



**WIRRAL
INTELLIGENCE
SERVICE**

Attention deficit hyperactivity disorder (ADHD) in Wirral

Wirral Intelligence Service

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Attention deficit hyperactivity disorder (ADHD) in Wirral

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V1	November 2018	Jack Font	John Highton	Formatting of headings
V2	November 2018	Jack Font	Sarah Kinsella	Reference and layout amends
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Report Overview

Abstract	To provide an overview of attention deficit hyperactivity disorder (ADHD) in Wirral.
Intended or potential audience	External <ul style="list-style-type: none">• Wirral CT• Wirral Adult ADHD Service Internal <ul style="list-style-type: none">• CYP Public Health Leads
Links with other topic areas	<ul style="list-style-type: none">• Mental Health• Children and Young People• Autism• Learning Disabilities

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Key Findings

- Using Public Health England (PHE) and Office for National Statistics (ONS) data it is estimated there are a total of 682 children between the ages of 5 and 16 with attention deficit hyperactivity disorder (ADHD) in Wirral
- A worldwide meta-analysis however, estimates that this figure should be much greater – between 2,410 and 3,228 children in total
- The most locally available data, provided from Wirral Community Trust, indicates that there are 591 children with ADHD. Of these, 446 were male and 145 were female. These numbers are far lower than estimates calculated from international modelling suggest
- There is a noticeable pattern between higher levels of deprivation and higher rates of ADHD prevalence
- The wards estimated to have the highest number of adults with ADHD are Birkenhead and Tranmere (1,659), Seacombe (1,418) and Bidston and St. James (1,308)
- The wards estimated to have the lowest number of adults with ADHD are Heswall (689), West Kirby and Thurstaston (695) and Pensby and Thingwall (757)
- Using [Mosaic](#) (a classification tool designed to allow organisations to target information to specific resident types), estimates suggest that 1 in 10 adults in Birkenhead have ADHD; this figure is 1 in 20 in Heswall
- The constituency estimated to have the highest rate of adults with ADHD (per 1,000 population) is Birkenhead compared to West Wirral constituency which is estimated to have the lowest rate
- Wirral Clinical Commissioning Group (CCG) figures show that in June 2018, there were 2,280 adults formally diagnosed with ADHD on their EMIS (the information system used by Wirral GPs) system. This is almost 10 times lower than Mosaic estimates (22,925) suggesting that a lot of adults may have undiagnosed ADHD.
- As age increases, ADHD becomes less prevalent. This is reflected due to ADHD not being globally recognised as a disorder until 1987
- Childhood symptoms of ADHD are clear, well defined and usually noticeable before the age of 6. Adult symptoms however, are much more difficult to define due to a lack of thorough research in adults with ADHD
- Groups most at risk of developing ADHD are babies born of a low birth weight, children suffering with epilepsy, children who suffer from brain injuries and those whose parents are also diagnosed with ADHD
- Wirral children aged between 10 and 14 have the highest rates of ADHD medication prescribed – followed by the 5-9 and 15-19 age group respectively. This is because ADHD is more likely to be recognised and then diagnosed when a child's circumstances change – such as transitioning between primary and secondary school
- On a Healthy Wirral neighbourhoods basis, Wallasey A, Birkenhead A and Birkenhead B all prescribe ADHD medication to children above the Wirral average
- Compared to statistically similar CCGs, Wirral is a negative outlier for items prescribed for ADHD medication to children
- We see 63% of all the ADHD medication prescribed in Wirral in 2017/18 being prescribed to children aged between 0 and 19
- The mean additional cost per adolescent (aged 12-18) with ADHD for the NHS, social care and education is £5,493
- The same study suggests that the annual total cost of ongoing care for adolescents with ADHD in the UK is £670 million

What is Attention Deficit Hyperactivity Disorder (ADHD)?

Attention deficit hyperactivity disorder ([ADHD](#)) is a behavioural disorder – most commonly diagnosed in children - that includes symptoms such as inattentiveness, impulsiveness and hyperactivity.

Most experts agree that ADHD is present from birth but the symptoms are often only noticed when a child's circumstances change, such as when they first move into education or move between primary and secondary school [1]. Consequently, most cases of ADHD are diagnosed when children are between the ages of 6 and 12 years old [2].

Although the symptoms of ADHD often improve with age, many adults who were diagnosed with the condition as children continue to experience problems. People diagnosed with ADHD may also experience additional problems in conjunction with their ADHD, such as depression, conduct disorder, anxiety disorders and sleep disorders such as insomnia.

How is ADHD Diagnosed?

ADHD is a very difficult condition to diagnose because many of the characteristic features are also present in other mental health conditions. For example, poor attention and distractibility are also common in depression, anxiety and bipolar disorder whereas emotional instability can be present in antisocial personality disorders. Due to these overlapping symptoms, a doctor cannot formally diagnose ADHD. The National Institute for Health and Care Excellence (NICE) provides national guidance and advice to improve health and social care in England - including the guidelines on how to diagnose ADHD. They state that a diagnosis of ADHD should only be made by a specialist psychiatrist, paediatrician or other appropriately qualified healthcare professional with training and expertise in the diagnosis of ADHD, on the basis of:

- a full clinical and psychosocial assessment of the person; this should include discussion about behaviour and symptoms in the different domains and settings of the person's everyday life and
- a full developmental and psychiatric history and
- observer reports and assessment of the person's mental state [3]

For a diagnosis of ADHD, symptoms of hyperactivity/impulsivity and/or inattention should:

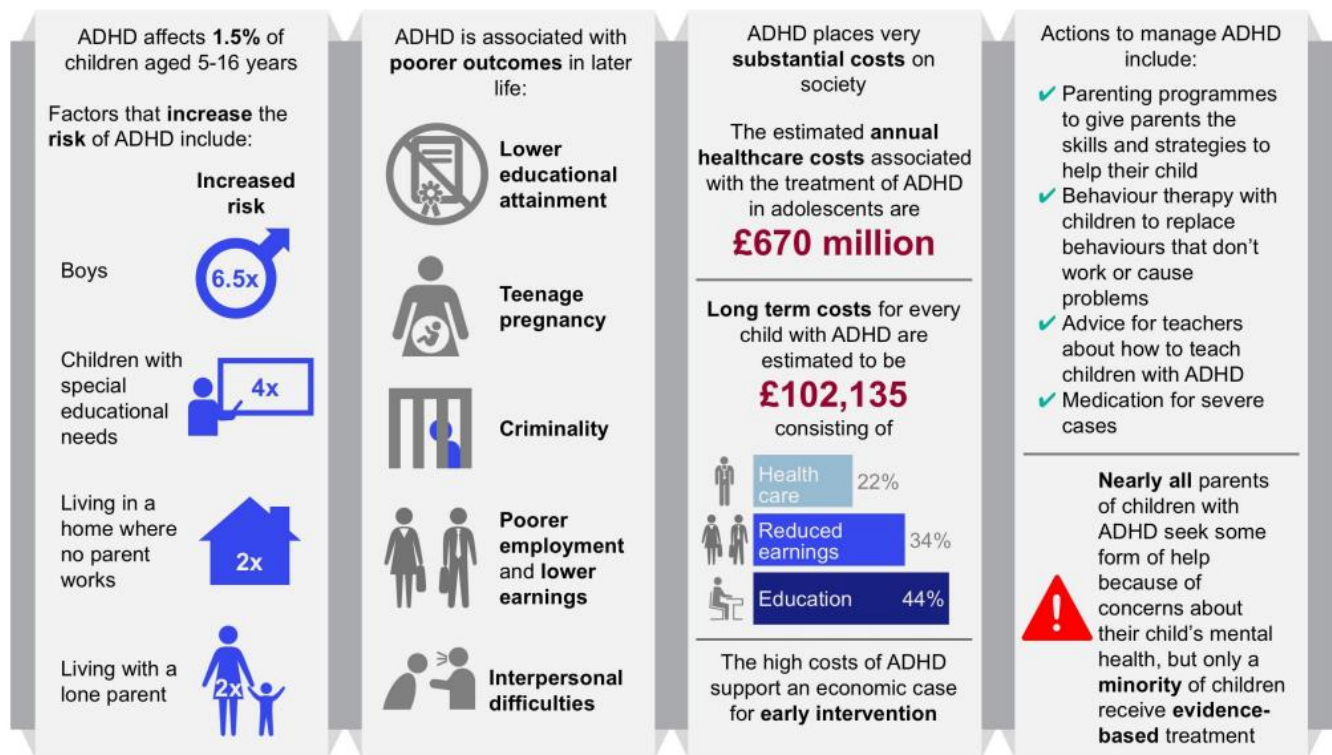
- meet the diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders V ([DSM-5](#)) or International Statistical Classification of Diseases X ([ICD-10](#)) (hyperkinetic disorder) and
- cause at least moderate psychological, social and/or educational or occupational impairment based on interview and/or direct observation in multiple settings and
- be pervasive, occurring in 2 or more important settings including social, familial, educational and/or occupational settings [3]

