedestrians living in deprived areas are **3.7x** more likely to be killed or seriously injured on the roads



15 year olds in most deprived areas are **2x** as likely to report that they smoked regularly than those in the least deprived areas

**2x** higher under 18 conception rate in the most deprived areas compared to least deprived

**Obesity rates** for 10/11 year olds are **2x** in the most deprived area compared with the least deprived

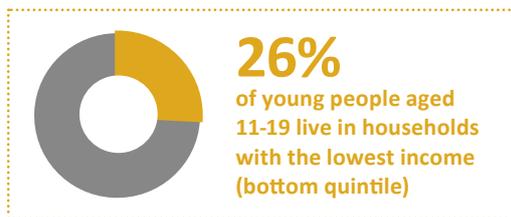


**Young adults with four+ adverse life experiences are more frequent users of health services than their peers**

## Inequalities in health outcomes

Social inequalities can lead to health inequalities (Marmot et al, 2012). In fact it has been argued that health is more a function of lifestyles linked to living and working conditions than a function of healthcare (HM Government, 2010). Health inequalities happen across the whole life course, but there has been less attention looking specifically at the evidence on the social determinants of health for adolescents and young people as distinct from other age groups. Yet without equal access to resources and support, some young people are put at a disadvantage (Viner et al, 2012). This may set in motion inequalities that continue to play out across the rest of the life course.

### Inequalities related to deprivation



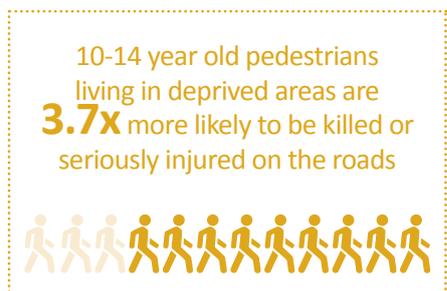
Source: Department for Work and Pensions (2016) Households Below Average Income 2002-2015

Low income is the most salient social disadvantage. Government population surveys consistently show that young people are disproportionately represented in families with lower levels of income. As reported in Chapter 2, over a million young people in the UK age 11-19 live in households where the family income is being supplemented by the state. In 2015, around 1 in 4 young people in the UK (25%) lived in households with less than 60% of the UK's median income. This

proportion has increased since 2008 when around 1 in 5 (19%) of 16-24 year olds lived in households with less than 60% of median income (ONS, 2017). Over a quarter of those aged 11-19 are living in the bottom quintile of income distribution (DWP, 2016). One in seven secondary school aged children are eligible and claiming free school meals.

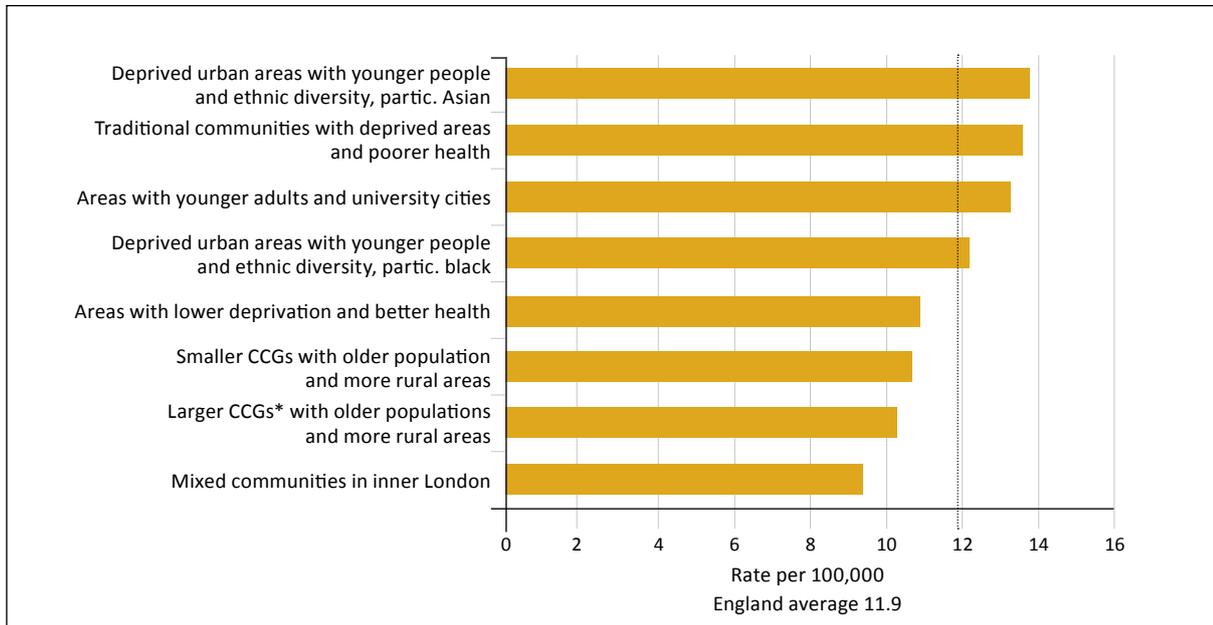
The quality of the local environment is also an important social determinant of health. The latest English index of multiple deprivation (IMD) indicated that over five million people lived in the most deprived areas of England. In these areas, 44% of the children were income deprived. Overall, the authors estimated that almost two in five children up to age 16 were living in families that were income deprived (Department for Communities and Local Government, 2015).

**Death and accidents:** There are very few data looking specifically at variations in different kinds of adolescent mortality in the UK in relation to deprivation. It is a difficult task due to the very low number of deaths in this age group. In addition, as Viner et al (2012) pointed out, most adolescent mortality is caused by social and environmental causes (such as self-harm, road traffic accidents and drowning) rather than by directly income related causes, although income may play a part in this list. Public Health England analyses have shown that among 10-14 year old pedestrians, those living in the 20% most deprived areas were 3.7 times more likely to be killed or seriously injured on the roads than those from the least deprived areas. Those aged 15-19 from the most deprived areas were twice as likely to be killed or seriously injured (PHE, 2015). **Chart 8.1** shows the variation in mortality up to age 17, in areas with different characteristics. Child and adolescent mortality is higher in deprived areas with higher proportions of young people and greater ethnic diversity.



Source: PHE (2014) Reducing unintentional injuries on the road among children and young people under 25 years

Chart 8.1: Child mortality (0-17) in different types of areas, England, 2013-2015

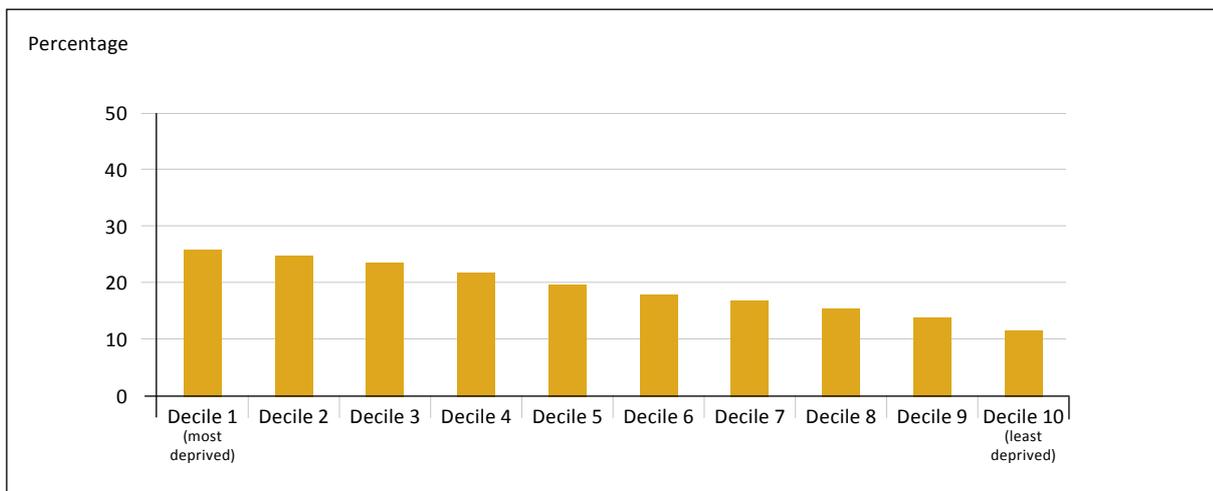


Source: Public Health England, ONS Death Registration Statistics 2013-2015 [DOWNLOAD DATA](#)

\* CCG = Clinical Commissioning Group

**Obesity:** There is good evidence that rates of obesity in young people are higher for those living in deprived areas. This has been consistently demonstrated in the English National Child Measurement Programme for secondary pupils in Year 6 (age 11/12), as **Chart 8.2** shows, as rates are double in the most deprived area compared with the least deprived.

