

Mental Health of Children and Young People in England, 2017

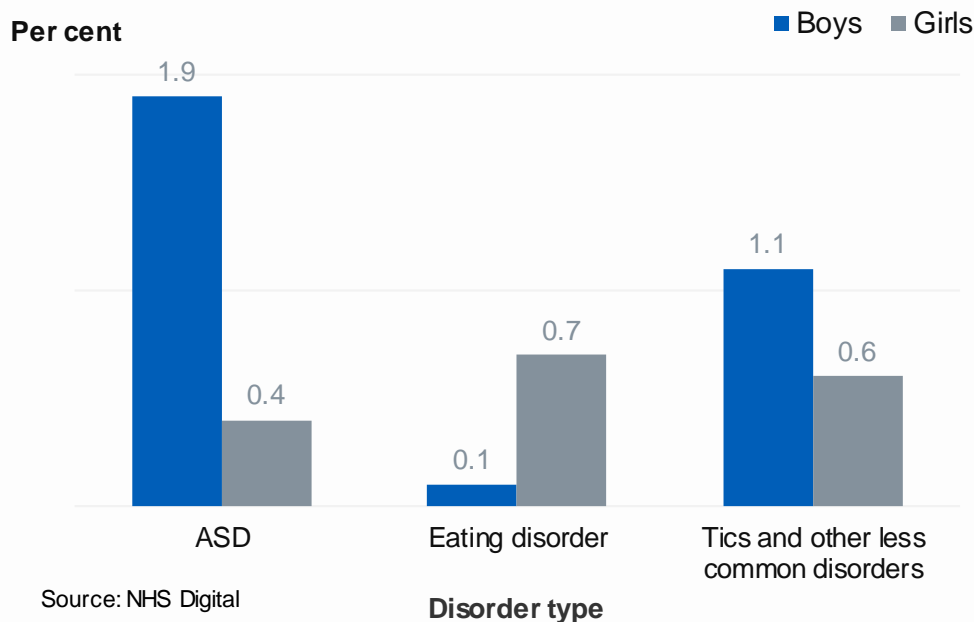
Autism spectrum, eating and other less common disorders

This topic report presents the prevalence of autism spectrum disorders (ASD), eating disorders, and other less common disorders in 5 to 19 year olds in England. The characteristics of children and young people affected are profiled. The Development and Well-Being Assessment (DAWBA) tool was used to identify cases in a general population sample.

ASD was identified in 1.2% of 5 to 19 year olds and was more common in boys (1.9%) than girls (0.4%). Eating disorders were present in 0.4% of 5 to 19 year olds. Rates were higher in girls (0.7%) than boys (0.1%). 1.6% of 17 to 19 year old girls had an eating disorder. Other less common disorders were evident in 0.8% of children; with tic disorders the most prevalent (0.6%).

ASD, eating disorder, and tics and other disorders by sex, 2017

Base: 5 to 19 year olds



Main findings

Prevalence of less common disorders

About one in fifty (2.1%) 5 to 19 year olds had at least one of the less common disorders examined on the survey: 1.2% had an autism spectrum disorder (ASD), 0.4% an eating disorder, and 0.8% had a tic disorder or another low prevalence disorder. Due to the relatively few cases identified in the sample, the estimates presented in this topic report may not all be precise.

Characteristics of children with less common disorders

Children identified with these different disorders shared several characteristics:

Ethnicity: Associations with ethnic group followed a similar pattern for each type of disorder, with rates generally highest in White British children and lowest in Black/Black British children.

Health and Family: They were all more likely to have poor general health, and to live in families with unhealthy functioning or where a parent had poor mental health.

The profiles of children with ASD and those with eating disorder did, however, diverge in various respects:

Sex: While ASD was more common in boys (1.9%) than girls (0.4%), eating disorder was more common in girls (0.7%) than boys (0.1%).

Educational needs: ASD featured prominently in children recognised with a special educational need (13.9%) and very few children without special educational needs had ASD (0.1%). The survey did not establish whether the special educational need related directly to the disorder itself, but for ASD this is very likely. For eating disorders, the link with special educational needs was much less pronounced.

Socioeconomics: There were clear socioeconomic variations in rates of ASD: children with ASD were more likely to live in a lower income household and with a parent in receipt of benefits. The presence of eating disorders in children, meanwhile, had no association with household income or parental receipt of benefits. Neither disorder, however, was associated with neighbourhood deprivation.

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This report may be of interest to people working with children and young people in mental health, social care or educational settings, as well as to policy officials, commissioners of health and care services, and parents, young people and the general public. The prevalence of a number of less common mental and neurodevelopmental disorders, and a profile of children and young people affected, are presented.

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Introduction

Major surveys of the mental health of children and young people in England were carried out in 1999 (Meltzer et al., 2000), 2004 (Green et al., 2005), and 2017. The latest survey was funded by the Department of Health and Social Care, commissioned by NHS Digital, and carried out by the National Centre for Social Research, the Office for National Statistics and Youth*in*mind.

In each of the three surveys, the Development and Well-Being Assessment (DAWBA) was administered to a stratified probability sample of children and young people and their parents and teachers (Goodman et al., 2000). Cases were reviewed by clinically-trained raters. While many surveys use brief tools to screen for nonspecific psychiatric distress or dissatisfaction, this series applied rigorous, detailed and consistent methods to assess for a range of different types of disorder according to International Classification of Disease (ICD-10) diagnostic criteria (WHO, 1992). Comparable data is available for 5 to 15 year olds living in England in 1999, 2004, and 2017. In keeping with broadening definitions of adolescence (Sawyer et al., 2018), the 2017 sample was the first in the series to include 17 to 19 year olds. Children aged 2 to 4 were also included in the sample, offering a rare insight into the prevalence of mental disorders in preschool aged children.

Alongside emotional, behavioural and hyperactivity disorders, a number of less common mental and neurodevelopmental conditions were assessed. These included: autism spectrum disorders (ASD), eating disorders, tic disorders, and a number of very low prevalence conditions such as psychosis, stereotypic movement disorder, selective mutism, and attachment disorders. Feeding, sleeping, and toileting disorders were also assessed, but are specific to younger children and covered in the Preschool children topic report.

Three groups of disorders are focused on in this report: ASD, eating disorders, and tic disorders (combined with other less common disorders). This report presents the first rigorous assessment of their prevalence in children in England since the previous survey in series was carried out in 2004. It should be noted that due to the low prevalence of these disorders and the relatively few cases identified in the sample, some of the prevalence estimates and profiling are subject to uncertainty. See the Survey Design and Methods Report for relative standard errors (RSEs) for key estimates, which provide further detail about the likely precision of these results.

This topic report examines the:

- Prevalence of ASD, eating disorders, tic disorders and other less common disorders in 5 to 19 year olds, by age and sex
- Health, social, and economic characteristics of children and young people with these disorders, compared to those without.

Information on the prevalence of less common disorders for 2 to 4 year olds can be found in the Preschool Children topic report.

As well as a Summary Report, a series of other topic reports are available focusing on:

- Trends and characteristics
- Emotional disorders
- Behavioural disorders
- Hyperactivity disorders
- Predictors of mental disorders (to be released at a later date)
- Multiple conditions and wellbeing
- Professional services, informal support, and education
- Behaviours, lifestyles, and identities
- Preschool children.

Further information about the survey and methods can be found in the Methods and Definitions sections at the end of this report, as well as in the Survey Design and Methods Report. All reports are available at:

<https://digital.nhs.uk/pubs/mhcypsurvey17>.

Background

Autism and eating disorders affect fewer children and young people than more prevalent emotional and behavioural disorders. However, they still attract substantial public interest and present affected children, and their families and schools, with major challenges.

Pervasive development disorder (PDD) is an ICD-10 term for a group of conditions characterised by severe impairment in social interaction, communication, and the presence of stereotyped behaviours, interests, and activities.¹ They are commonly referred to as Autism Spectrum Disorders. Symptoms include language problems; difficulty relating to other people; unusual forms of play; difficulty with changes in routine; and repetitive movements or behaviour patterns. Autism and Asperger's syndrome are the most widely known form of PDD, and account for most cases. They are persistent, developmental conditions, often first recognised in early childhood (Landa et al., 2008), and estimated to be present in one in every hundred adults in England (Brugha et al., 2016). While ASD in adulthood is under researched, the condition is thought to have a major impact throughout the life course. For example, the higher rate of suicide in adults with ASD has started to get recognition (Pelton and Cassidy, 2017).