Guidelines for an ADHD diagnosis in adults is different compared to a child’s diagnosis. This is because current guidelines state that ADHD cannot develop for the first time as an adult and so a diagnosis can only be made if symptoms were also present during childhood [4].

In adult cases specialists may wish to consult old school records or speak to past teachers and parents to understand whether symptoms were evident as a child. In addition, specialists may ask adults a questionnaire known as the [Adult ADHD Self-Report Scale](#). This questionnaire is designed to assess the symptoms associated with ADHD and how frequently they occur so that an accurate diagnosis can be made. A score of 4 or more answers in the shaded boxes shown in the link above is considered to be a positive screen of ADHD.

In December 2016, Public Health England (PHE) produced a set of reports to help support commissioners in improving the mental health and wellbeing of children and young people. Within these reports are a set of infographics targeted at a number of common mental illnesses diagnosed across England including the likes of ADHD. Figure 1 below shows an example of an infographic summarising the demographics and associations of somebody living with ADHD.

Figure 1: Public Health England ADHD Infographic, 2016



Source: [Public Health England, December 2016](#)

Prevalence in Wirral

Amongst Children

Using the data from the Public Health England (PHE) infographic - Figure 1 - and the most recent Office for National Statistics (ONS) population estimates (2017), it is estimated that there are a total of 682 children between the ages of 5 and 16 with ADHD in Wirral.

PHE also estimates that ADHD is more prevalent in boys than girls, so, extrapolating these figures means the breakdown for each gender is 591 boys to 91 girls in Wirral with ADHD.

Alternative studies however, suggest that this percentage is much greater than the figure provided by PHE.

For example, a worldwide meta-analysis, consisting of over 100 studies, was conducted around ADHD prevalence in children and adolescents and found that population prevalence rates were estimated to be between 5.3% and 7.1% [5]. Extrapolating these figures to the Wirral population produces an estimate of between 2,410 and 3,228 children between 5 and 16 as having ADHD. However, this study included many different countries which may be different to the UK, so the PHE figures may be more appropriate to use as they are focused on the England population.

Locally, Wirral Community Trust data indicates that, between March 2017 and March 2018 there were 591 children aged between 3 and 17 recorded as having ADHD. Of these, 446 were male; the other 145 were female. This indicates that among diagnosed children here in Wirral, ADHD is 3 times more prevalent in boys compared to girls. This is different to the PHE estimates which suggest a ratio of boys to girls of 6:1 [Figure 1]. Overall, this number (n = 591) is lower than PHEs estimate would suggest.

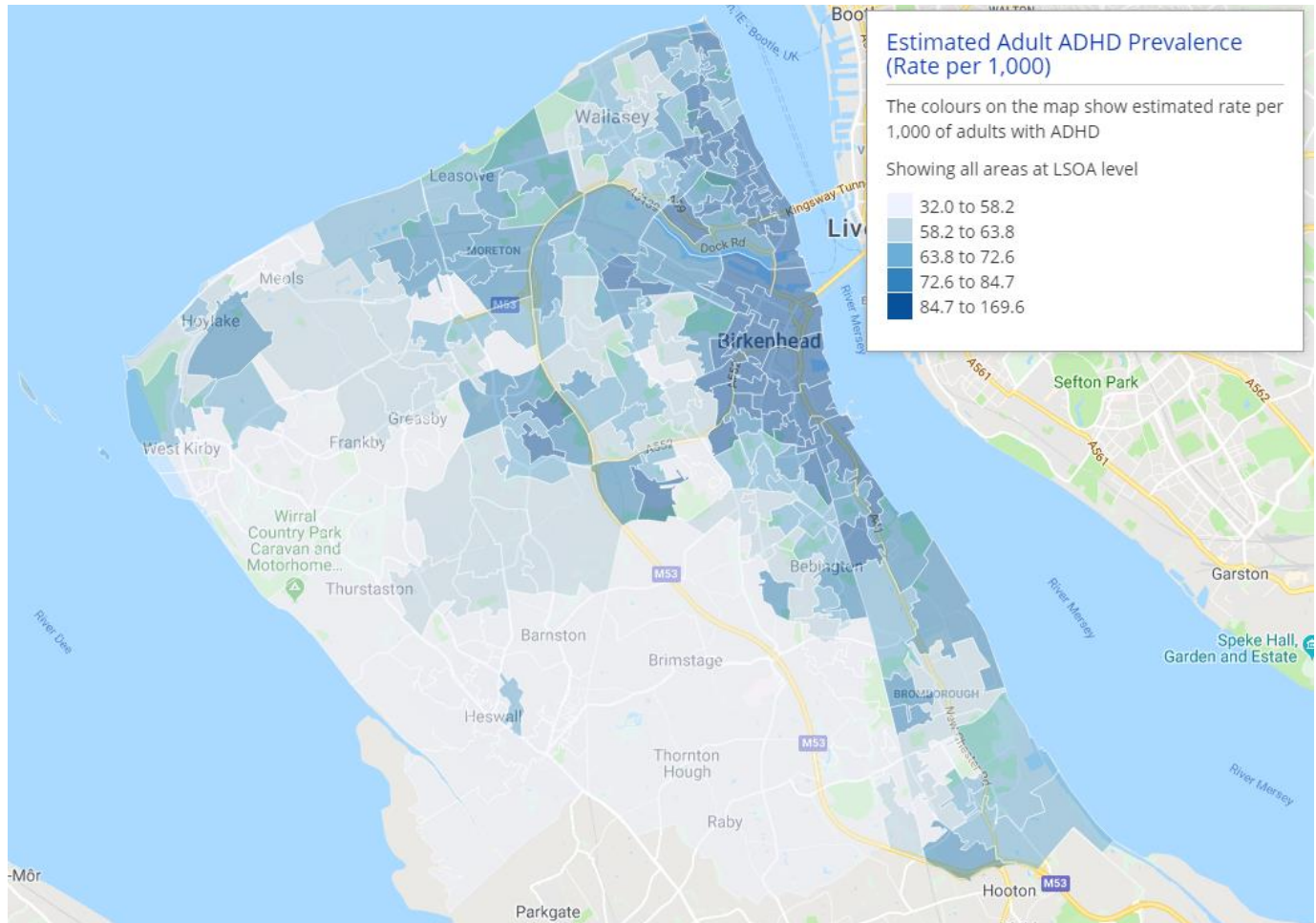
Amongst Adults

Map 1 shows estimated ADHD prevalence amongst adults in Wirral as a rate per 1,000. The estimate of ADHD prevalence is calculated using the [Mosaic](#) classification tool and the most recent [ONS mid-year population estimates](#). The Mosaic tool is a classification system that segments the population into several different categories using a large collection of different datasets from numerous sources - such as Research Now, the Crime Survey for England and Wales and the Census. One such dataset is the number of adults estimated to have ADHD.