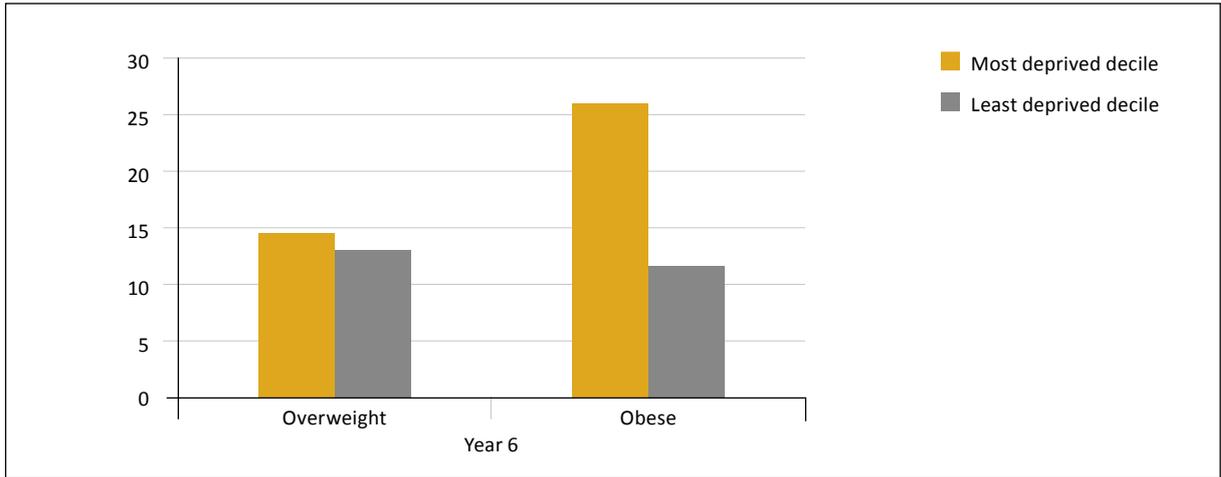
Chart 8.2: Prevalence of obesity in Year 6 (age 10-11), by deprivation according to school area, England, 2015/16



Source: Health and Social Care Information Centre. National Child Measurement Programme 2015/2016 [DOWNLOAD DATA](#)

The relationship between weight and deprivation is stronger for obesity (95<sup>th</sup> percentile of weight distribution) than it is for being overweight (85<sup>th</sup> percentile of weight distribution), as is shown in **Chart 8.3**.

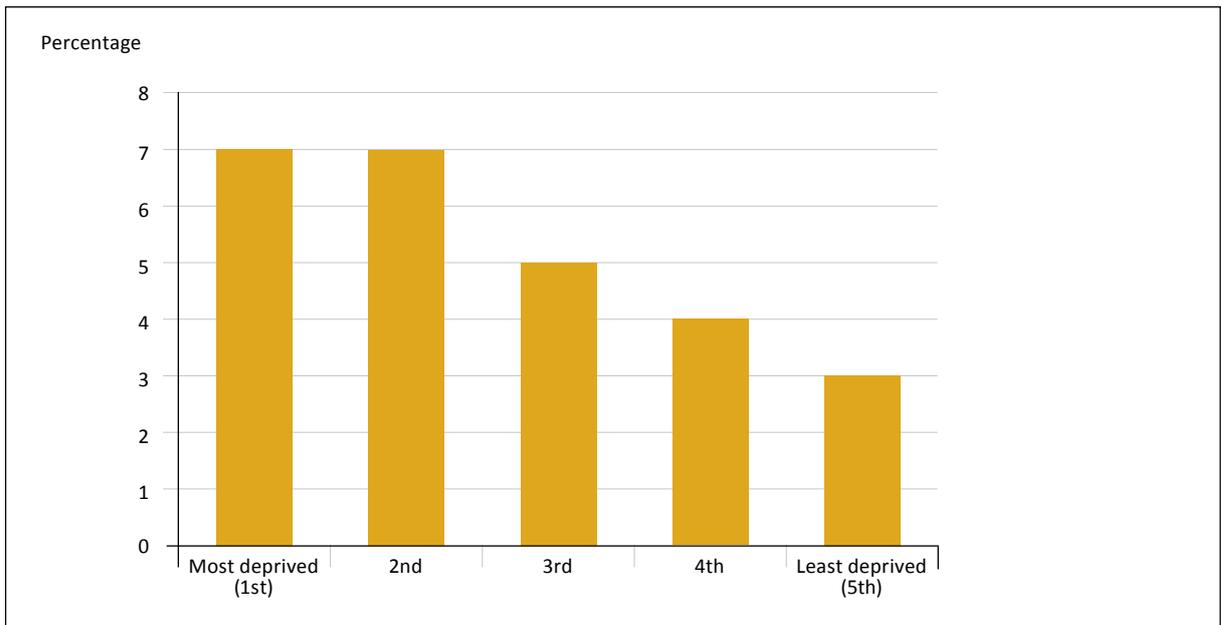
**Chart 8.3:** Relationship of area deprivation to prevalence of overweight and obesity in Year 6 (age 10-11), England, 2015/16



Source: Health and Social Care Information Centre. National Child Measurement Programme 2015/2016 [DOWNLOAD DATA](#)

**Smoking and drinking:** Regular smoking by 15 year olds is related to whether young people live in an area of multiple deprivation as **Chart 8.4** illustrates. Those in the most deprived areas were more than twice as likely to report that they smoked regularly than those in the least deprived areas.

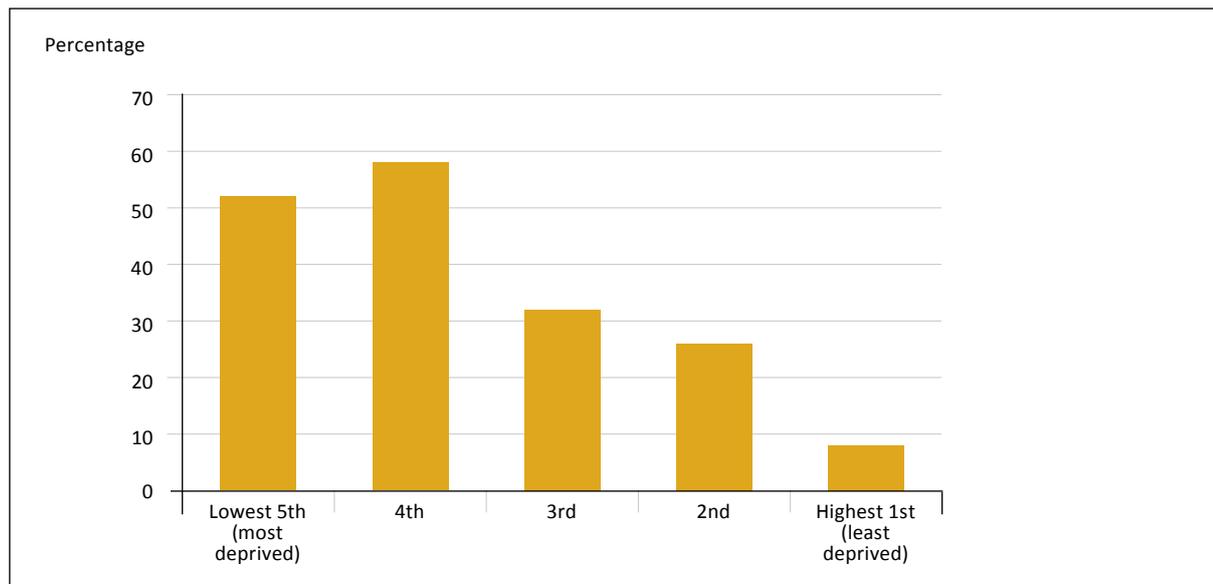
**Chart 8.4:** Regular smoking in 15 year olds by Index of Multiple Deprivation quintiles, England, 2014



Source: NHS Digital (2015) Health and Wellbeing of 15-year-olds in England. Main findings from the What About YOUth? Survey 2014 [DOWNLOAD DATA](#)

Children and young people are also more likely to be exposed to the cigarette smoke of others in deprived areas. **Chart 8.5** presents measurements from saliva, showing elevated cotinine levels for non-smoking children aged 4-15 in lower income families. Cotinine is an alkaloid found in tobacco and also the predominant metabolite of nicotine.