Under the 2009 Autism Act, local authorities and NHS organisations gained new responsibilities to develop services to support people with autism, and their families and carers. Since then, NICE has developed guidelines on recognising and diagnosing autism in children and young people (2011) and on how best to support and manage autism in childhood (2013). Following these developments, a 2017 report by Healthwatch England² highlighted continuing issues with services experienced by young people and their families (Healthwatch, 2017).

Eating disorders are characterised by disturbances in eating behaviour, appetite or food intake. They include anorexia nervosa, bulimia nervosa, and binge-eating disorder. They usually start in adolescence or young adulthood. Eating disorders can cause heart and kidney problems and even death. Anorexia nervosa has a higher mortality rate than any other mental disorder (Beat, 2018), resulting from malnutrition, physical complications, and suicide (National Institute for Health and Clinical Excellence, NICE 2017).

On average, people wait three years before seeking treatment for their eating disorder (Beat, 2018). In 2015 NHS England published new access and waiting times standards for children and young people with an eating disorder. The government responded to the Five Year Forward View recommendations to say that these targets

¹ The term PDD was replaced in DSM-5 with 'autism spectrum disorder', but remains in the ICD classificatory system. Various terms are in use and there is some confusion. The category, as used here, consists mostly of ICD-10 classifications of autism spectrum disorders, but also some cases of other pervasive developmental disorders.

² Healthwatch England advocates for services that meet the needs of patients and local communities.

will be monitored; 95% of those in need should receive treatment within the waiting time standards by 2020-21 (HM Government, 2017).

Tics are fast, repetitive muscle movements that result in sudden and difficult to control body jolts or sounds. The combination of motor and vocal tics that have persisted for more than a year are a key symptom of Tourette's syndrome, but some young people will have only motor or only vocal tics. Tic disorders typically begin in younger childhood but can last for varying amounts of time. To be diagnosed as a disorder, they must affect everyday activities. Tic disorders are often comorbid with attention deficit hyperactivity disorder (ADHD) and obsessive compulsive disorder (OCD) (Ludolph et al., 2012). Chronic tic disorders, like Tourette's, often persist into adulthood and impact on the quality of life throughout their duration (Evans et al., 2016).

Terminology

In this report, the words 'children', 'boys' and 'girls' are used, even when 17 to 19 year olds are included in the group. This is to avoid the text becoming cumbersome.

The term 'mental disorder' is also used. It is used because the survey did not screen for general mental health problems, but applied operationalised diagnostic criteria for specific disorders (see the Survey Design and Methods Report for detail). We are also sensitive, however, to the negative connotations of the word disorder, and in particular to understanding autism spectrum disorders (ASD) as part of a spectrum of neurodiversity. These are sometimes referred to in the wider literature as autism spectrum conditions (ASC).

While pervasive developmental disorders (PDD) is the overarching ICD-10 term for a group of neurodevelopmental conditions affecting the triad of social interaction, communication, and restricted interests, ASD is the most common and most well-known PDD. ASD is also the overarching term now used in the DSM classification. Because ASD is the term most likely to be familiar to readers, it is used throughout this report.

In this report we refer both to 'tic disorders' and to 'tics', these terms are used interchangeably but are used here to indicate the presence of disorder.

Prevalence of less common disorders

Any less common disorder by age and sex

About one in fifty (2.1%) 5 to 19 year olds were identified with at least one of the less common disorders examined. This is an estimate based on a sample. If all children in the population had participated, it is likely that the proportion identified with at least one less common disorder would have been between 1.8% and 2.5%. This range is referred to as the 95% confidence interval (CI). If the sample had been drawn twenty times, for nineteen of those we would expect the estimate to be in this range.³

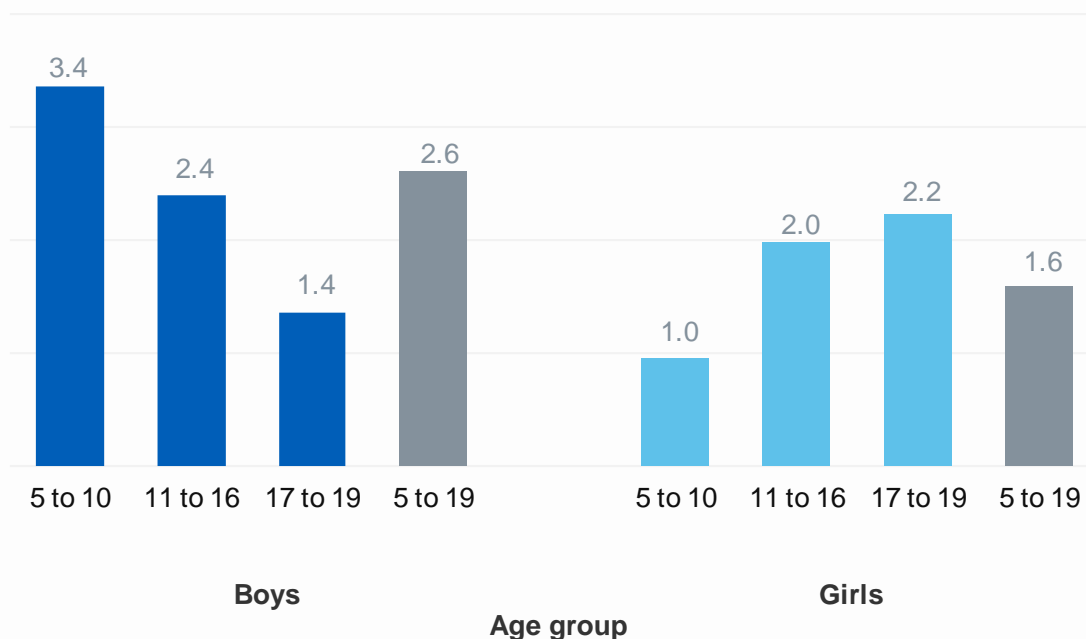
Overall, the rate was higher in boys (2.6%) than girls (1.6%) and similar across age-groups (2.2%: of 5 to 10 year olds and 11 to 16 year olds, and 1.8% of 17 to 19 year olds).

The pattern of association between presence of a less common disorder and age was different for boys and girls. In boys, the rate was highest in the youngest age group (3.4% of 5 to 10 year olds). In girls, the rate was highest in the oldest age groups (2.0% of 11 to 16 year olds; 2.2% of 17 to 19 year olds). The different age profiles reflect the different types of less common disorder present in girls and boys. (Figure 1; Table 1)

Figure 1: Any less common disorder by age and sex, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

³ See the Methods section and the Survey Design and Methods Report for further confidence interval information for the estimates presented in this report.

ASD by age and sex

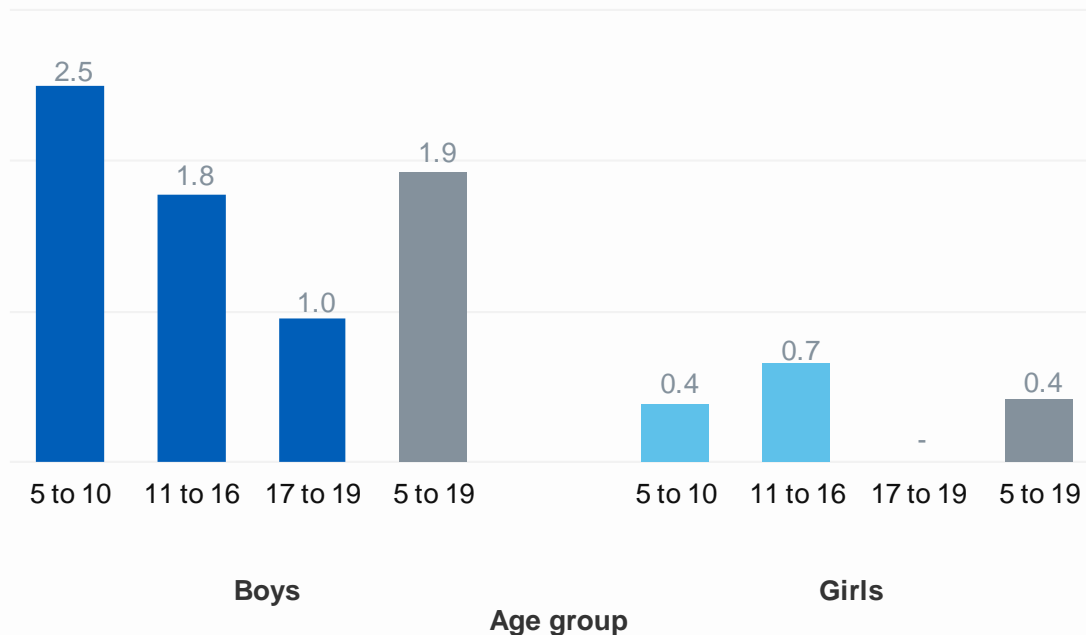
Of the conditions assessed in this topic report, ASD was the most prevalent: identified in 1.2% of 5 to 19 year olds. It is likely that if all children in the population had participated, the proportion identified with ASD would have been between 0.9% and 1.4%. ASD was more common in boys (1.9%) than girls (0.4%).