Using the ONS mid-year population estimates then allows us to calculate a rate per 1,000 of the adult population in Wirral which is shown on our [Local Insight](#) mapping tool.

It is apparent that estimated ADHD prevalence seems to be much more common in the East of Wirral – where it is typically more deprived – especially in areas such as Birkenhead and Rock Ferry.

Map 1: Map of estimated adult ADHD prevalence (rate per 1,000) in Wirral, 2017

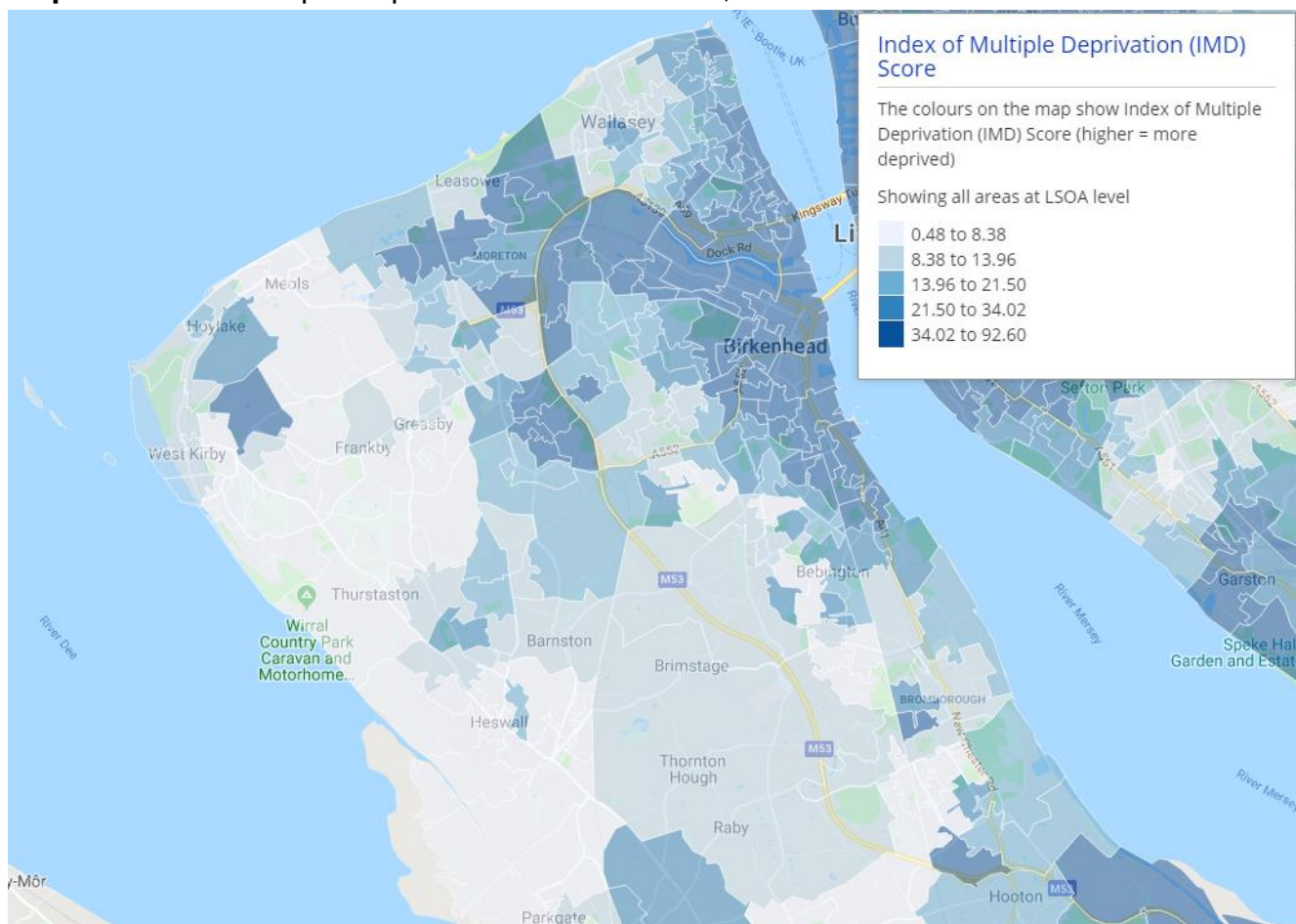


Source: [Local Insight using Mosaic Data](#)

A 2018 study published in the British Medical Journal (BMJ) and conducted at the Countess of Chester Hospital found that - besides focusing on the biological and neurological links with ADHD - there was an association between social deprivation and ADHD prevalence.

It found that 44% of those with ADHD were located in the most deprived quintile [6]. Map 2 shows deprivation across Wirral – and it is noticeable how ADHD and deprivation show a similar pattern.

Map 2: Index of Multiple Deprivation Score in Wirral, 2015



Source: [Local Insight](#)

Estimates are also available by ward. Figure 2 below shows that the number of adults with ADHD varies considerably between the ward with the highest estimated prevalence (Birkenhead and Tranmere) and the ward with the lowest prevalence (Heswall).

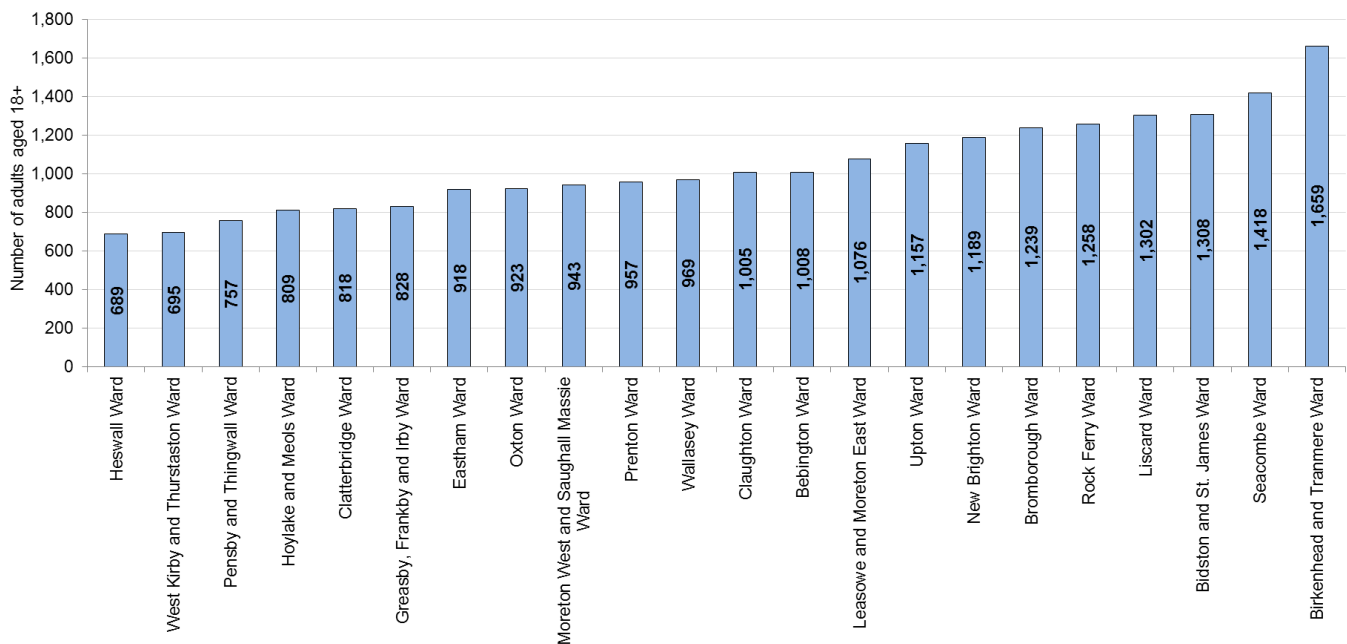
Three of the four most deprived wards in Wirral, according to the latest Index of Multiple Deprivation (IMD), are estimated to have the highest number of adults with ADHD – the exception being Rock Ferry. On the other hand, the two most affluent wards – Heswall and West Kirby & Thurstaston – are estimated to have the lowest number of adults with ADHD.