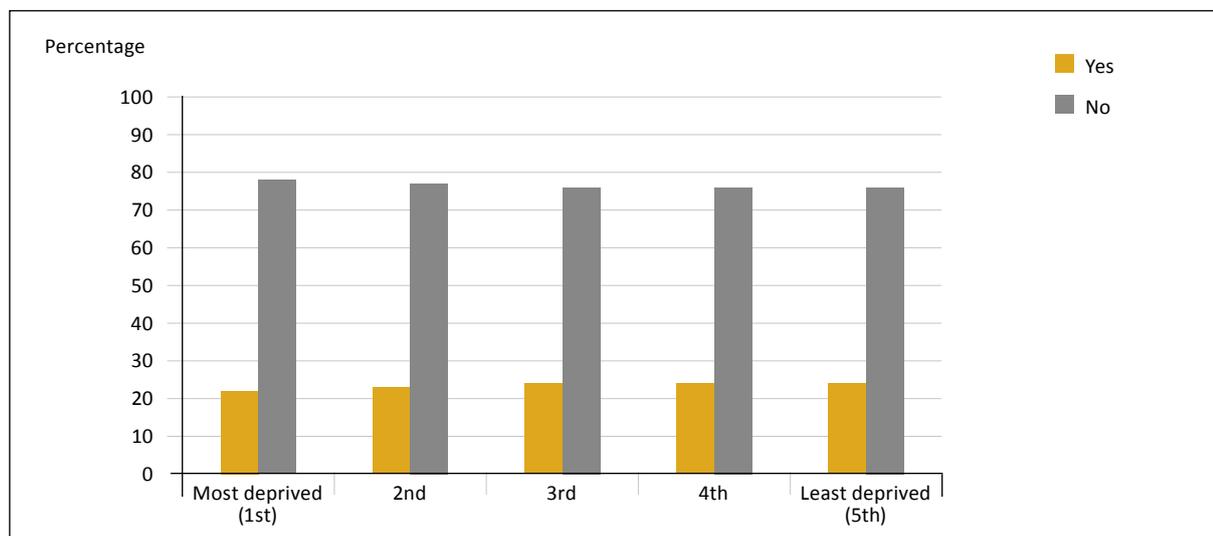
**Chart 8.5:** Smoke exposure for children aged 4-15, by household income (measured by salivary cotinine levels), England, 2015



Source: NHS Digital (2016) Health Survey for England 2015, Smoke Exposure in Children [DOWNLOAD DATA](#)

The relationship of deprivation to teenage drinking is less clear, as **Chart 8.6** shows. There is no discernible relationship between the proportion of 15 year olds who have been drunk in the last four weeks by whether they live in an area of deprivation or not.

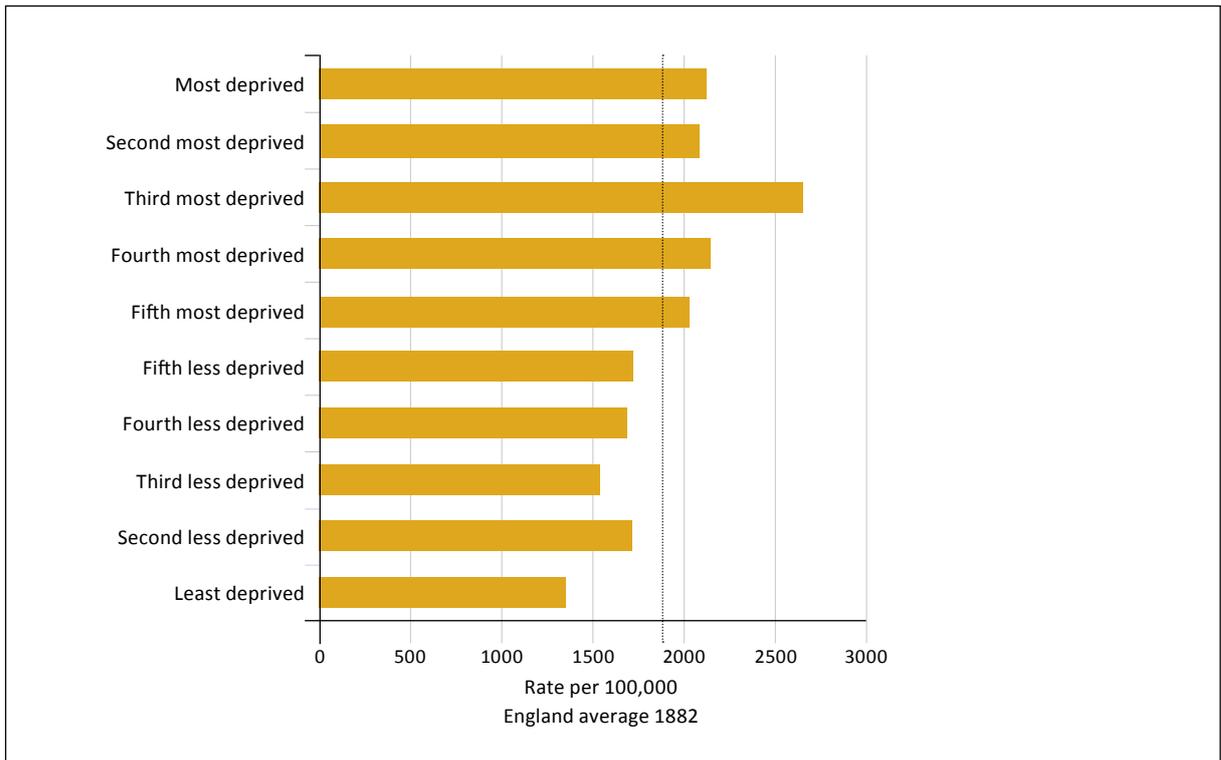
**Chart 8.6:** Percentage of 15 year olds who have been drunk in the last four weeks by Index of Multiple Deprivation (those who have had an alcoholic drink), England, 2014



Source: NHS Digital (2015) Health and Wellbeing of 15-year-olds in England. Main findings from the What About YOUTH? Survey 2014 [DOWNLOAD DATA](#)

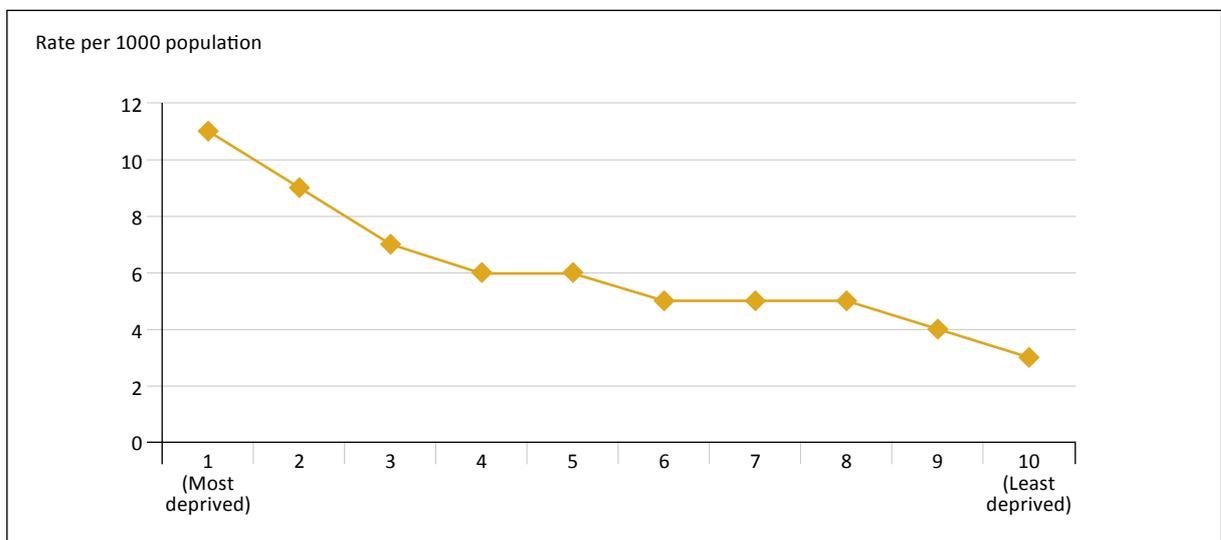
**Conceptions, pregnancy and sexual health:** Young women in situations of income deprivation in England are more likely to experience sexually transmitted infections (**Chart 8.7**), use emergency contraceptives (**Chart 8.8**), and to become pregnant under 18 (**Chart 8.9**).