ASD was not associated with age. Rates appeared higher in younger age groups than older ones (1.5% of 5 to 10 year olds; 1.2% of 11 to 16 year olds; 0.5% of 17 to 19 year olds). However, due to the small number of cases identified in the sample, the survey was underpowered to detect variation. (Figure 2; Table 1)

It is important to note that information from teachers was not collected for any 17 to 19 year olds, and that for about half of this age group no information was collected from parents either. This reliance on self-report information collected from young people may have led to an under identification of some conditions, like ASD, in this age group.

Figure 2: ASD by age and sex, 2017

Base: 5 to 19 year olds
Per cent



Source: NHS Digital

Eating disorders by age and sex

Eating disorders were identified in 0.4% of 5 to 19 year olds. If all children had taken part, the proportion identified with an eating disorder is likely to have been between 0.2% and 0.6%.

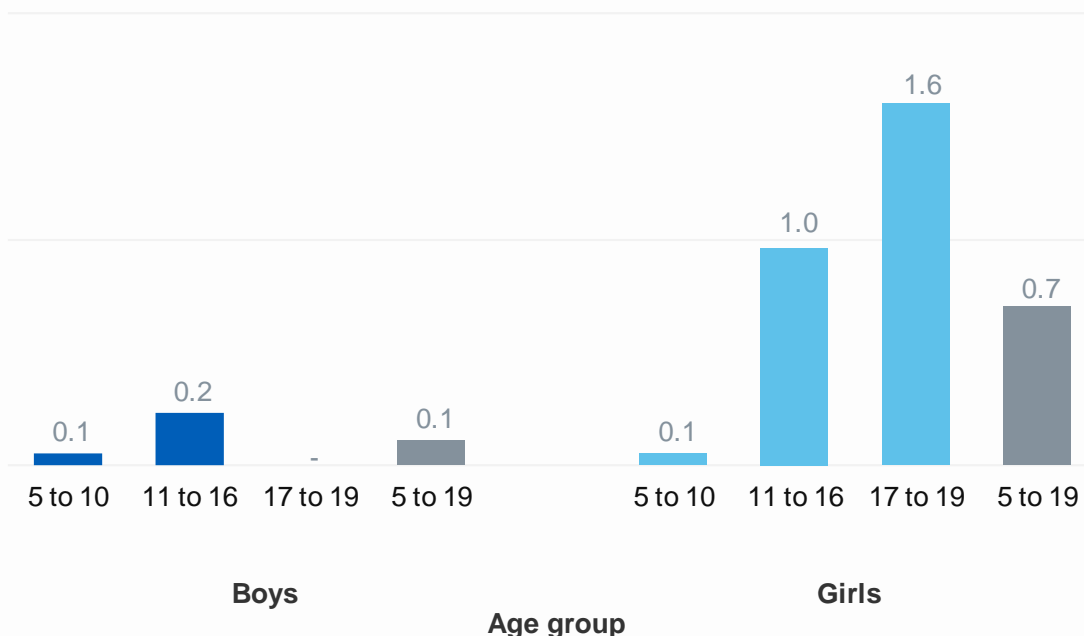
They were more common in girls (0.7%) than boys (0.1%); and in older age groups than younger ones (0.1% of 5 to 10 year olds; 0.6% of 11 to 16 year olds; 0.8% of 17 to 19 year olds). Rates of eating disorder were higher in girls aged 17 to 19 (1.6%) than in other demographic groups.

While the pattern of association between presence of eating disorder and age group looks different between girls and boys, this was not statistically significant. The relatively small number of positive cases in the sample means the survey is somewhat underpowered for examining this. (Figure 3; Table 1)

Figure 3: Eating disorders by age and sex, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

Tics and other disorders by age and sex

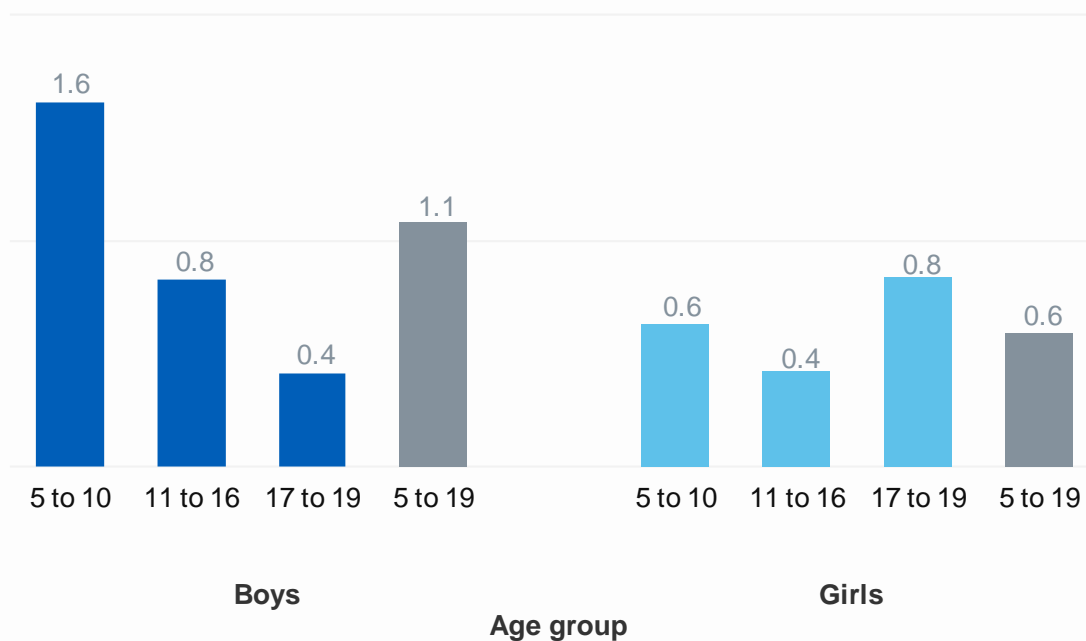
The prevalence of tic disorders and other less common disorders (such as psychosis, and stereotypic or social disorder) was 0.8%. Had all children in the population participated, the proportion identified with tic disorders or another less common disorder would probably have been between 0.6% and 1.1%. Most children in this group had either tic disorders (0.6%) or psychosis (0.1%). No other type of less common disorder had a prevalence rate in 5 to 19 year olds greater than 0.1%.

Like ASD, tic disorders and other less common disorders were more prevalent in boys (1.1%) than girls (0.6%). There was no significant association with age group. (Figure 4; Table 1)

Figure 4: Tics and other less common disorders by age and sex, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