Besides deprivation, another potential explanation for this trend is the demographics. Heswall and West Kirby & Thurstaston have a higher older adult (65+) population and lower child and younger adult population than Birkenhead and Tranmere (and ADHD prevalence is higher in children and young people).

As mentioned above, it is important to note that the figures shown in Figure 2 and Figure 3 are estimates. Wirral CCG reported in June 2018 that only 2,280 adults over the age of 18+ were formally diagnosed with ADHD according to their EMIS (the information system used by Wirral GPs) database. This number is ten times lower than the estimate produced using MOSAIC Public Sector data and displayed on our Local Insight tool (22,925).

Anecdotal feedback from a local service providing support for teenage parents has identified a number of cases of potential undiagnosed ADHD with their clients. It is possible that undiagnosed ADHD is an issue across a range of vulnerable groups and provides an explanation as to why local numbers vary so much with national estimates.

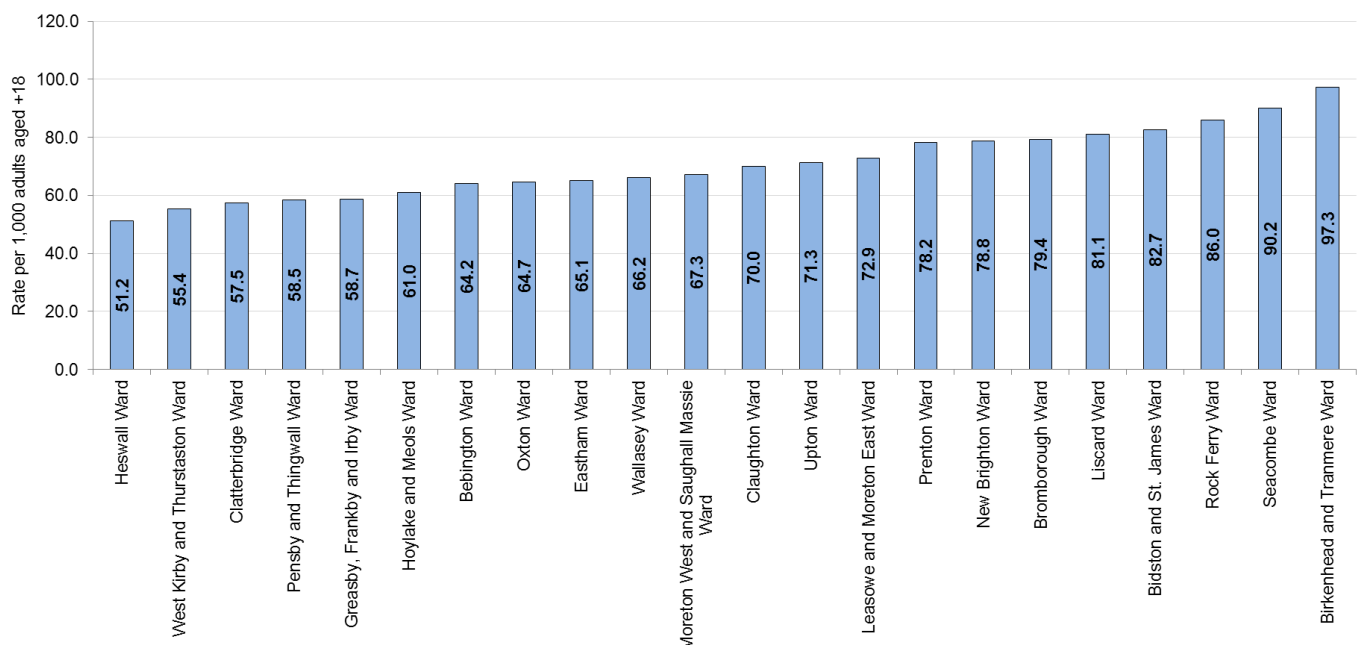
Figure 2: Estimated number of adults with ADHD by ward, 2017



Source: [Local Insight](#)

As can be seen in the chart below, the rate per 1,000 of estimated ADHD prevalence amongst adults follows a similar trend to that of the estimated number of adults with ADHD. The chart shows that estimates suggest almost 1 in 10 adults in Birkenhead have ADHD, compared to Heswall where the figure is almost 1 in 20. This means that ADHD prevalence is estimated to be twice as common in Birkenhead and Tranmere than in Heswall.

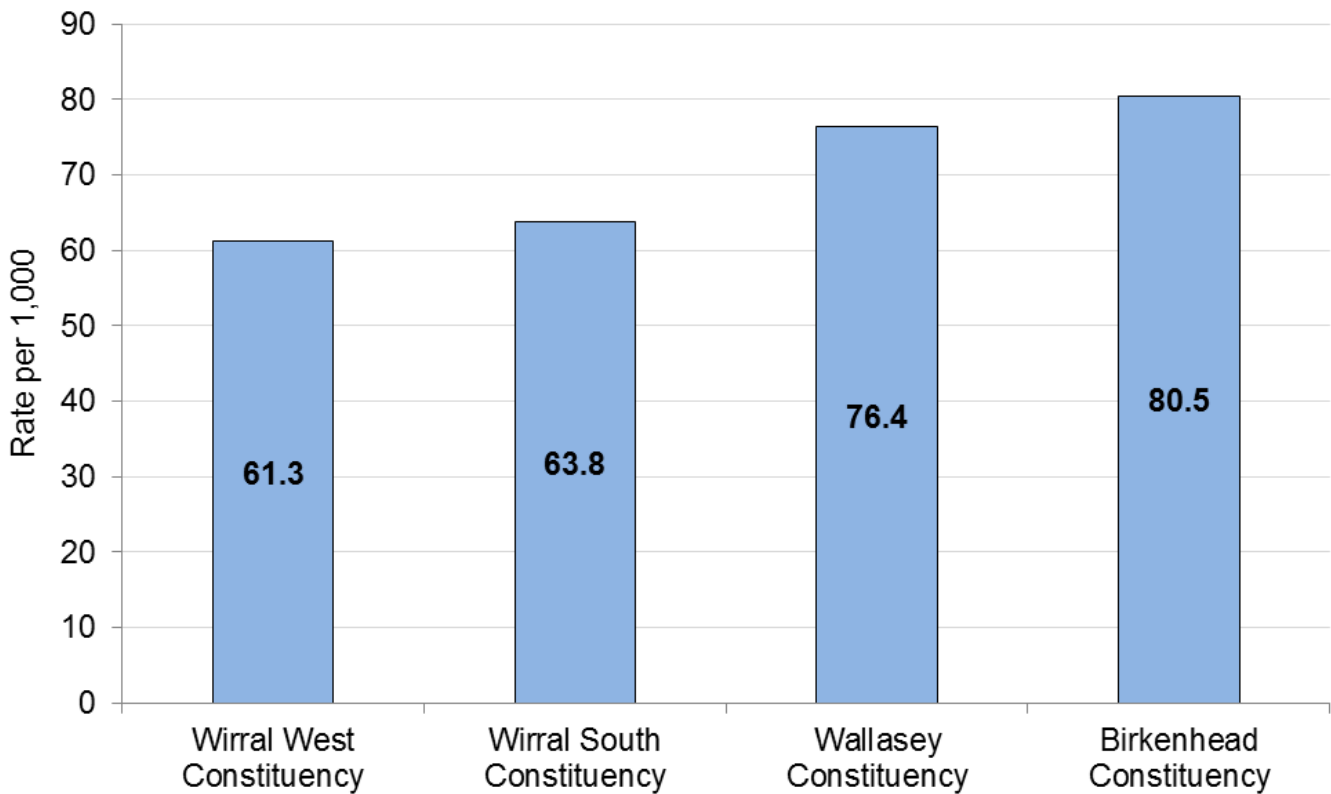
Figure 3: Rate per 1,000 of adults with ADHD by ward, 2017