**Chart 8.7:** Chlamydia detection rates for those aged 15-24 (per 100,000) by Index of Multiple Deprivation, England, 2016



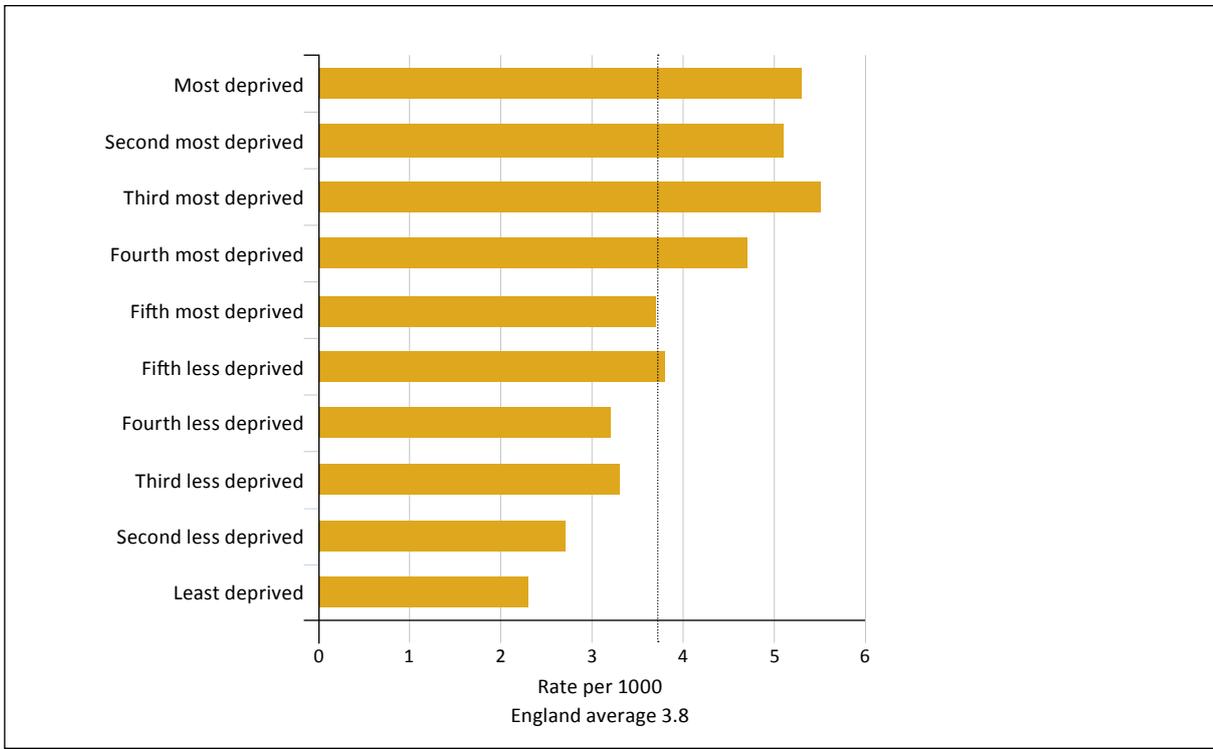
Source: PHE's NCSP data tables; Chlamydia detection and screening in England 2016 [DOWNLOAD DATA](#)

**Chart 8.8:** Girls aged 13-15 provided with emergency contraceptives by Index of Multiple Deprivation, England, 2015/16



Source: NHS Digital 2016 Statistics on Sexual and Reproductive Health 2016 [DOWNLOAD DATA](#)

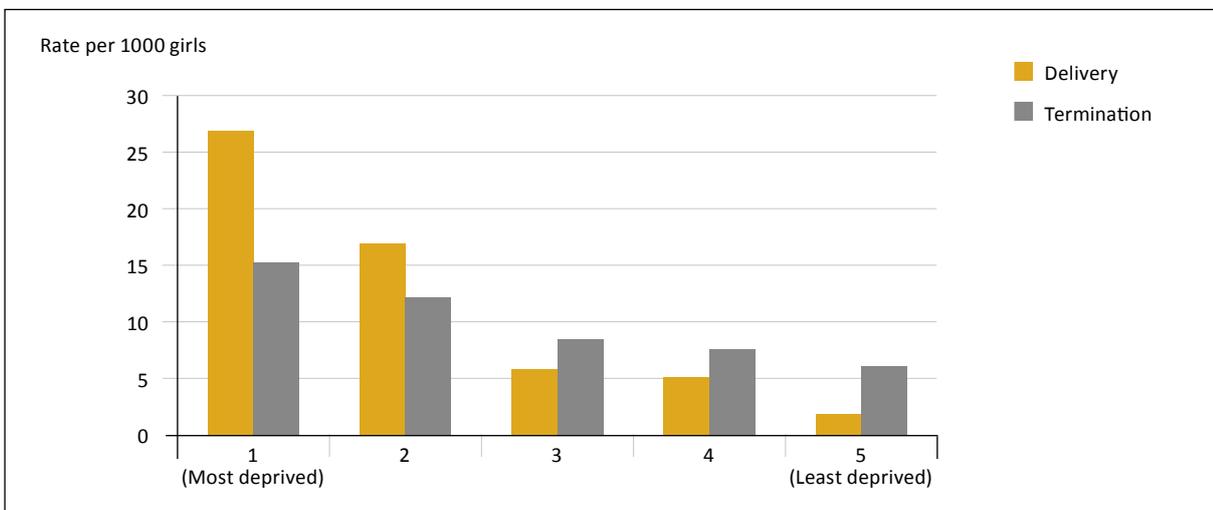
Chart 8.9: Under 16 conception rate by area deprivation deciles, England, 2015



Source: Public Health England [DOWNLOAD DATA](#)

**Chart 8.10** shows that the relationship with deprivation is similar for under 18 conceptions in Scotland. This remains the case for both pregnancies that end in termination and those that end in delivery of a baby, both of which are more frequent in more deprived areas.

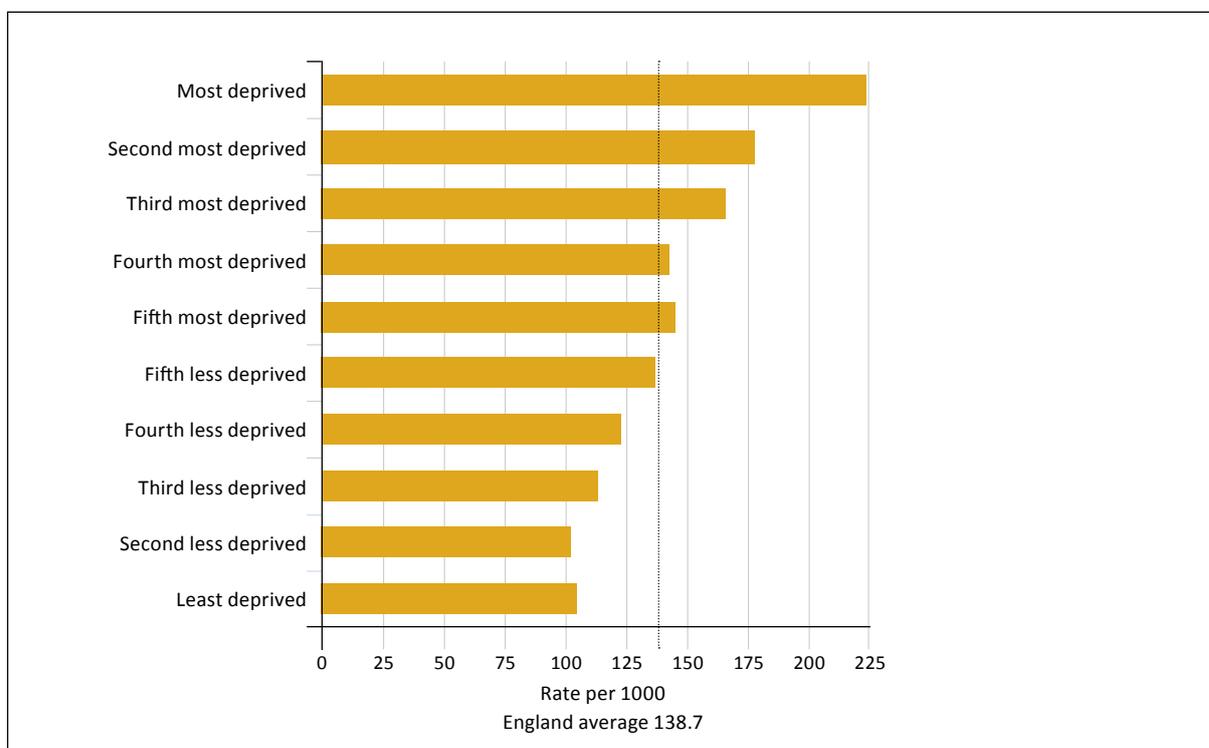
Chart 8.10: Under 18 conceptions, by area deprivation deciles, Scotland 2014



Source: Scottish Government National Statistics (2016) Teenage Pregnancy Year of conception ending 31 December 2014 [DOWNLOAD DATA](#)

**Longterm conditions:** Overall the relationship of asthma to deprivation is not clear. Information for adults tend to be based on treated asthma (either at the GP or hospital), and so does not reflect the full picture of asthma prevalence in the community, and the results concerning social inequalities tend to be equivocal. Up to date data on the relationship of asthma in the community and deprivation for young people are not available. However, **Chart 8.11** presents hospital episode statistics on admission to hospital for asthma among those aged 10-18 in England, 2014/15, demonstrating a clear relationship. Young people living in socially deprived areas were more likely than other young people to be admitted to hospital with asthma. Whether this is because there was a higher prevalence of asthma in the first place, or more passive smoking, or poorer treatment in those areas is not clear.