Children with less common disorders

Less common disorders by ethnic group

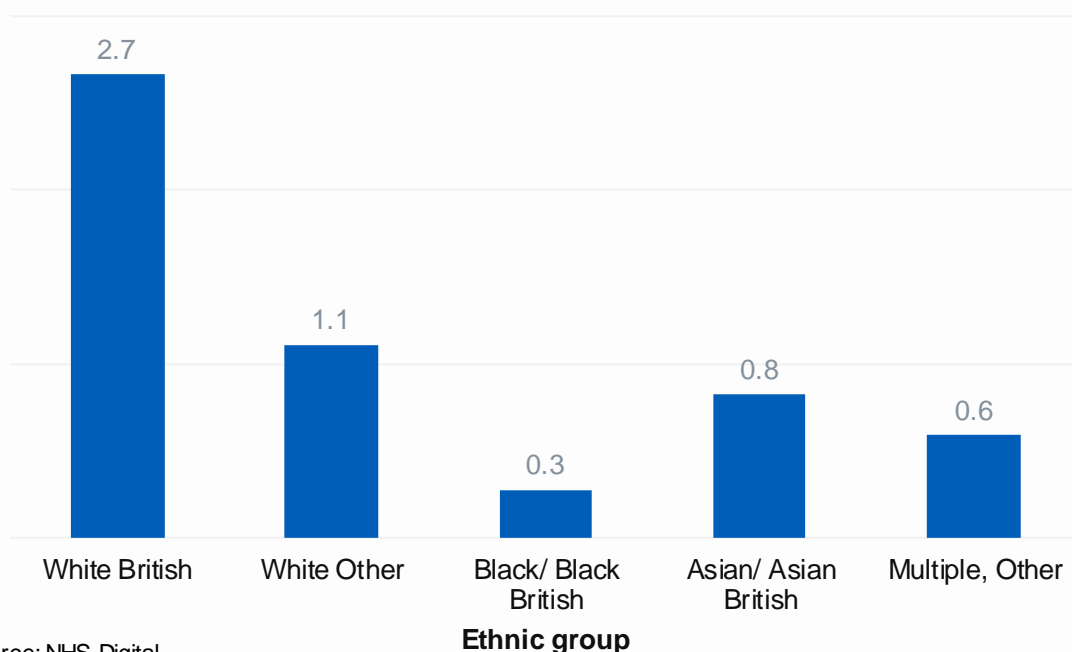
The prevalence of having a less common disorder among 5 to 19 year olds varied by ethnic group. The rate was highest in White British children (2.7%) and lowest in those who were Black/Black British (0.3%). (Figure 5; Table 2)

This pattern was similar for ASD, eating disorders, and tic disorders and other disorders.

Figure 5: Any less common disorder by ethnic group, 2017

Base: 5 to 19 year olds

Per cent



Less common disorders by special educational needs

Of children with recognised special educational needs, 15.8% had a less common disorder (compared with 0.9% of children without special educational needs). The survey did not establish whether the special educational needs related directly to the disorder itself, but it is likely that this would have often been the case.

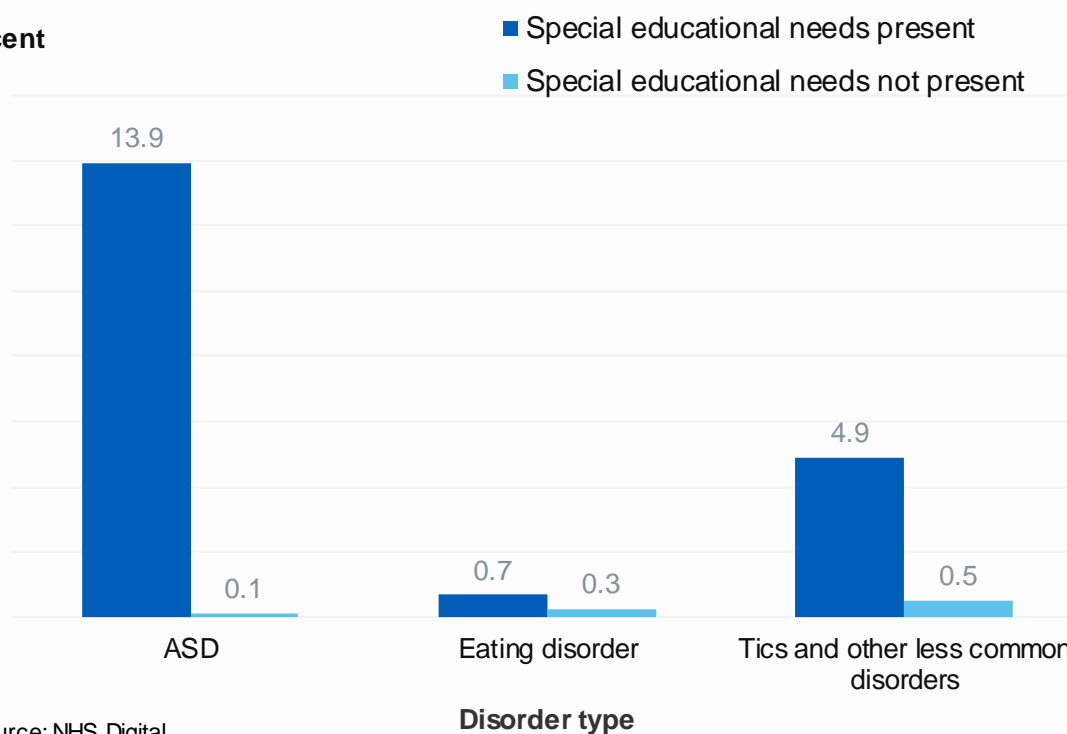
Less common disorders were present in 18.4% of boys and 10.3% of girls with special educational needs.

One in seven (13.9%) 5 to 19 year olds with special educational needs had ASD, one in twenty (4.9%) had tics or another less common disorder, and less than one in a hundred (0.7%) had an eating disorder. While recognition of special education needs was associated with the presence of ASD and tics and other disorders, special education needs were no more prevalent in people with an eating disorder than in those without. (Figure 6; Table 3)

Figure 6: ASD, eating disorder, and tics and other disorders by special educational needs, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

Less common disorders by child's general health

The presence of less common disorders in children was associated with self-reported general health. Of children with fair, bad or very bad general health 7.4% had a less common disorder, compared to 1.1% of those with very good general health.

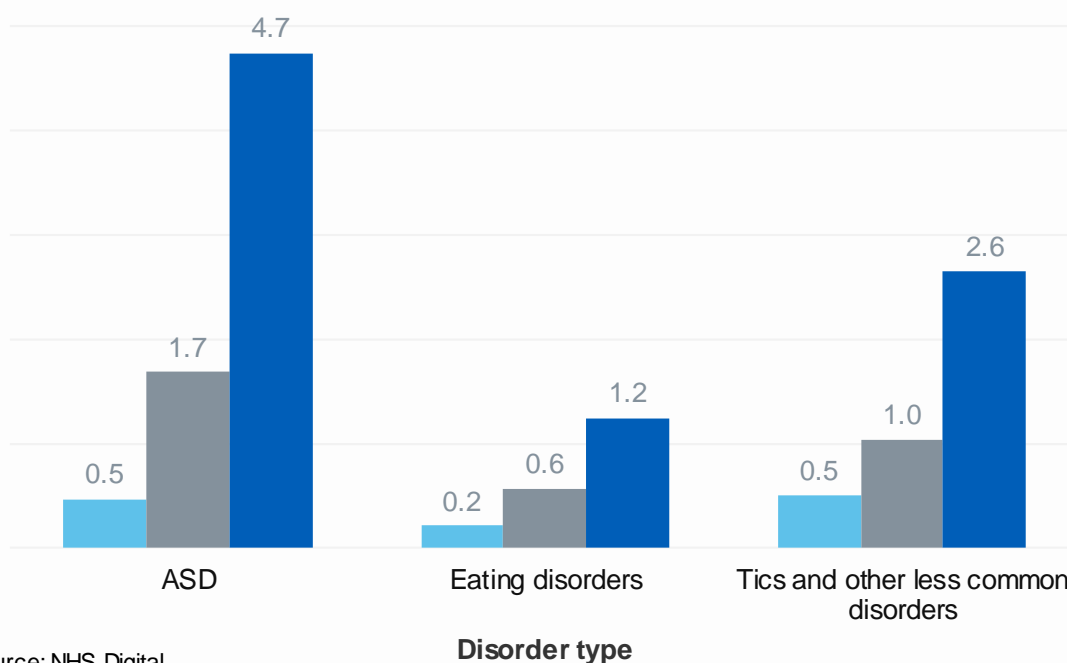
This pattern was evident among those with ASD, eating disorders, or tics and other less common disorders. For example, 4.7% of 5 to 19 year olds with fair, bad or very bad general health had ASD, compared to 0.5% of children with very good general health. It should be noted that when children, young people and their parents assessed general health they are likely to have considered both mental and physical health. (Figure 7; Table 4)

Figure 7: ASD, eating disorder, and tics and other disorders by general health, 2017