Source: [Local Insight](#)

Figure 4 below shows the estimated rate per 1,000 of adults with ADHD by constituency. The Birkenhead constituency has the highest rate per 1,000 at 80.5 whereas Wirral West has the lowest at 61.3.

Figure 4: Rate per 1,000 of adults with ADHD by constituency, 2017



Source: [Local Insight](#)

The [Adult Psychiatric Morbidity Survey](#) is a survey conducted every 7 years (most recently in 2014) and provides data on the prevalence of both treated and untreated psychiatric disorders in the English adult population. One of the disorders that they record is ADHD by a number of age groups. The most recent available figures show that ADHD appears to be most prevalent in the younger age groups (aged between 16 and 24) with a rate of 15.2%. As people get older ADHD becomes less prevalent. For example, by the age of 75+, prevalence is only 3.3%. One reason behind this is because of recent increased awareness in ADHD - ADHD was only recognised as a mental condition globally in 1987 [7]. Consequently, fewer older people would have been diagnosed with the condition. Across all age groups and compared to the same study conducted in 2007, there was an increase in rates of ADHD from 8.8% in 2007 to 10.0% in 2014.

This national prevalence figure of 15.2% in the 16-24 age group is higher than the rate seen in the Wirral ward with the highest ADHD prevalence (Birkenhead and Tranmere) which has a rate of 9.73% [Figure 3]. This could suggest that ADHD may be less readily diagnosed in Wirral compared to nationally.

Symptoms

Symptoms in Children and Teenagers

The symptoms of ADHD in children and teenagers are clear, well defined and are usually noticeable before the child reaches 6 years of age. For a diagnosis to be given, symptoms must occur in more than one situation, such as at home and at school. Therefore, it is important for at least 2 different people, who are based in two different environments that the child is comfortable within, such as their teacher in school and their parents at home, to confirm that these symptoms are shown in both environments. These symptoms include:

Inattentiveness

The main signs of inattentiveness are:

- having a short attention span and being easily distracted
- making careless mistakes – for example, in schoolwork
- appearing forgetful or losing things
- being unable to stick to tasks that are tedious or time-consuming
- appearing to be unable to listen to or carry out instructions
- constantly changing activity or task
- having difficulty organising tasks

Hyperactivity and impulsiveness

The main signs of hyperactivity and impulsiveness are:

- being unable to sit still, especially in calm or quiet surroundings
- constantly fidgeting
- being unable to concentrate on tasks
- excessive physical movement
- excessive talking
- being unable to wait their turn
- acting without thinking
- interrupting conversations
- little or no sense of danger

These symptoms can cause significant problems in a child's life, such as underachievement at school, poor social interaction with other children and adults, and problems with discipline [8].

Symptoms in Adults

Compared to the childhood symptoms of ADHD, adult symptoms are much more difficult to define due to a lack of thorough research of adults with ADHD. As ADHD is a developmental disorder, current diagnostic guidelines state that ADHD cannot develop in adults without it first appearing during childhood. However, it is common that symptoms of ADHD often persist from childhood into a person's teenage years and then adulthood. Any additional problems or conditions experienced during childhood in addition to ADHD, such as depression or dyslexia, may also continue into adulthood.

By the age of 25, an estimated 15% of people diagnosed with ADHD as children still have a full range of symptoms, and 65% still have some symptoms that affect their daily lives [8].

The symptoms in children and teenagers are often applied to adults with possible ADHD. However some specialists say the way in which inattentiveness, hyperactivity and impulsiveness affect adults can be very different from the way they affect children.

For example, hyperactivity tends to decrease in adults, while inattentiveness tends to get worse as the pressures of adult life increase. Adult symptoms of ADHD also tend to be far more subtle than childhood symptoms.

Some specialists have suggested the following as a list of symptoms associated with ADHD in adults:

- carelessness and lack of attention to detail
- continually starting new tasks before finishing old ones
- poor organisational skills
- inability to focus or prioritise
- continually losing or misplacing things
- forgetfulness
- restlessness and edginess
- difficulty keeping quiet, and speaking out of turn
- blurting out responses and often interrupting others
- mood swings, irritability and a quick temper
- inability to deal with stress
- extreme impatience
- taking risks in activities, often with little or no regard for personal safety or the safety of others – for example, driving dangerously [8]

Related Conditions in People with ADHD

It is estimated that just over half (52%) of all people with ADHD also show signs of other problems or conditions [9]. These are known as comorbid conditions as they occur in conjunction, or simultaneously, with a person's ADHD. Comorbid conditions can vary significantly between different people. For example, a child's chronic lack of focus may trigger anxiety in school or another person with ADHD may experience years of disapproval and negative feedback which could trigger depression.

One person with ADHD may only experience one comorbid condition whereas somebody else may experience six. The severity of each comorbid condition varies between people too. Comorbid conditions with ADHD can be categorised into three types – cortical writing problems (such as learning and language difficulties), emotion regulating problems (such as depression and anxiety) and finally tic disorders (such as Tourette's syndrome and motor tics).