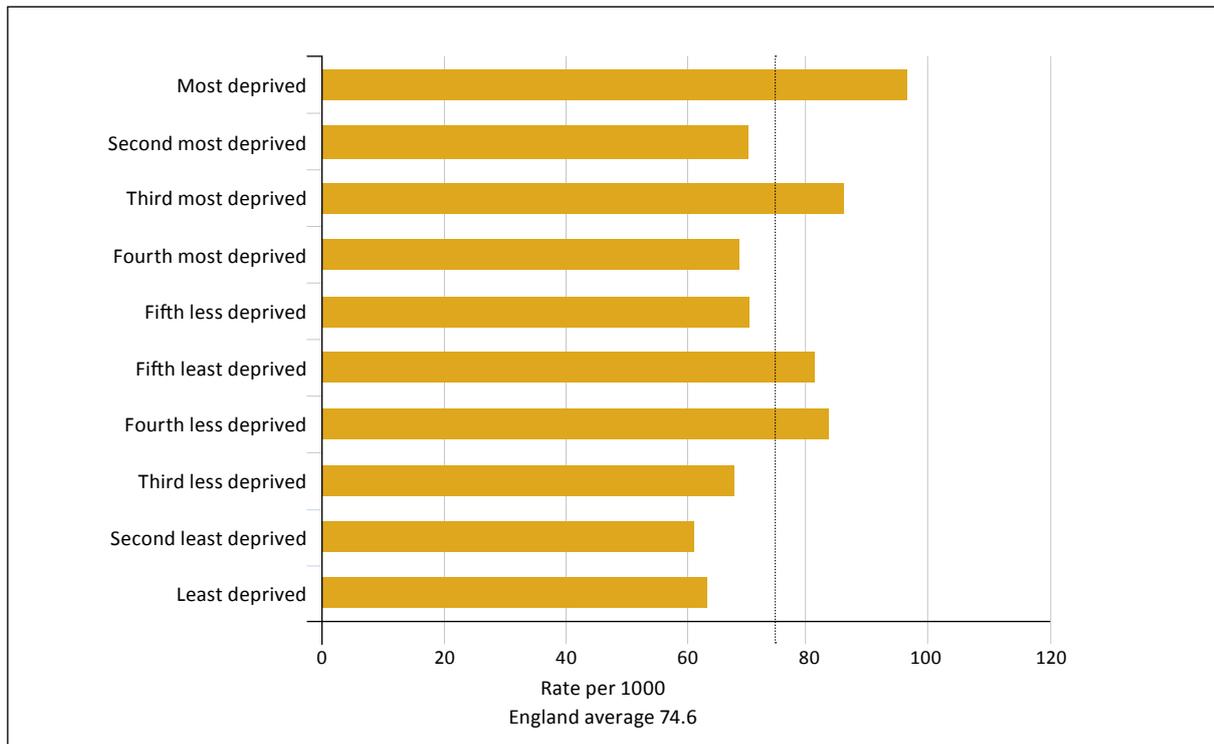
Chart 8.11: Hospital admissions for asthma for those aged 10-18 by Index of Multiple Deprivation, England, 2014/15



Source: Public Health England. Hospital Episode Statistics 2014/15 [DOWNLOAD DATA](#)

**Chart 8.12** shows that the relationship is not as clear for admissions for epilepsy for those under 19, although there is a trend for those in the least deprived areas to be admitted less than those in the more deprived areas.

**Chart 8.12:** Hospital admissions for epilepsy under 19 years by Index of Multiple Deprivation, England, 2014/15



Source: Public Health England. Hospital Episode Statistics 2014/15 [DOWNLOAD DATA](#)

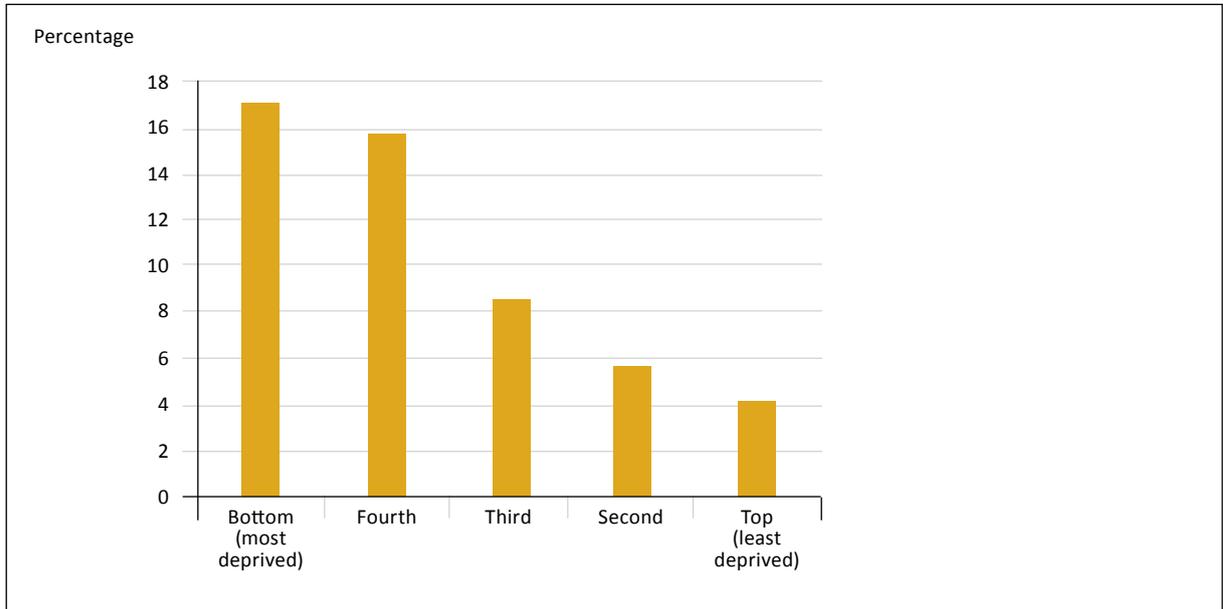
**Mental health:** The Millennium Cohort Study is a longitudinal study, which is following a sample of children born in the United Kingdom between September 2000 and January 2002. The age 11 sweep of the study was carried out in 2012 and included 13,287 parent interviews and cognitive assessments of cohort members. **Chart 8.13** demonstrates that children in the bottom quintile for income were 4.5 times more likely to experience severe mental health problems when compared to those children in the highest income quintile.

11 year olds from the lowest income families are **4.5 times** more likely to experience **severe mental health problems** when compared to those from the highest income families.



Source: Guttman et al (2015)  
Millennium Cohort Study 2012

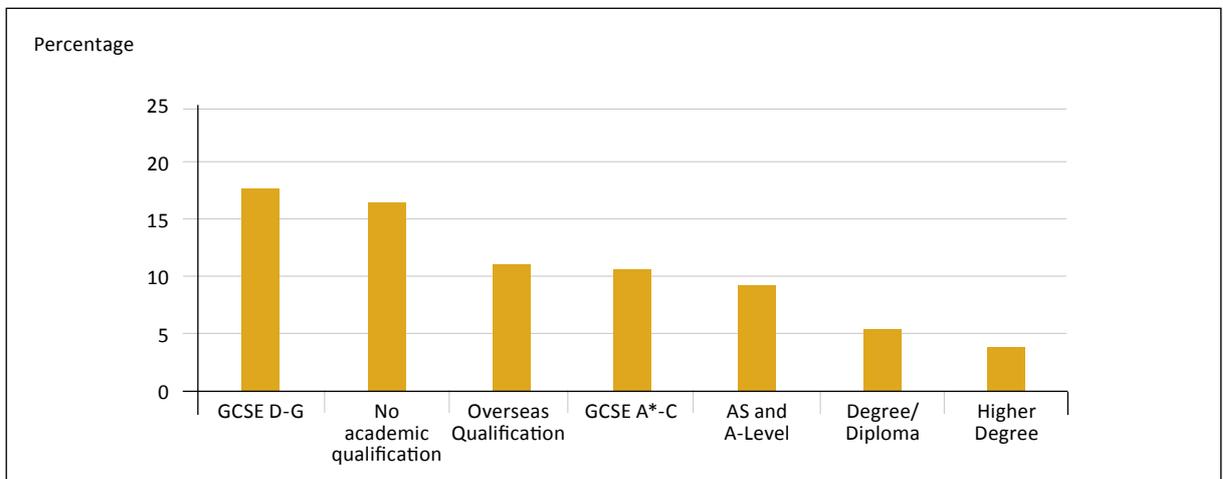
**Chart 8.13:** Percentages of 11 year olds with severe mental health problems (total difficulties, parent rating) by quintile of family income, UK, 201



Source: Gutman et al (2015) Children of the new century: Mental health findings from the Millennium Cohort Study. London: Centre for Mental Health [DOWNLOAD DATA](#)

The Millennium Cohort Study also collected data on the proportion of 11 year olds with severe mental health problems analysed according to their parent’s highest academic qualification. **Chart 8.14** shows an inverse relationship between parental education and prevalence of child mental health problems. Young people whose parents had no academic qualifications or their highest qualification was grade D-G at GCSE were four times more likely to have severe mental health problems than those children whose parents had a higher degree.