Base: 5 to 19 year olds

■ Very good ■ Good ■ Fair/Bad/Very bad

Per cent



Source: NHS Digital

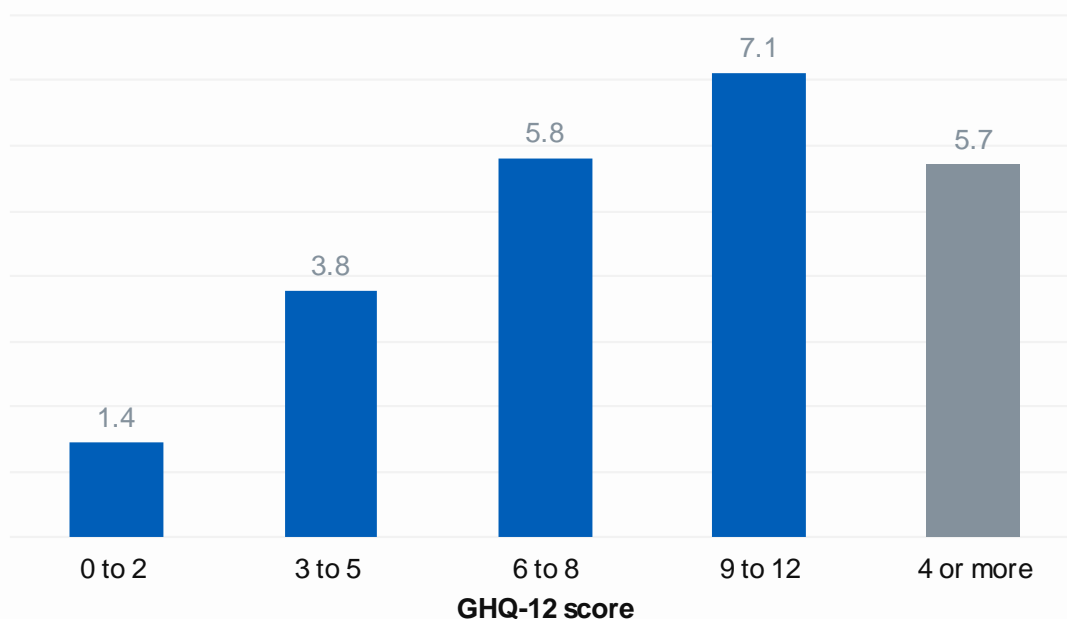
Less common disorders by parent's mental health

Parental mental health, as assessed by the General Health Questionnaire (GHQ-12), was associated with whether a child had a less common disorder. Children whose parents had a high GHQ-12 score (indicative of psychological distress) were more likely to meet the criteria for a less common disorder than children whose parents had a low score (indicating no psychological distress). 7.1% of children with a less common disorder had parents with the highest score (9 to 12), compared with 1.4% of children with a less common disorder who had parents scoring 0 to 2. (Figure 8; Table 5)

Figure 8: Any less common disorder by parent's mental health, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

A similar pattern was observed for each of the less common disorders. For example, 4.3% of children whose parents scored 9 to 12 on the GHQ-12 were identified with ASD, compared with 0.8% of children whose parents scored 0 to 2.

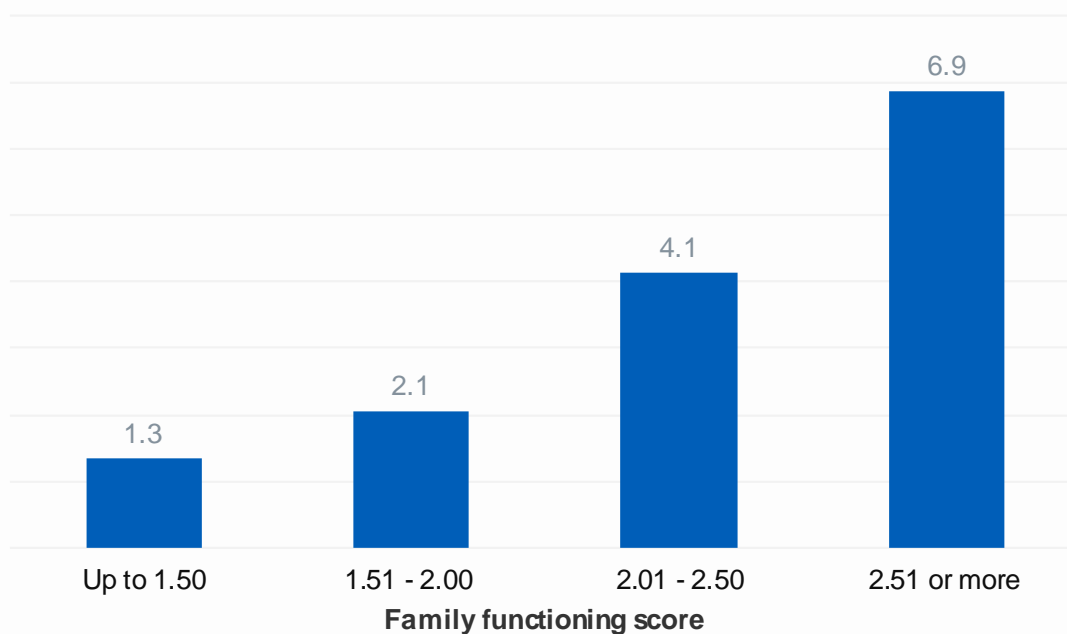
Less common disorders by family functioning

There was a relationship between family functioning and whether children had a less common disorder. Higher rates of less common disorders were associated with 'unhealthy' family functioning (as indicated by a score of 2.01 or more). The prevalence of any less common disorder ranged from 1.3% in children living in families scoring up to 1.50 (with the most 'healthy' family functioning) to 6.9% in families scoring 2.51 or more. (Figure 9; Table 6)

Figure 9: Any less common disorder by family functioning score, 2017

Base: 5 to 19 year olds

Per cent

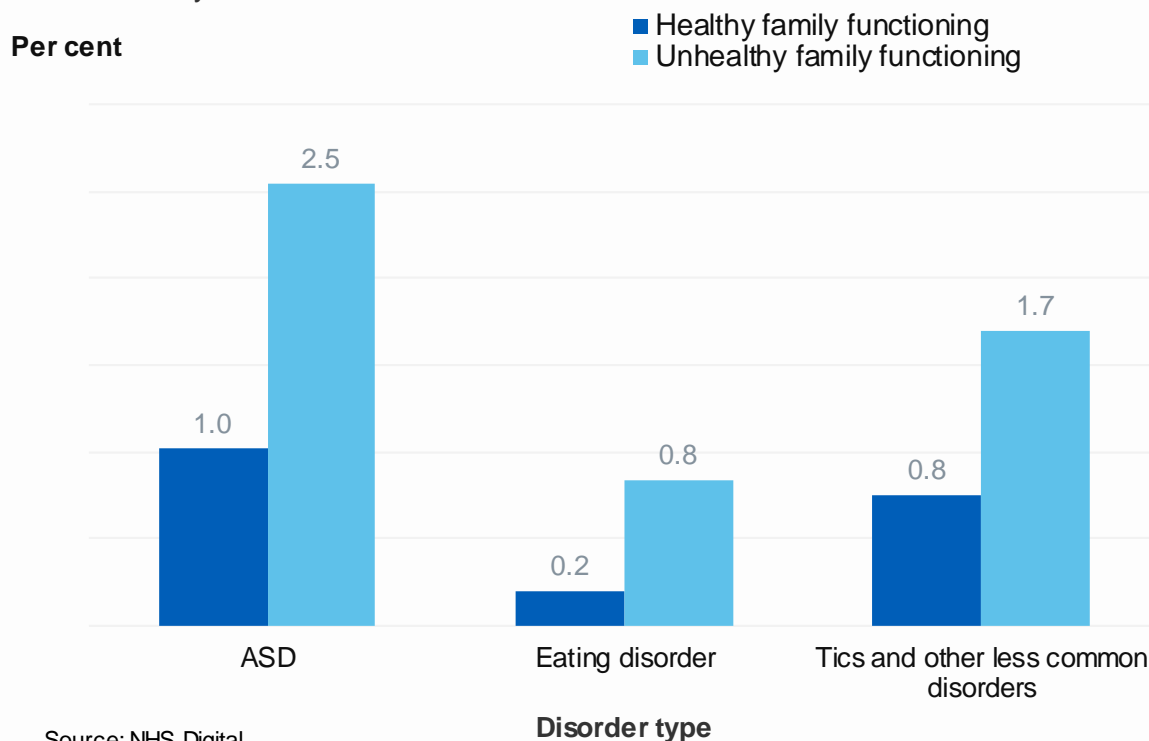


Source: NHS Digital

This relationship with how healthily the family functioned was also evident in the different types of less common disorders. (Figure 10; Table 6)

Figure 10: ASD, eating disorder, and tics and other disorders by family functioning score, 2017

Base: 5 to 19 year olds



As a cross-sectional survey, these associations cannot explain causality. While problems with family functioning may contribute to the onset of mental disorder, the presence of mental disorder could also lead to problems with family functioning.