Causes and Risk Factors

Groups Most at Risk

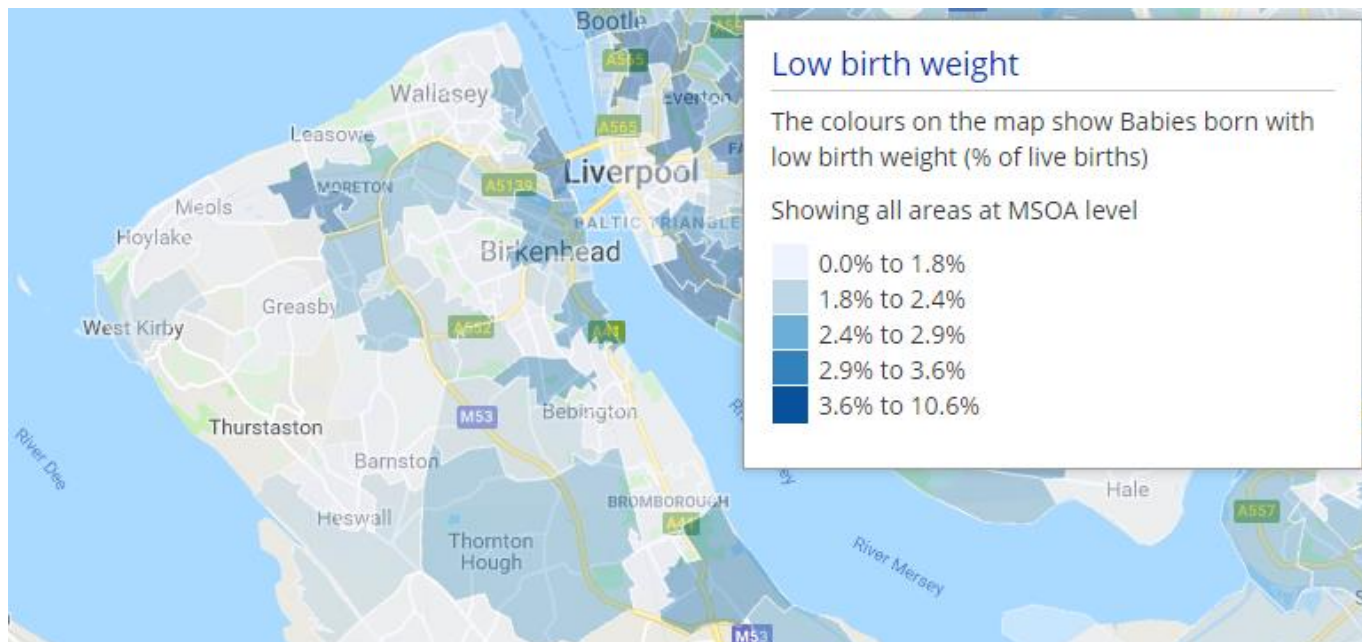
Low Birth Weight

A recent meta-analysis carried out in January of 2018 found evidence that low birth weight – and in particular a very low birth weight (less than 1,000 grams) – was associated with an increased risk of up to 3 times of receiving an ADHD diagnosis than term babies.

The earlier a baby is born premature or of a lower birth weight – the higher the risk was of receiving a diagnosis [10].

Below shows the map of low birth weight babies born, between 2011 and 2015, as a percentage of all live births. As can be seen, the most prevalent areas for low birth weight babies to be born are areas such as Birkenhead, Seacombe and Moreton. These areas also show a high rate of ADHD prevalence amongst adults as presented in Map 1.

Map 3: Low birth weight babies born as a percentage of all live births, 2011-15



Source: [Local Insight](#)

Epilepsy

Epilepsy is also believed to be associated with ADHD. Published in the *Epilepsy and Behaviour* journal a recent 2014 study [11] highlighted how an estimated 63.9% of children diagnosed with benign childhood epilepsy with centrotemporal spikes (BCECTS) also had ADHD. Based from figures provided by Wirral Community Trust there are currently 90 children diagnosed with epilepsy in Wirral. If figures from the above study are applied to Wirral data that would mean 58 of those 90 children with epilepsy are likely to have ADHD.

Brain Injuries

A study conducted in May 2018 found that children aged between 3 and 7 who were hospitalised as a result of experiencing a severe brain injury were at an increased risk of developing ADHD later in life. Based on the study, the mean length of time of a diagnosis following the injury was 6.8 years. This affected a total of 25.7% of the cohort of children affected [12].

Genetics

The overarching factor thought to have the most influence on a child being diagnosed with ADHD is genetics. ADHD tends to run in the family and it is believed that the genes we inherit from our parents are a significant factor in developing the condition. Scientists also believe that at least two genes are thought to be responsible for the onset of ADHD to occur. A number of studies show that the parents and siblings of a child with ADHD are more likely to have ADHD themselves. However, the way ADHD is inherited is likely to be complex and is not thought to be related to a single genetic issue [13].

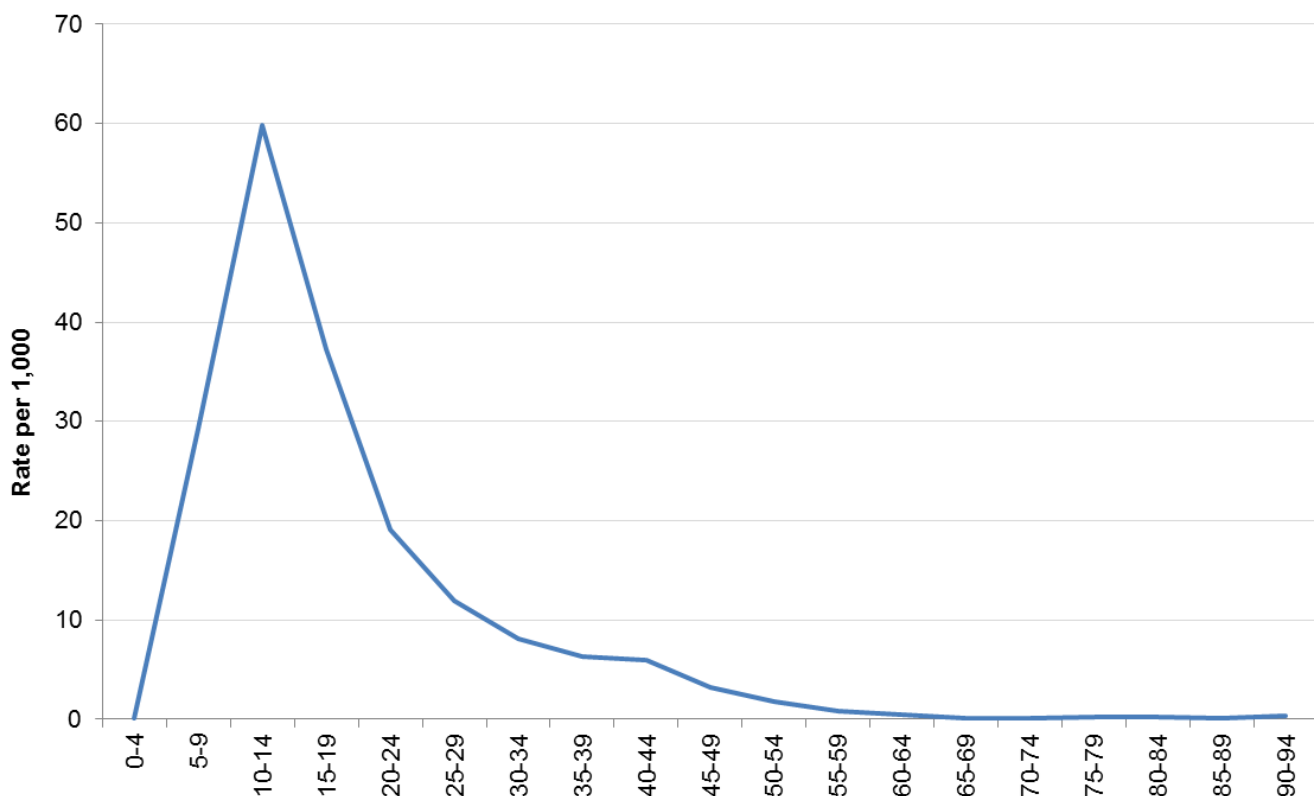
Medical Prescriptions Analysis

The exact causes of ADHD are not fully understood. Genetics may be the primary cause for one individual receiving a diagnosis of ADHD whereas brain injuries may be the leading cause for another - no two people are the same. Medications however, such as [methylphenidate](#), [dexamfetamine and atomoxetine](#), and therapies, such as behaviour therapies and cognitive behavioural therapy (CBT), act as methods of relieving and controlling the symptoms of ADHD and the impact the symptoms may have throughout a patients lives. The following section looks at the prescription rates of ADHD medication across Wirral.

Within Wirral

Children are more likely to receive a diagnosis of ADHD when their circumstances change. Figure 5 below shows that the age group with the highest rate of prescribed ADHD medication in Wirral are those between the ages of 10 and 14. Those aged between 10 and 14 are at the age at which they transition between primary school and secondary school. A rate of 60 per 1,000 prescriptions for 10-14 year olds indicates that for every 100 children between the age of 10 and 14, 6 of those will be on some form of ADHD medication in Wirral. The other child age groups (5-9 and 15-19) are the age groups prescribed the next highest rate of ADHD medication. The figure also shows that as people get older, the rate per 1,000 of prescribed ADHD medication decreases.