**Chart 8.14:** Percentages of 11 year olds with severe mental health problems (total difficulties, parent ratings) by highest parent academic qualification, UK, 2012

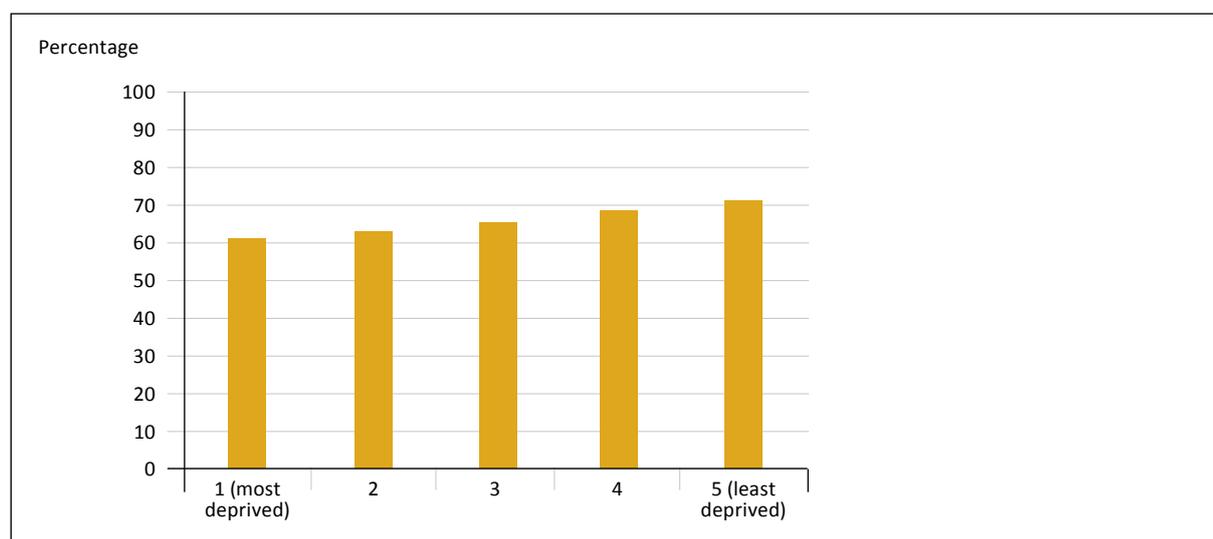


Source: Gutman et al (2015) Children of the new century: Mental health findings from the Millennium Cohort Study. London: Centre for Mental Health [DOWNLOAD DATA](#)

The 2015 Adult Psychiatric Morbidity Survey looked at social determinants of mental health problems but did not separate these out for those aged 16-24. Generally it was reported that most mental health disorders were common in people living alone, those in poor physical health and those unemployed. The pattern for socioeconomic inequalities in treatment provision was less clear, although it was noted that adults living in the lowest income households were more likely to have sought help for mental health problems but not have received treatment (McManus et al, 2016).

Life satisfaction as measured in the What About YOUth study in 2014 shows a consistent but less strong relationship with living in a deprived area, as shown in **Chart 8.15**. Ratings of high or very high satisfaction by 15 year olds were 71% for those in the less deprived areas, and 61% for those in the more deprived areas.

**Chart 8.15:** High life satisfaction rates in 15 year olds by Index of Multiple Deprivation, England, 2014



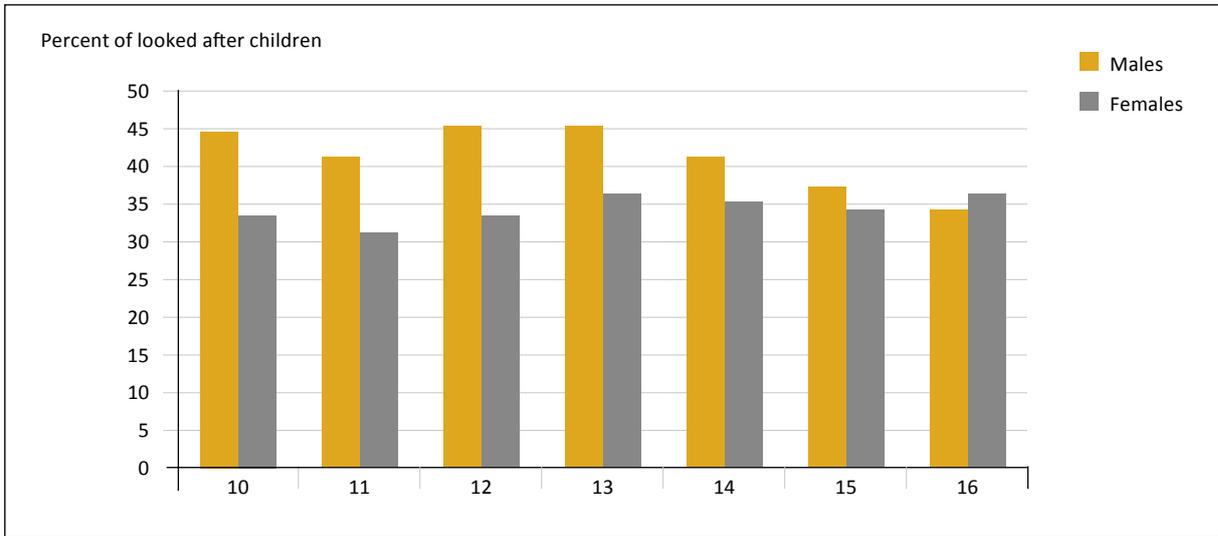
Source: NHS Digital (2015) Health and Wellbeing of 15-year-olds in England 2014. Findings from What About Youth Survey.

[DOWNLOAD DATA](#)

### Targeting particularly vulnerable groups

**Looked after children:** Children who are under the care of the local authority face a number of inequalities that may have consequences for their health. In England all looked after children should complete a Strengths and Difficulties Questionnaire (SDQ) once a year, to keep track of rates of emotional difficulties. A higher score on the SDQ indicates more emotional difficulties. A score of 0-13 is considered the norm, a score of 14-16 indicates cause for concern, and a score of 17 and over is likely to indicate mental problems. **Chart 8.16** shows that, on average, throughout their teens, looked after children score above the norm on the SDQ, indicating high rates of mental health problems in the looked after population. At least a third meet the criteria for concern (a score of 14 or more). This compared with 8% of the general population aged 11-15.

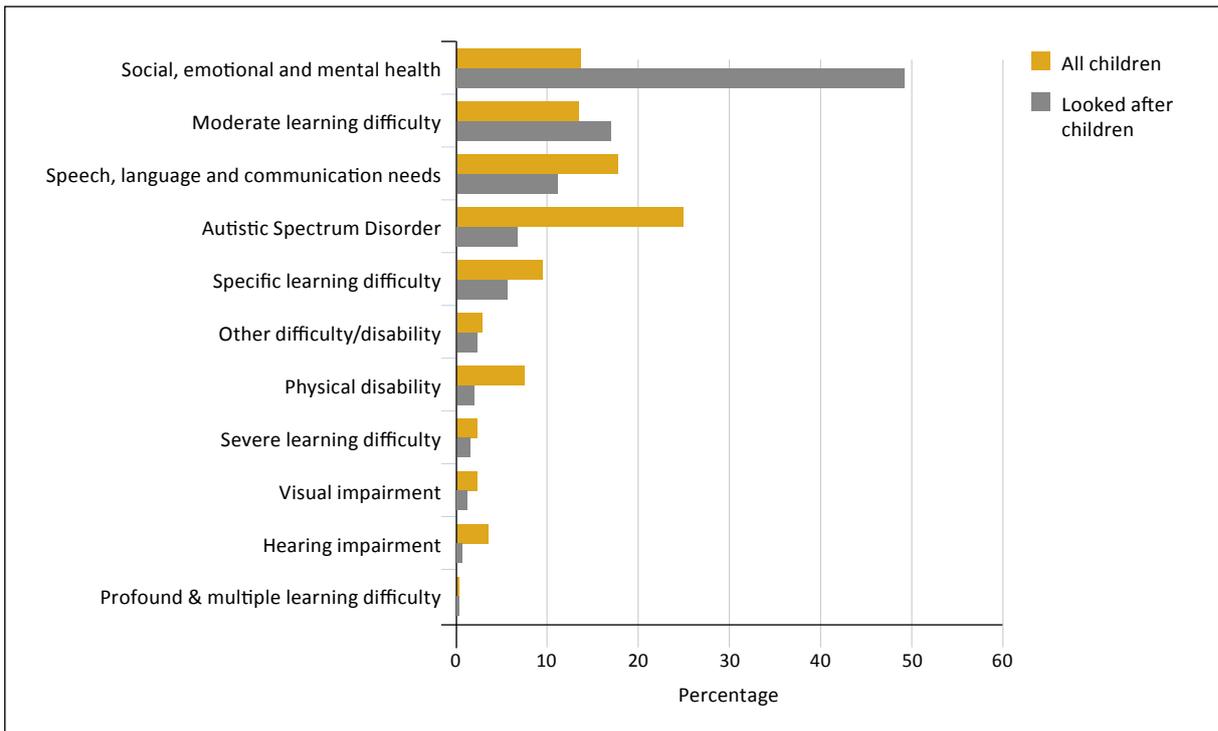
Chart 8.16: Prevalence of emotional difficulties in looked after children by age and gender, England, 2015



Source: Department for Education (2016) Outcomes for Looked After Children At 31st March England SFR11/2016 [DOWNLOAD DATA](#)

**Chart 8.17** shows that among all children who have been classified as having special educational needs, those who are looked after children tend to have more social, emotional and mental health problems than their peers. Their peers are more usually experiencing problems associated with autism and speech and language.