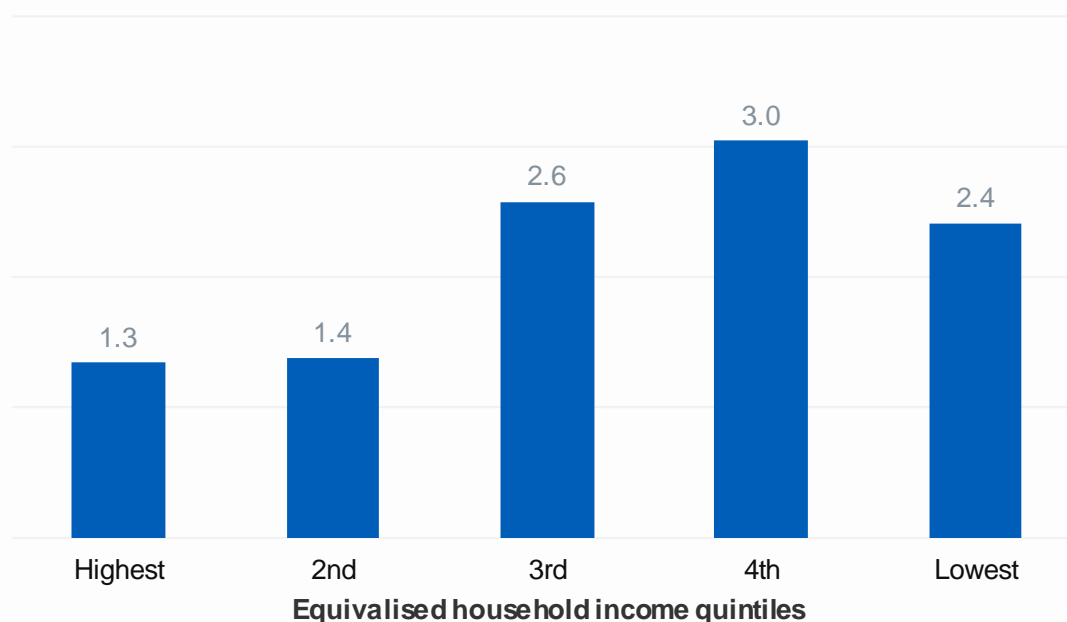
Less common disorders by household income

Household income was significantly associated with the presence of a less common disorder, with rates lowest in the highest income households⁴. (Figure 11; Table 7)

Figure 11: Any less common disorder by equivalised household income quintiles, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

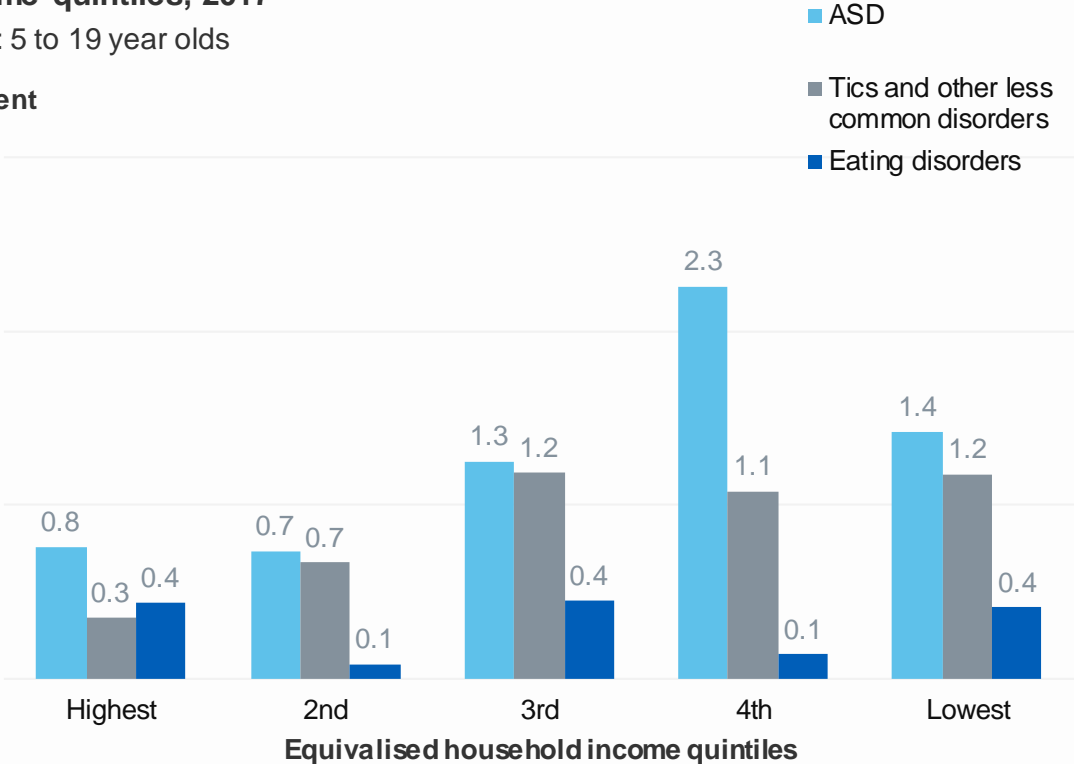
While ASD was more common in low income than high income households, there was no association with income for eating disorders or for tics and other disorders. (Figure 12; Table 7)

⁴ Although the rate for the fourth income quintile appears to be higher than that of the fifth (lowest) quintile, this was not significantly different.

Figure 12: Less common disorders by equivalised household income quintiles, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

Less common disorders by benefits

The prevalence of less common disorders was higher in children whose parents were in receipt of low income benefits (excluding Child Tax Credit) (3.8% compared with 1.4% not in receipt of these benefits).

Across the different groups of disorders this pattern was evident for ASD and tics and other less common disorders, but not for eating disorders.

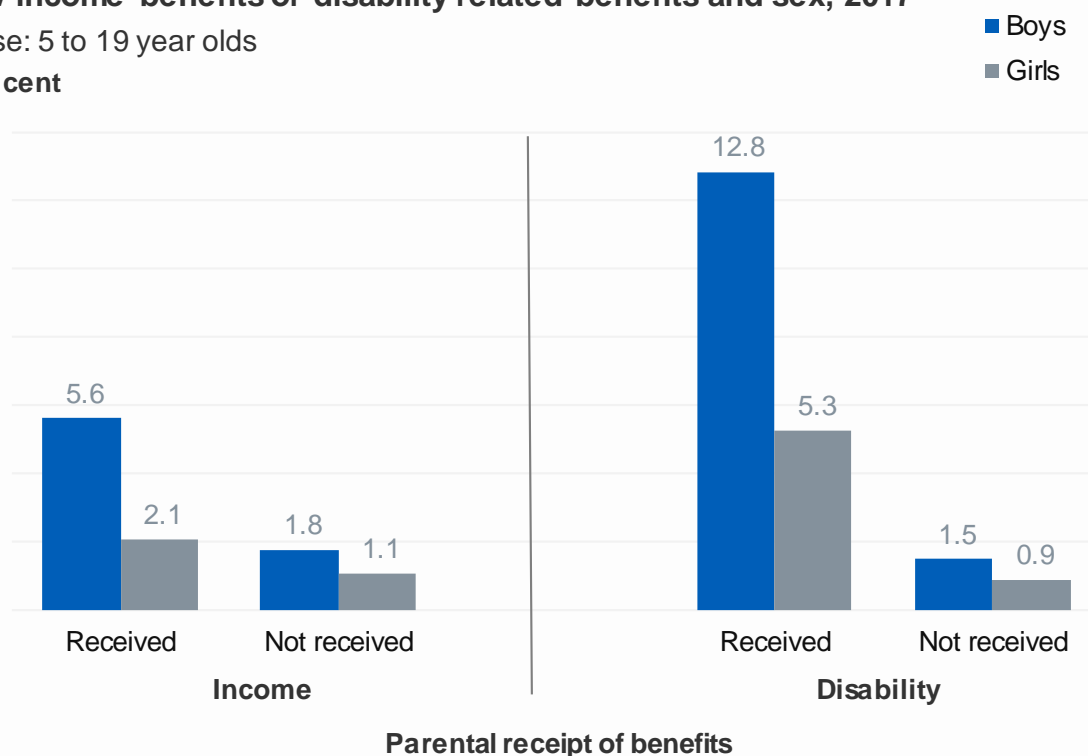
This association is similar for children living with a parent in receipt of disability benefits; 9.4% of 5 to 19 year olds in this circumstance had a less common disorder compared to 1.2% of children who were living with a parent not in receipt of disability benefits.