Figure 5: Rate per 1,000 of people prescribed with ADHD medication in Wirral, 2015/16 – 2017/18



Source: ePACT

Note:

- I) ePACT is a service for pharmaceutical and prescribing advisors which allows real time online analysis of the previous sixty months prescribing data
- II) Some people may be double counted if they receive medication year-on-year

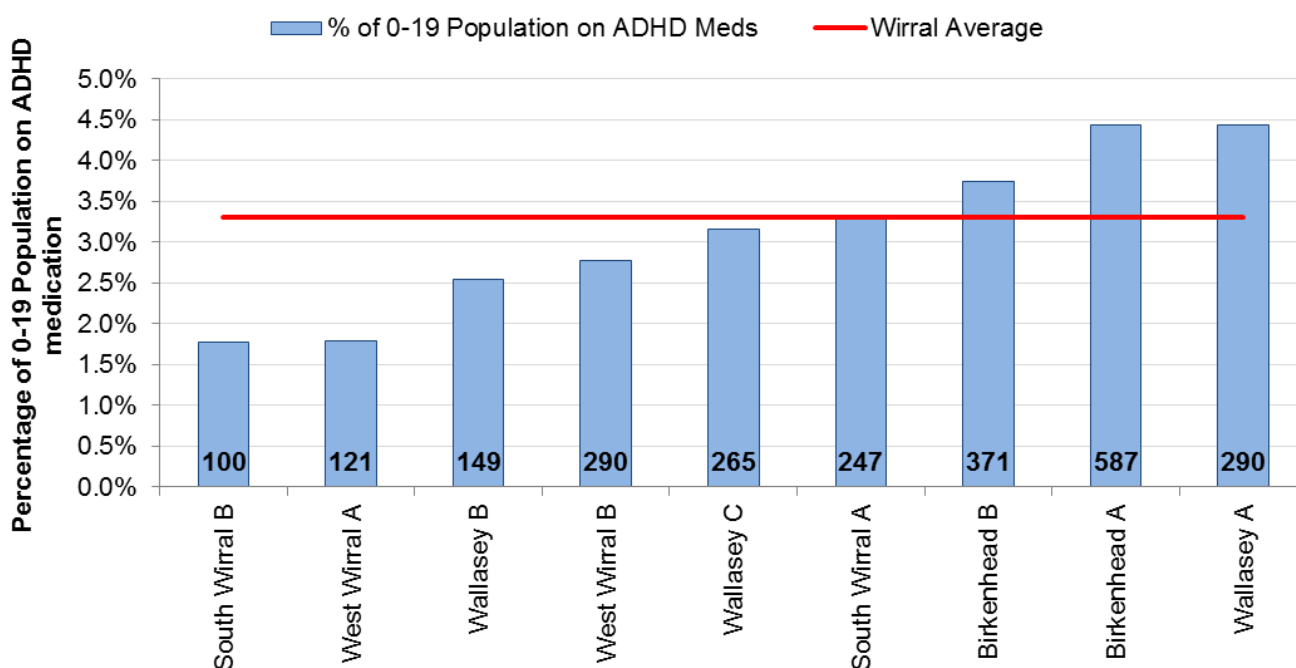
An overall summary of how each neighbourhood in Wirral prescribes ADHD medication in children is shown in Figure 6.

Wallasey A neighbourhood prescribes the highest proportion of ADHD medication to children aged between 0 and 19 (4.4%) whereas South Wirral B has the lowest proportion (1.8%).

Both West Wirral B and Wallasey A have the same number of patients identified as currently having ADHD medication. Wallasey A however, has a smaller 0-19 population leading to the higher proportion of medication prescribed.

Birkenhead A neighbourhood is the neighbourhood containing the largest number of 0-19 children currently on ADHD medication at 587. This is over 200 more children aged 0-19 than the next highest neighbourhood – Birkenhead B – with 371.

Figure 6: The Proportion of the 0-19 Population Identified as being prescribed ADHD Medication by Neighbourhood (2017/18)



Source: ePACT

Note:

i) ePACT is a service for pharmaceutical and prescribing advisors which allows real time online analysis of the previous sixty months prescribing data

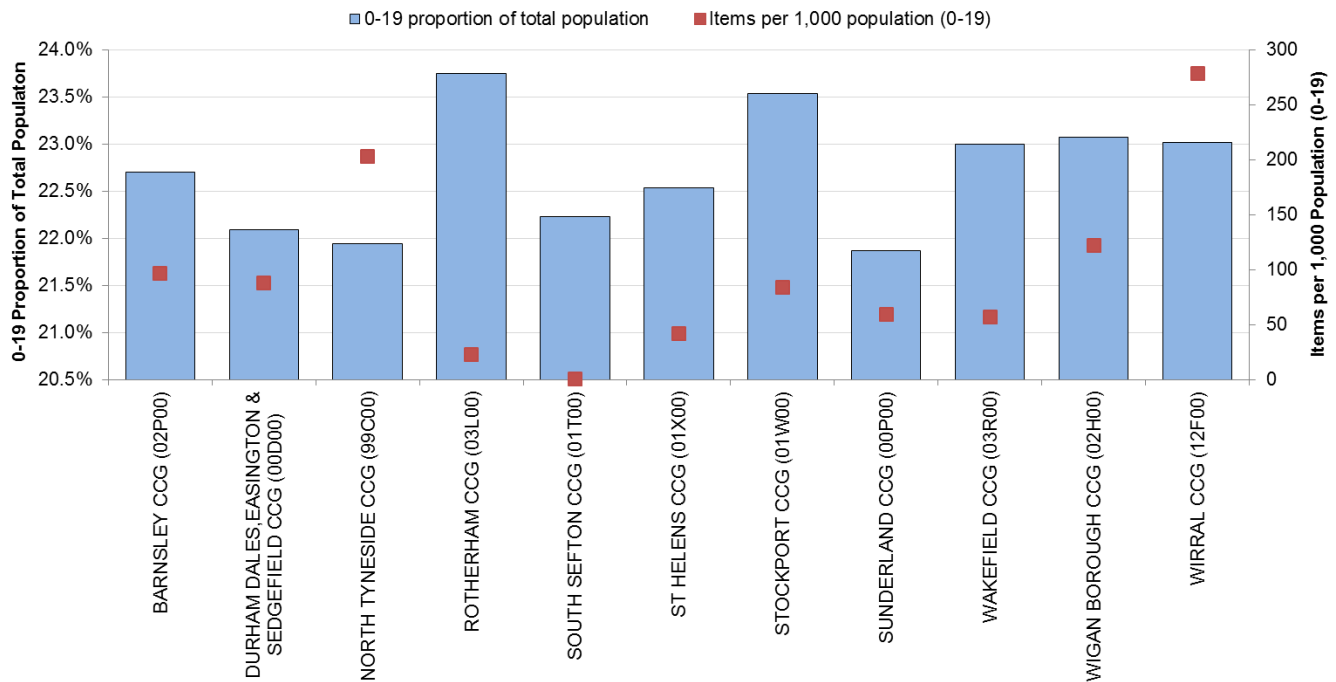
Compared to Statistically Similar CCGs

In 2016 NHS England developed and updated their [CCG Explorer tool](#) which calculates a CCG's most statistically significant neighbours. Statistical neighbours are calculated from a number of different demographic indicators including the [Indices of Multiple Deprivation \(IMD\)](#) and the age demographics of each area.

Figure 7 below shows the projected proportion of the 0-19 population and the rate of ADHD medication prescribed per 1,000 children aged between 0 and 19 for Wirral and 10 demographically similar CCGs across the country.

