CHILD & ADOLESCENT MENTAL HEALTH SERVICES (CAMHS)

Warwickshire JSNA Analysis 2016



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KEY FINDINGS

- Warwickshire specialist (tier 3) CAMHS received just under 12,000 referrals, relating to 8,901 children and young people in the three years from April 2013 to March 2016.
- Just under 3,000 children and young people were re-referred to specialist CAMHS within this three year period (although it is not clear whether these children were re-referred for the same presenting problem).
- A small proportion (0.7%) of children and young people were referred to CAMHS five times or more within that period.
- The number of children referred to Warwickshire specialist CAMHS increases with age until its peak at children aged 15 years after which the numbers fall again.
- Just under a third (32%) of children referred to Warwickshire specialist CAMHS were aged 14 to 16 years.
- Nuneaton & Bedworth had the greatest number of children referred to CAMHS (2,046 children or 23%); the district/borough in Warwickshire with the second greatest concentration of children. North Warwickshire had a much lower proportion of children referred to CAMHS (11%) compared to the rest of the county despite an average concentration of children (21%).
- South Warwickshire CCG had the highest number of children referred to CAMHS in the period 2013/14-2015/16 and the highest three year average rate of children referred to CAMHS (per 10,000 children aged 0-18 years).

- At ward level, two of the five wards with the highest number of referrals are in Nuneaton & Bedworth Borough (Camp Hill, Kingswood) and three (Newbold & Brownsover, Admirals & Cawston, New Bilton) in Rugby Borough. In these wards, the total Warwickshire CAMHS referrals are approaching one and a half times the number of children referred in the period.
- An age-standardised CAMHS referral rate has been calculated.
 The variation between district/borough rates is minimal,
 suggesting a fairly even distribution of 'need' across the county
 at this geography.
- The presenting problems for children referred to CAMHS were recorded for a quarter of all referrals (2,303 children) in the three year period. Of that 25%, the average number of presenting problems recorded was seven and just over a quarter (27%) of those children were referred to CAMHS with at least one severe presenting problem.
- The most common presenting problems were emotional difficulties (including anxiety, phobias and OCD) which were recorded for nearly four in five (80%) children (1,827 children) where it was recorded. One quarter (25%) of these children had co-occurring emotional difficulties.
- Presenting problems (for the 25% of children where it was recorded) that were most likely to be recorded as severe were difficulties not covered by other groups, such as elimination problems (27%), selective mutism (20%), gender identity (17%) and adjustment disorder (16%). Children presenting with self-



harm, depression and psychosis were the least likely to present with a severe problem.

- The average age of children referred to CAMHS changes for some presenting problems, depending on the severity of the problem. For example, the average age of children presenting with selective mutism was 10.3 years, however, those who were presenting with severe selective mutism were 4.1 years younger on average at 6.2 years. Conversely, the average age of children presenting with OCD was 11.5 years, however those with severe OCD presented at an older age of 13.9 years.
- This suggests that for the quarter of referrals where presenting problems were recorded, the severity of some issues typically increase with age. If the provision of timely early intervention services was increased and utilised further to support children and young people to resolve less severe presenting problems, this would not only ensure better outcomes for the children and young people concerned, preventing them from presenting with more severe problems in future, but it would also reduce pressure on existing Tier 3 CAMHS services.
- For the purposes of this analysis, we were able to join 99.6% of postcodes provided by Coventry and Warwickshire Partnership Trust (CWPT) for Warwickshire CAMHS referrals data for the three year period (April 2013 to March 2016) to Mosaic.¹

- Group M (Family Basics) and G (Rural Reality) are much more prevalent in the CAMHS referral profile when compared with the county profile. Similarly, Groups F (Senior Security), J (Rental Hubs) and N (Vintage Value) are significantly under-represented when looking at the referrals profile. The under-represented Mosaic groups typically tend to be either elderly households with no children/grown up children or young people before they have families, which is to be expected and reinforces findings for highly represented groups.
- Group M (Family Basics) households account for 6% of the Warwickshire population but represents over 17% of the current CAMHS referral profile. Conversely, Group N (Vintage Value) households account for 6% of the Warwickshire population but represent under 3% of the CAMHS referral profile. A Group M resident is over five times more likely to be referred to CAMHS than a Group N resident.
- Mosaic allows us to distinguish between targeting volume and risk. The former targets the groups and types with the greatest number of people referred to CAMHS and the latter representing those most *at risk* of being referred. There is some crossover when considering the volume and risk profile of Warwickshire CAMHS referrals. Three Mosaic types feature in both the volume and risk profile. These fall into Group M and

can be joined to customer/patient data to help develop a stronger understanding of residents' behaviours, needs and preferences.



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¹ Mosaic is a customer insight tool for understanding household and customer types, allocating every household in the country to one of 66 categories. Mosaic

are Mosaic Types M56, M55 and M54. These three types represent just under 1,200 (or 13.4%) referrals:

- M56: Solid Economy Stable families with children renting better quality homes from social landlords
- M55: Families with Needs Families with many children living in areas of high deprivation and who need support
- **M54: Childcare Squeeze** Younger families with children who own a budget home and strive to cover all expenses.