It was more common for boys with a less common disorder to be living with a parent in receipt of low income benefits than girls with a less common disorder (5.6% of boys and 2.1% of girls respectively). Boys aged 5 to 19 years old with a less common disorder also had much higher rates of living with a parent in receipt of a disability benefit (12.8% compared to 5.3% of girls). This is likely to reflect the fact that ASD was more common in boys than girls. (Figure 13; Table 8)

Figure 13: Any less common disorder by parental receipt of low-income benefits or disability-related benefits and sex, 2017

Base: 5 to 19 year olds

Per cent



Source: NHS Digital

Less common disorders by neighbourhood deprivation

The overall prevalence of less common disorders was not associated with neighbourhood deprivation. This lack of association was evident for all types of less common disorder examined. (Table 9)

Less common disorders by region

There was no significant association between region and prevalence of less common disorder among children. (Table 10)

Less common disorders in 5 to 15 year olds in 2004 and 2017

Given the expected low prevalence, these less common disorders were not asked about in detail in the 1999 survey. As a result, comparable rates of ASD, eating and other less common disorders can only be compared for 2004 (1.5%) and 2017 (2.1%).

- The prevalence of ASD in 5 to 15 year olds remained stable between 2004 (1.0%)⁵ and 2017 (1.3%)⁶
- Eating disorder rates also did not significantly change between 2004⁷ and 2017⁸, although the survey sample was too small to reliably detect change in a low prevalence condition like eating disorder.

For further information about trends in ASD, eating and tics and other less common disorders see the Trends and Characteristics topic report.

⁵ The proportion of children with ASD in 2004 was likely to be between 0.7% and 1.3%.

⁶ The proportion of children with ASD in 2017 was likely to be between 1.0% and 1.7%

⁷ The proportion of children with an eating disorder in 2004 was likely to be between 0.0% and 0.2%.

⁸ The proportion of children with an eating disorder in 2017 was likely to be between 0.1% and 0.4%.

Discussion

Most surveys measuring less common mental and neurodevelopmental conditions use short screening questionnaires to identify potential cases, these tend to overestimate prevalence. Other studies sift routine health and education data to identify recognised cases, but miss those children who were not recognised by services (Brugha et al., 2018). The last survey to have assessed the disorders covered in this report in a general population sample of children in England was the previous survey in this series, conducted in 2004. Change in rate since 2004 can be estimated because methods in those years were comparable, and our approach is less affected by changes in diagnostic criteria and clinical practice.

This topic report focuses in particular on ASD and eating disorder.

Autism spectrum disorders (ASD)

We refer here to 'ASD', but various terms are in widespread use and different decades, sectors, and diagnostic systems have their own preferred terminology. Each comes with slightly different criteria and severity thresholds. But broadly ASD, as used here, primarily consists of a range of ICD-10 neurodevelopmental conditions on the autistic spectrum, including childhood autism and Asperger syndrome.

There is a widespread perception that rates of ASD are increasing (The Lancet, 2018). The Trends and Characteristics topic report does not find evidence to support this, with an overall prevalence in 5 to 15 year olds of about one in a hundred in both 2004 (1.0%) and 2017 (1.3%). This rate is also comparable with that found also in adults of all ages, as well as in the Avon Longitudinal Study of Parents and Children and the Millenium Cohort Study (Brugha et al., 2016). It is possible that increased reports in clinical practice reflect increased recognition by parents and practitioners, rather than an increase in the number of children with difficulties with social communication and interaction (Russell et al., 2015). However it should be noted that due to the relatively small numbers of cases identified in the sample, prevalence estimates in this topic report lack precision.

While the rate of ASD appeared to be higher in younger age groups, this was not statistically significant. If the sample had been larger, it is possible that a difference in rates by age group might have been significant. Although developmental problems are often more common among younger children, research suggests that most adults with an ASD diagnosed in childhood struggle with significant impairment (Howlin et al., 2004). Because few parent reports and no teacher reports were obtained for those in the oldest age group, it had been expected that some cases of ASD might have been missed in this group. Other methodological factors, described in detail in the Survey Design and Methods Report, may also have affected the reliability of age group comparisons.

Our findings confirm the long-established higher prevalence of ASD in boys than girls (Fombonne et al., 2003). Recently, however, attention has turned to whether girls with

autism may present differently and whether girls of normal intelligence are better able to mask their symptoms (Brugha et al., 2016b). The thresholds applied for recognition of autism in boys may also not be appropriate in girls (Constantino and Todd, 2003). Girls start, on average, with higher levels of social skills. A threshold set at a level indicative of a social skills deficit in boys may be too low to identify girls who are functioning far below that of their female neurotypical peers.

White British children were about three times more likely to be identified with ASD than Black or Asian children. Research on variation by ethnic group is mixed, and migration status may compound the relationship (Becerra et al., 2014). The higher rate of diagnosis in White British children has been thought to relate to greater treatment and service access. England's survey of mental health in adults found White British people with a common mental disorder to have higher levels of treatment access than people of other ethnic groups (Lubian et al., 2016). Recent research has also found that members of minority ethnic groups may hold more self-stigmatising views of autism (Papadopoulous, 2016). This could be a factor shaping higher levels of social desirability bias in reporting of symptoms in children with minority ethnic parents.

Almost all the children in the sample identified on the spectrum were recognised as having special educational needs, and they make up a sizeable minority of the special educational needs group as a whole (one in seven). The survey data indicates the extent to which schools and education services may have autistic pupils in their communities.

Eating disorders

This survey confirms an expected profile for eating disorders: that while it can affect boys it is primarily a disorder experienced by girls. The findings also confirm the established pattern that vulnerability to eating disorder increases with age. We found a prevalence of one in sixty in girls aged 17 to 19: one case in every two classes. But even in younger girls aged 11 to 16, eating disorders were evident in one in a hundred.

These figures should not be viewed as precise estimates, due to the few positive cases identified in the sample. They should also be considered underestimates. It is widely recognised that there is a general under-detection of eating disorders in research and clinical practice, resulting in part from a tendency for people with these conditions to conceal them and avoid seeking help (Juit et al., 2005). This under detection is further compounded by the finding that children with eating disorders were no more likely than other children to have special educational needs recognised. Eating disorders also differed from many of the other conditions examined on the survey in not being associated with socioeconomic context. It was evident in girls from across income groups.

Although evidence is increasing for this group, gaps in what is known remain (Frédérique et al., 2012). There are limitations to what a survey of this size can say about low prevalence disorders due to the relatively small number of cases found. It

cannot provide an accurate breakdown of the types of eating disorder people have, and it is limited in being able to show differences in the prevalence of eating disorders between people with certain characteristics. Further research may add to our understanding of this group.

Methods

The Mental Health of Children and Young People (MHCYP) survey was conducted with 5 to 15 year olds living in Britain in 1999 and 5 to 16 year olds living in Britain in 2004. The 1999 and 2004 surveys sampled from Child Benefit records. For the 2017 survey a stratified multistage random probability sample of 18,029 children was drawn from NHS Patient Register in October 2016. Children and young people were eligible to take part if they were aged 2 to 19, lived in England, and were registered with a GP. Children, young people and their parents were interviewed face-to-face at home using a combination of Computer Assisted Personal Interview (CAPI) and Computer Assisted Self Interview (CASI), between January and October 2017. A short paper or online questionnaire was completed by a nominated teacher for children aged 5 to 16 years old. Data collection varied with the selected child's age:

- 2 to 4 year olds: parent interview
- 5 to 10 year olds: parent interview and teacher interview
- 11 to 16 year olds: parent interview, child interview and teacher interview
- 17 to 19 year olds: young person interview and parent interview (if parent present at the same address).

Furthermore, prevalence estimates for 5 to 16 year olds were adjusted slightly upwards with a factor designed to take account of the fact that only some of this age group had data from teachers. See the Survey Design and Methods Report for detail about the calculation and application of adjustment factors.

Productive interviews (involving one or more participants in each household) were achieved for 9,117 children (1,463 2 to 4 year olds; 3,597 5 to 10 year olds; 3,121 11 to 16 year olds; 936 17 to 19 year olds), and 3,595 teachers (54% of eligible children). The survey included the detailed and comprehensive Development and Well-Being Assessment (DAWBA). This allowed the assessment of emotional, hyperactivity, behavioural and less common disorders, like autism. After interviews were complete, eleven trained clinical raters reviewed the data to reach disorder codings for each participant. Raters applied the diagnostic criteria for specific disorders set out in the tenth International Classification of Disease (ICD-10) (WHO, 1992) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (APA, 2013).