Chart 8.17: Different kinds of special educational needs in looked after children compared with their peers at secondary school, England, 2016



Source: Department for Education, (2017) Outcome of Looked After Children 2016 Special Educational Needs in England, 2016 [DOWNLOAD DATA](#)

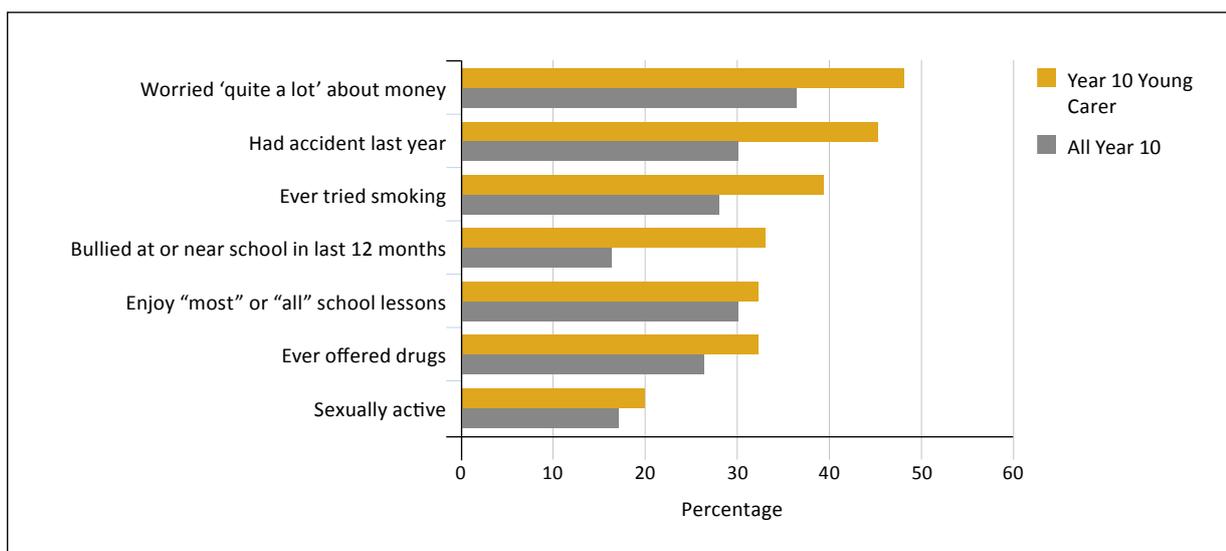
**Young carers:** Young people with caring responsibilities for others are often hidden, falling under the radar with respect to additional support. Young carers are at increased risk of missing out on education and social opportunities, and may be carrying a significant emotional burden. The Office for National Statistics concluded from the 2011 census that there were 177,918 children and young people under 18 helping to look after someone in their family who was ill, disabled or misusing drugs or alcohol (ONS, 2013). The Carers’ Trust has estimated that this may represent as many as 1 in 12 secondary school aged pupils (Carers’ Trust, 2017). Many miss school due to caring duties, and as many as two thirds (68%) have reported being bullied at school (NHS England, 2014). One study has estimated that young carers are 1.5 times more likely to have a special educational need or disability (Hounsell, 2013). Another found that over a third of young carers (38%) reported having a mental health problem (Sempik et al, 2013). Young unpaid carers in English regions and Wales who were providing care for 50 or more hours a week have been found to be between 4.4 (in Wales) and 5.9 times (in the South East of England) more likely than those providing no care to report their general health as ‘not good’ (ONS, 2013).



Source: Office for National Statistics (2013)

**Chart 8.18** compares a range of health behaviours as reported by young carers and all Year 10 children (11/12 year olds) in one local authority. This demonstrates the elevated risk of reporting certain health behaviours in the young carers’ group. Clearly this is not representative of young carers in the country as a whole, but in the absence of more data, it is an indicator that this is a group at risk of significant health inequalities as they go through their teens and into early adulthood.

Chart 8.18: Comparison of health behaviours between young carers and all Year 10 pupils in one local authority, 2016

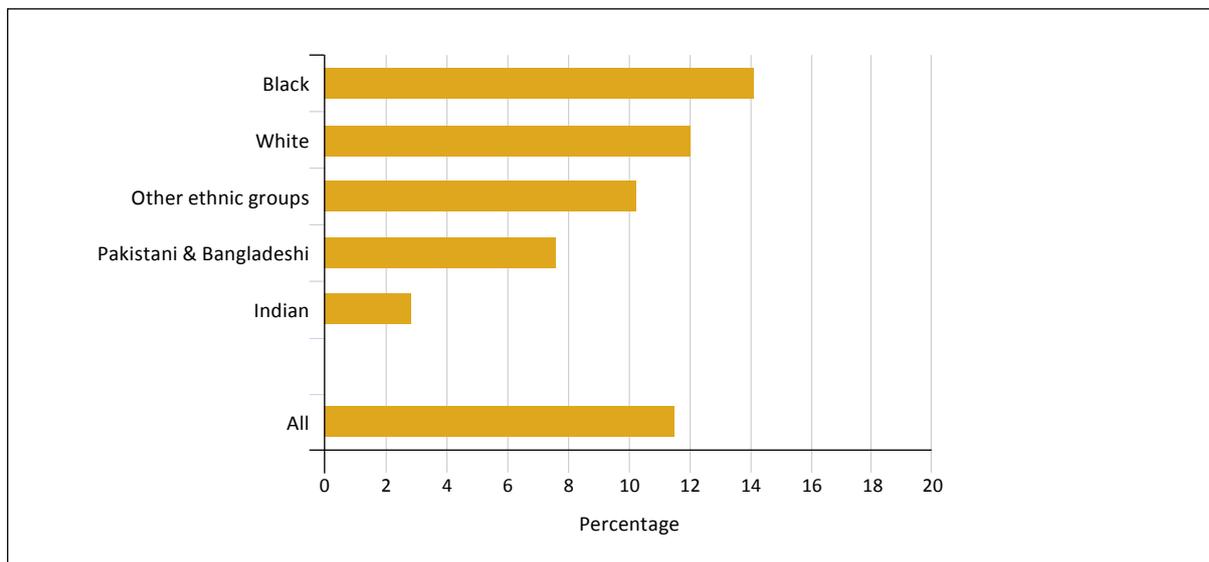


Source: Balding and Regis ( 2016) Young people into 2016. Unpublished report [DOWNLOAD DATA](#)

**Ethnicity:** Higher proportions of children from certain Black and minority ethnic groups live in low-income families when compared to children from white backgrounds. In 2015/16 within the UK, for children where the head of the family identified as white, 16% were in relative poverty compared to 42% for Pakistani families, and 44% for Bangladeshi (PHE, 2017). This demonstrates how inequalities can be compounded, and it is difficult to assess whether health inequalities are due to deprivation, ethnicity or a combination of factors. Statistics on obesity illustrate this point. We have already seen that being overweight and obese is related to deprivation. However, ethnicity also plays a role in excess weight at age 10-11. Children from Black and minority ethnic backgrounds were more likely to be overweight than their peers from other groups. For children in the Black African group, 45% were overweight or obese, compared with less than a third in the Mixed White and Asian group (29%). This correlates with Black and Asian children having a higher incidence of Type 2 diabetes and worse glycaemic control in Type 1 and Type 2 diabetes (RCPC, National Paediatric Diabetes Audit Report, 2017).

Inequalities based on ethnicity are also seen amongst prevalence of mental health in young people. The Green et al (2005) ONS mental health prevalence survey showed that the prevalence of disorders among 11-16 year olds varied by ethnicity. **Chart 8.19** shows that rates of mental health problems were higher in some ethnic minority groups (Black) and lower in others (Indian, Pakistani and Bangladeshi).