The figure shows that Wirral is very clearly a negative outlier for items prescribed against all of the comparators yet the figure shows that Wirral does not have a greater proportion of 0-19 year olds. In 2017/18, 63% of all of the ADHD medication prescribed in Wirral was for the 0-19 age group. Wirral is also an outlier for the volume of ADHD medication supplied to adults.

Figure 7: Proportion of 0-19 population against the total population vs rate of ADHD prescribing per 1,000 0-19 population, 2018/19 (projected)



Source: ePACT

Note:

- I) ePACT is a service for pharmaceutical and prescribing advisors which allows real time online analysis of the previous sixty months prescribing data
- II) ADHD prescribing in Wirral is initiated by a consultant then prescribing is taken over by the patients GP
- III) Not all CCGs commission ADHD medication in the same way e.g. South Sefton, Rotherham and St. Helens may have community or mental health trusts that prescribe on their behalf
- IV) This analysis focuses on four drugs - methylphenidate, atomoxetine, dexamfetamine and lisdexamfetamine

Diagnosis Pathways in Wirral

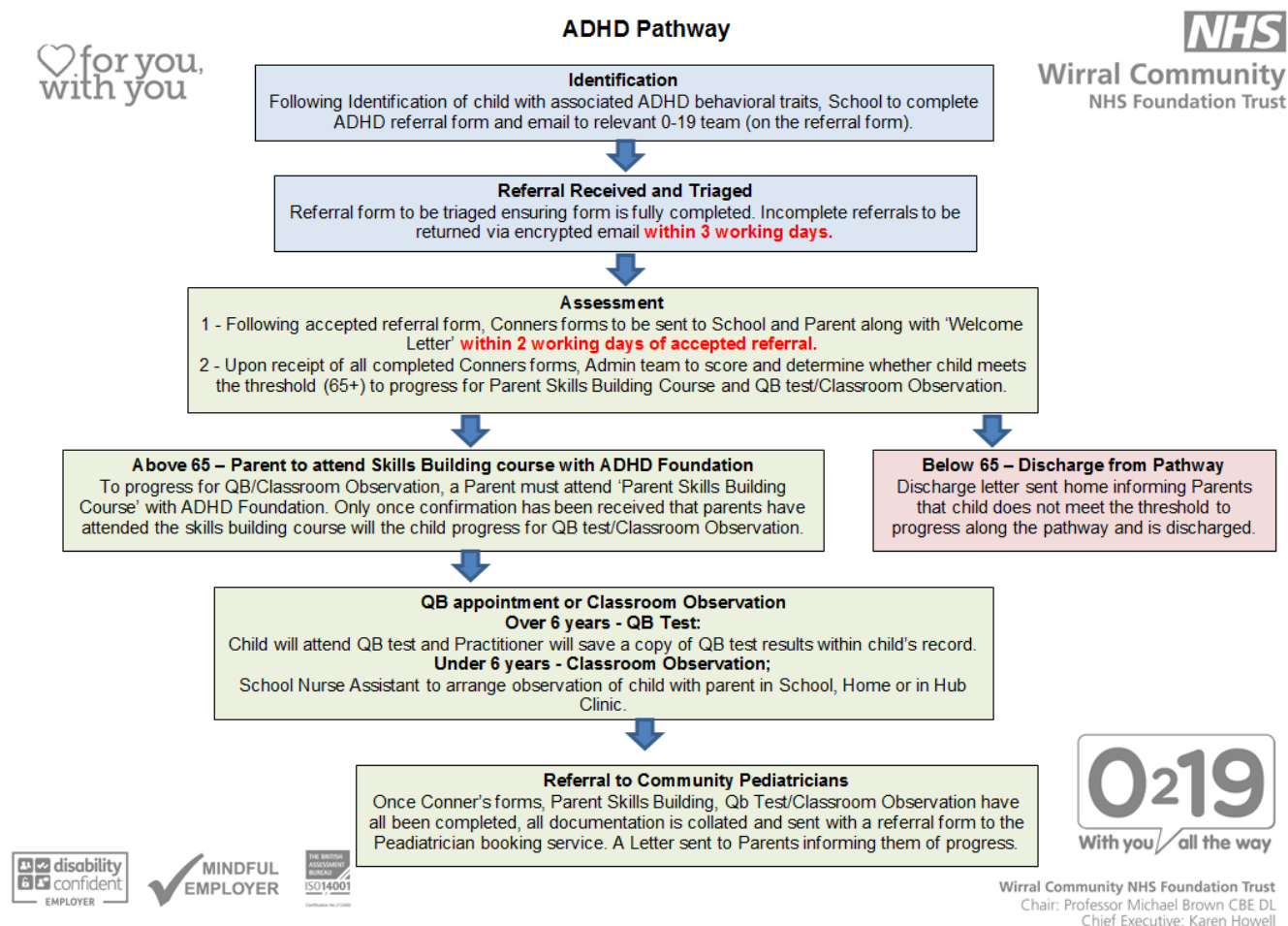
The methods in which children and adults are formally diagnosed with ADHD differ significantly. Children, for example, have to be identified by their school as having symptoms/traits of ADHD. The school must then complete an ADHD referral form on behalf of the child. This referral form will be triaged to ensure the form is fully completed. Following the accepted referral form a Conners form [14] will be sent to the school and parent to be completed. If the Conners form is returned and scored with a value of higher than 65 then the child continues through the pathway. If, however, the score is below 65 then the school and parents will receive a letter informing that their child does not meet the threshold to progress along the pathway.

Following a high enough assessment score, parents are then required to attend the 'Parent Skills Building Course' in collaboration with the ADHD foundation. Once the attendance of the parent to the building course is confirmed can a child progress to the classroom observation stage. If the child is under the age of 6 years old a school nurse assistant will arrange an observation of the child with their parents in a school, home or hub setting. If the child is above the 6 years old however, the child will attend and complete a QB test [15].

Following the completion of the Conners form, 'Parent Skills Building Course' and the QB test/classroom observation a letter will be sent to the parents informing them of their child's progress and a referral to the community paediatricians.

A flow chart summarising the referral pathway for children believed to have ADHD can be found below. The six stages of the pathway sum up the prerequisites for a child to meet the criteria for referral to the Paediatrician Booking Service.

Figure 8: ADHD referral pathway for children



Source: [Wirral Community Trust](http://www.wirralcommunitytrust.nhs.uk)

Wirral is also one of the few local authorities in England that has their own Adult ADHD Service. This is located in the Stein Centre in St. Catherine's Health Centre and provides assessment, diagnosis and treatment to adults with Attention Deficit Hyperactivity Disorder (ADHD). Further contact details can be found here:

<http://www.cwp.nhs.uk/services-and-locations/services/wirral-adult-adhd-service/>

Social and Economic Impact of ADHD

Health Service

A recent study was carried out with the aim of estimating the additional education, health and social care costs among adolescents in the UK diagnosed with ADHD. The results showed that the mean cost per adolescent for NHS, social care and education services used in a year related to ADHD was £5,493.

The lower 95% confidence interval was £4,416 whereas the higher 95% confidence interval was £6,679. The median cost was £2,327. Education resources accounted for the greatest amount of costs (76 per cent), followed by NHS resources (24 per cent) respectively. Using estimated prevalence figures, the study suggests that the annual cost of ongoing care for adolescents with ADHD in the UK is £670 million [16].

Prison Population

Furthermore, studies have shown that compared with the general population prevalence, there is a fivefold increase in prevalence of ADHD in youth prison populations (30.1%) and a tenfold increase in adult prison populations (26.2%). Female adults had the lowest predicted ADHD prevalence when comparing by age and gender (22.1% v. 31.2%, male adults). However, female youths had similar prevalence to male youths (30.8% and 29.5%, respectively) [17].

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