The 2017 survey was designed to be comparable with the 1999 and 2004 surveys. This included the continued use of the DAWBA, use of ICD-10, and consistent timing of data collection. However, some differences in design have taken place which may affect comparability with previous survey results, including that the 2017 survey:

- Sampled from the NHS Patient Register, whereas the 2004 and 1999 surveys sampled from Child Benefit records
- Includes 2 to 4 and 17 to 19 year olds for the first time
- Response rate (52%) was lower than that for the previous surveys

- Covered England, while previous surveys in the series covered Britain. Analyses of 1999 and 2004 data presented in this report have been run on participants aged 5 to 15 years old living in England only to maintain comparability in trends.

The 2017 interviews and analyses are based on participants' age at 31 August 2017, with participants grouped with their peers in terms of school year.

Differences in data collection and analysis should be considered when comparing results between age groups, as these may affect comparability.

Confidence intervals

Information about confidence intervals are presented in the text and described as the range for which a value is likely to fall within had the whole population participated in this survey rather than a sample. This range was calculated based on 95% confidence interval and indicates the range we would expect estimates to fall within nineteen times in twenty, if the study was repeated with new samples.

For further information on methodology, confidence interval and standard error information, see the Survey Design and Methods Report.

Definitions

Mental disorder

Mental disorders were identified on the survey according to the standardised diagnostic criteria in the tenth edition of the International Classification of Diseases (ICD-10). Specific mental disorders were grouped into four broad categories: emotional, behavioural, hyperactivity and other less common disorders. While some of the symptoms covered in this report may be present in many children, to count as a disorder they had to be sufficiently severe to cause distress to the child or impair their functioning (WHO, 1993).

Figure 14: Disorders included and excluded in trend measures

Any mental disorder						
Disorder categories	Emotional disorders			Hyperactivity disorders	Behavioural (or 'conduct') disorders	Other less common disorders
Disorder subgroups	Anxiety disorders	Depressive disorders	Bipolar affective disorder			
Specific disorders (included in trend measures)	Separation anxiety disorder Generalised anxiety disorder Obsessive compulsive disorder Specific phobia Social phobia Agoraphobia Panic disorder Post-traumatic stress disorder Other anxiety	Major depressive episode Other depressive episode		Hyperkinetic disorder Other hyperactivity disorder	Oppositional defiant disorder Conduct disorder confined to family Unsocialised conduct disorder Socialised conduct disorder Other conduct disorder	Autism spectrum disorder Eating disorder Tics Selective mutism Psychosis
Specific disorders (added since 1999, so excluded from trend measures)	Body dysmorphic disorder (added in 2017) ¹		Bipolar affective disorder Mania (Both added in 2004)			Attachment disorder (added in 2004) Feeding disorder Sleep disorder Eliminating disorder (all added in 2017)

¹ Body dysmorphic disorder was assessed using the Diagnostic and Statistical Manual of Mental Disorders (DSM) version 5 criteria.

Trends and 2017 measures

Trends over time are based on samples, methods, and disorders that are as comparable as possible. The 1999 and 2004 samples have been reanalysed based on participants resident in England only, and the 2004 and 2017 samples are restricted to those aged 5 to 15 for these analyses. For each survey only those interviewed in English are retained. Some disorders (such as attachment disorder and body dysmorphic disorder) were only included after the 1999 survey had been completed. To ensure estimates are comparable across surveys these additional disorders were not included in the 2017 trend measures. See the Survey Design and Methods Report for details.

Less common disorders

A number of less common mental and neurodevelopmental conditions were also identified on the survey. These included: autism spectrum disorders (ASD), eating disorders, tic disorders, and a number of very low prevalence conditions such as psychosis, stereotypic movement disorder, selective mutism, and attachment disorders. Feeding, sleeping, and toileting disorders were also assessed in the preschool population.

Autism spectrum conditions (ASC) and autism spectrum disorder (ASD)

These terms are both used to indicate a number of disorders characterised by severe impairment in social interaction, communication, and the presence of stereotyped behaviours, interests, and activities. 'Pervasive developmental disorder' (PDD) is used in the ICD classificatory system, but was replaced in the Diagnostic and Statistical Manual (DSM-5) with ASD, the term used most in this report. The category as used here consists mostly of ICD-10 classifications of autism and Asperger's syndrome, but also some cases of other pervasive developmental disorders. Symptoms include: language problems, difficulty relating to other people, unusual forms of play, difficulty with changes in routine, and repetitive movements or behaviour patterns.

Eating disorders

Eating disorders are characterised by disturbances in eating behaviours, appetite or food intake. They include anorexia nervosa, bulimia nervosa, and binge-eating. They usually start in the teenage years. Eating disorders can cause heart and kidney problems and even death.

Tics

Tics are fast, repetitive muscle movements that result in sudden and difficult to control body jolts or sounds. Tourette's syndrome involves vocal and motor tics that have persisted for over a year.

Other less common disorders

Psychosis involves a disturbed relationship with reality. A person who is experiencing psychosis may hear, see or feel things that are not really there or experience beliefs that are difficult to shake but are not grounded in reality. There are various different types of psychosis, including schizophrenia, which are extremely rare in children and young people.

Stereotypic movement disorder is diagnosed in children who undertake repetitive, purposeless movements that are distressing or impede functioning. This rare condition mostly occurs in children and young people who have intellectual disability or neurodevelopmental disorders such as ASC.

Selective mutism is a rare difficulty with social functioning with an onset in childhood in which a child who understands language and can speak when with family and close friends is unable to speak in almost all social situations.

Attachment disorders also involve impairing difficulty with social function that have their onset in childhood. They are believed to result from significant neglect and abuse from care-givers. Children with these disorders struggle to interact with others, displaying a range of abnormal social behaviours from inappropriate friendliness towards everyone they meet to highly withdrawn and hypervigilance. These behaviours occur across situations and with many people and should not be confused with attachment, secure or otherwise, which describes the relationship between a child and a particular care-giver.

Analysis variables

Ethnic group

Ethnic group was self-reported directly by children and young people aged 11 or more, and by parents for children aged 10 or under.

Special educational needs

Presence of special educational needs was based on information provided by the interviewed parent for children aged 2 to 16 and for young people aged 17 to 19.

Child's general health

Young people aged 17 and over rated their own general health. For children aged 16 and under, the interviewed parent rated their child's general health.

Parental mental health

The mental health of the interviewed parent or guardian (usually the mother), was assessed using the GHQ-12. Scores range from 0 (no psychological distress) to 12 (severe psychological distress). A score of 4 or more has been used to indicate the presence of a common mental disorder.

Family functioning

Family functioning was measured using the General Functioning Scale of the McMaster Family Activity Device (FAD). It comprises 12 statements that parents rate on a four point scale. A score was derived. A score above 2 was considered to indicate 'unhealthy' family functioning.

Equivalised household income

An estimate of overall household income was established by means of a showcard, and was adjusted to reflect the number and ages of people living in the household. For further details please refer to the Survey Design and Methods Report.

Welfare benefits

A household was classified as in receipt of 'low income benefits' if any resident adult with parental responsibility for the child reported being in receipt of any of the following: Housing Benefit, Working Tax Credit, Income Support, Universal Credit (UC), Job Seekers' Allowance, or Pension Credit. Child Tax Credit did not count as the eligible income threshold for this is higher. While UC could be received for disability-related reasons this was not distinguishable in the data collected.

A household was classified as in receipt of 'disability-related benefits' if an adult with parental responsibility for the sample child received any of: Disability Living Allowance, Carer's Allowance, Employment and Support Allowance, Personal Independence Payment, Industrial Injuries Disablement Benefit, Severe Disablement Allowance, Incapacity Benefit, Armed Forces Compensation Scheme, or Attendance Allowance.

Neighbourhood deprivation

The Index of Multiple Deprivation (IMD) 2015 combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area (or as described here neighbourhoods) in England. This allows each neighbourhood to be ranked relative to others according to their level of deprivation. In this report quintiles of IMD are used to give an area-level measure of socioeconomic status, as opposed to a household-level measure. For further details about IMD please refer to the Survey Design and Methods Report.

Region

The regional measure in this topic report was based on the former [Government Office Regions](#). They were identified as being the most local level of geography possible for statistical analysis due to the survey design.

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