Chart 8.19: Prevalence of mental disorders among 11-16 year olds in Great Britain, by ethnicity, 2004

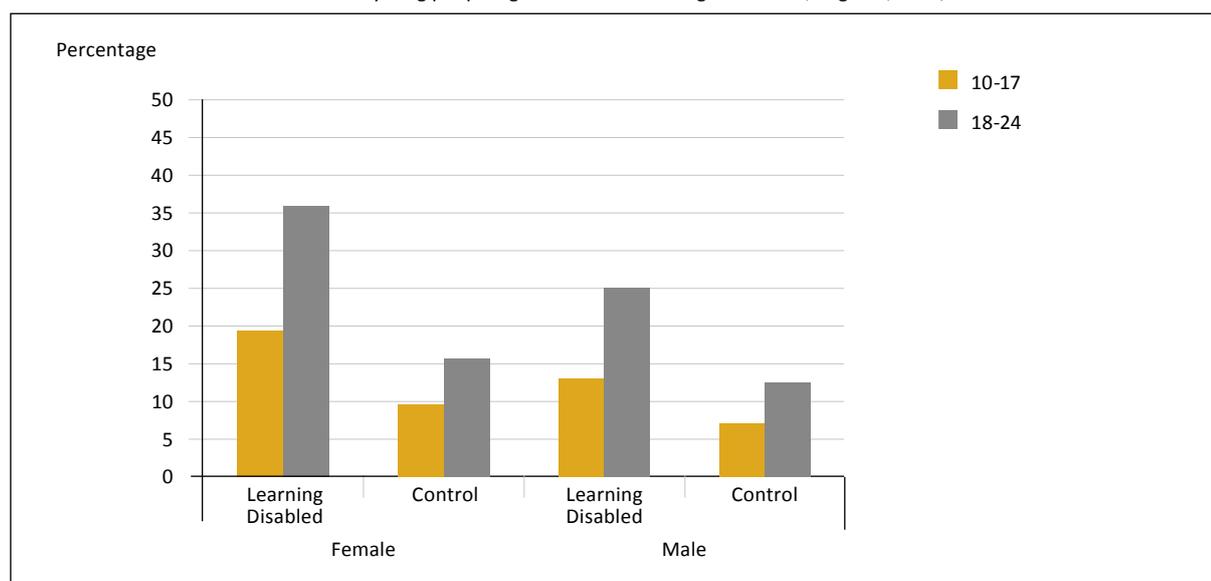


Source: Green et al (2005) Mental health of children and young people in Great Britain, 2004 [DOWNLOAD DATA](#)

Inequalities may be further compounded by other factors. For example, young carers are 1.5 times more likely to be from ethnic minority backgrounds and more likely to speak English as a second language (Hounsell, 2013) than their peers. Black and ethnic minority young people who identify as lesbian, gay, bisexual or transgender (LGBT) are another minority within a minority. They report worse mental health and sexual health outcomes when compared to white LGBT young people (PHE, 2016).

**Young people with learning disabilities:** Having learning disabilities may also contribute to health inequalities for young people. For example, **Chart 8.20** shows that young people with learning disabilities are more likely to have a higher body mass index (BMI) than their peers.

**Chart 8.20:** Prevalence of BMI over 30 in young people age 10-24 with learning disabilities, England, 2015/16

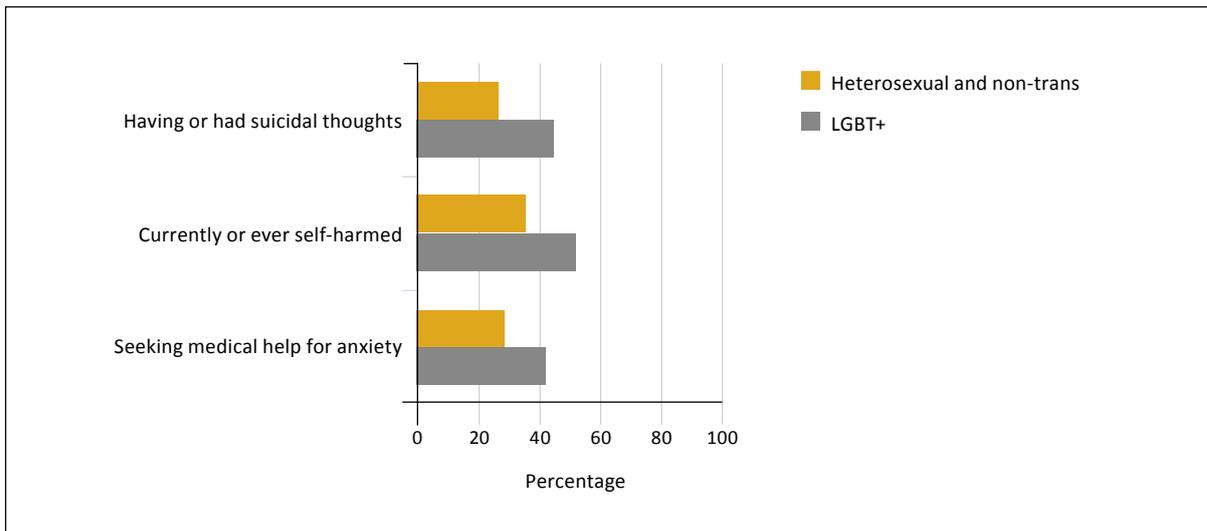


Source: NHS Digital (2016) Health and care of people with learning disability [DOWNLOAD DATA](#)

**Lesbian, gay, bisexual, transexual and other groups (LBGT):** Over recent years there has been a growing body of evidence that LGBT young people face significant social and health inequalities. This can start at school; many children begin to identify as LGBT in school and there is evidence that nearly half of LGBT pupils are bullied because of their sexual or gender identity, and many report missing school because of this (Stonewall, 2017). The numbers of transgender young people in schools is very low, and obtaining reliable statistics on their experiences is difficult, but a 2013 Ofsted report concluded that one in four had experienced physical abuse by other pupils (Ofsted, 2013).

LGBT young people may also face mental health inequalities. The Metro Charity's Youth Chances survey in 2016 included over 6,000 young people who self-classified as LGBT. **Chart 8.21** shows the rates of self-reported symptoms of anxiety and depression in this group compared with their peers, demonstrating elevated levels of seeking help for anxiety, self-harming, or having suicidal thoughts.

Chart 8.21: Anxiety and depression symptoms in lesbian, gay, bisexual and questioning young people aged 16-26, England, 2016



Source: Metro Charity: Youth Chances: Integrated report 2016 [DOWNLOAD DATA](#)

Rates of mental health problems may be particularly high in transsexual young people. The charity Stonewall has reported very high rates of self-harm (84%) and suicide attempts (45%) amongst transsexual students (Stonewall, 2017). Rates were still high, but not as high, for lesbian, gay and bisexual young people who were not transsexual; three in five (61%) reported self-harming and one in five (22%) reported that they had attempted to take their own life.

**45%** of transsexual young people report that they have attempted to take their own life

Source: Stonewall (2017)

LGBT young people are also more likely to undertake behaviours such as smoking and recreational drug use. In a longitudinal study of young adults in England carried out by Hagger-Johnson et al (2013) lesbian, gay and bisexual young adults were twice as likely to have a history of cigarette smoking as those reporting a heterosexual identity at age 18/19. Lesbian, gay and bisexual young people aged 16-24 are also more likely to report recreational drug use when compared to the general population of the same age (Buffin et al, 2011).

LGBT young people may also experience inequalities related to sexual health and screening. In a recent report only 20% of LGBT+ pupils reported that they had learned about safe sex in relation to same sex relationships at school (Stonewall, 2017). A systematic review carried out by the Royal College of Obstetricians and Gynaecologists found that the rates of teenage pregnancy and terminations were slightly higher in lesbian and bisexual adolescents when compared to the general population (Hodson et al, 2017). However more data are needed in this area, including in relation to sexually transmitted infections and cervical cancer screening in LGBT groups.

## Adverse childhood experiences

Adverse childhood experiences (ACEs) are stressful events that occur in childhood and that may contribute to later health outcomes (Bellis et al, 2014). They include being a victim of abuse and/or living with adults with serious problems of their own. In their review of the impact of ACEs on health, Hughes et al (2017) found the ACEs that had been most studied included childhood physical abuse, household substance abuse, childhood sexual abuse, household mental illness, exposure to domestic violence, or emotional, psychological or verbal abuse.

The longterm effects of adverse childhood experiences such as these have been studied for some time, and there is growing evidence to show impacts on both physical and mental health as an adult. Individuals with at least four ACEs in childhood have been shown to be at particular risk of later sexual risk taking, mental ill health, problematic alcohol use, and suicide (Hughes et al, 2017). In a study undertaken with 7414 adults in England and Wales, Bellis et al (2017) reported that for those now aged 18-29, people with four or more ACEs in childhood were three times more likely to have seen the GP recently, and more than twice as likely to have been to the accident and emergency department or had an overnight stay in hospital.

Young adults(18-29)  
with four+ adverse life  
experiences (ACEs) in  
childhood are  
**3x more likely**  
to have seen the GP in  
the last 12 months than  
those with no ACEs

Source: Bellis et al (2017)

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