Key features of each of these types are outlined below:

M56: Solid Economy	M55: Families with Needs	M54: Childcare Squeeze
No of households in Warwickshire: 3,750	No of households in Warwickshire: 2,610	No of households in Warwickshire: 5,330
Families with children	Cohabiting couples & singles with kids	Married or cohabiting couples
Renting from social landlord	Areas with high unemployment	Likely to have pre- school children
Pockets of social housing	Low household income	Outgoings high in proportion to income
Lower wage service roles	Small socially rented terraces and semis	Own low value homes
Relatively stable finances	Moves tend to be within local community	Both parents working
Small bills can be a struggle	Shop for computer games online	Unsecured personal loans

- The top five wards with the highest number of households with target Mosaic types (M56, M55, M54) are:
 - o Camp Hill, Nuneaton & Bedworth
 - o Brunswick, Warwick

- Newbold & Brownsover, Rugby
- o Sydenham, Warwick
- o Kingswood, Nuneaton & Bedworth
- The types of households that are most likely to be referred to Warwickshire CAMHS (M56, M55 and M54) are also the type of households that are most likely to have the following characteristics:

Social renting

Unemployed

Age 36-45

4+ children

Lone parent

Children age 5-11

Pseudo family

Terraced and low property value

- There are some relationships and emerging trends worth exploring with the three Mosaic types identified in terms of risk factors and these are listed below:
 - Children in household (supporting/validating the Mosaic profile of CAMHS referral data)
 - Lone parent at address
 - Never worked/long-term unemployed
 - Benefit claimants
 - Depression/post-natal depression
 - Taken remedies for stress/anxiety
 - O Drink alcohol less than once a month



INTRODUCTION

In the UK it is estimated that 11% of boys and 8% of girls aged 5 to 15 have a clinically significant mental health problem², with 50% of lifetime cases of diagnosable mental illness beginning by the age of 14 and three quarters by the age of 18³. Of those children and young people diagnosed with a mental disorder, approximately one in five will have more than one diagnosable concurrent mental health disorder.²

Mental illness is associated with educational failure, family disruption, disability, offending and antisocial behaviour; placing additional demands on social services, schools and the youth justice system. It is estimated that mental health problems during childhood and adolescence in the UK result in costs of between £11,030 and £59,130 annually per child⁴.

The association between physical and mental health is well recognised. Children with a long term physical illness are twice as likely to suffer from emotional or conduct disorder problems⁵.

Similarly, young people with mental disorders are more likely to have poor physical health, due in part, to higher rates of certain health risk behaviours for example, smoking, alcohol and poor diet⁶. People with severe mental illnesses die on average 20 years earlier than the general population.

An extensive JSNA on Children and Adolescent Mental Health Services in Warwickshire was completed in 2013 and is available on the JSNA website using the following link. Much of the data and context in the previous needs assessment remains relevant; however, this piece of analysis recognises the limitations of national and local prevalence estimates and instead focuses on referral data from Warwickshire's specialist CAMHS service covering a three year financial period from March 2013 – April 2016. This data has been used to better understand the cohort of children in Warwickshire who require specialist CAMHS support and seek to understand some of the wider risk factors associated with children's mental health.

The mapping undertaken as part of this report looks to highlight small areas where individuals are at an increased risk of having children and young people with mental health issues; this should allow more informed planning and targeting of interventions.

⁵ Various legislation including Children's Act 1989



² ONS: Mental Health of Children and Young People in Great Britain (2005)

³ Murphy M and Fonagy P (2012). Mental health problems in children and young people. In: Annual Report of Chief Medical Officer 2012, Department of Health.

⁴ Suhrcke M, Puillas D, Selai C: Economic aspects of mental health in children and adolescents. In Social cohesion for mental wellbeing among adolescents. Copenhagen: WHO Regional Office for Europe, 2008:43-64.

⁶ McManus S, Meltzer H, Brugha T et al (2009) Adult psychiatric morbidity in England, 2007. Results of a household survey. Health and Social care Information centre, social care statistics

NATIONAL PERSPECTIVE

The most recent British survey on the prevalence of mental health issues of children and young people aged 5-15 years was conducted by the Office for National Statistics in 2004. Prevalence of certain mental health disorders from the study are shown below.

The national prevalence has been applied to Warwickshire's 5-15 year old population to give an estimate of how many children in Warwickshire may be affected by each disorder. It is important to note that the numbers estimated here are for diagnosable conditions. There are a much larger number of children and young people who have mental health or psychological problems, which may be less clearly defined.

- 3.3% of children and young people have an anxiety disorder nationally (equating to approximately 2,500 children in Warwickshire)
- 0.9% of children and young people are seriously depressed nationally (equating to approximately 700 children in Warwickshire)
- 5.8% of children and young people have a conduct disorder nationally (equating to approximately 4,300 children in Warwickshire)
- 1.5% of children and young people have severe ADHD nationally (equating to approximately 1,100 children in Warwickshire)

There has been less research on the profile and rates of mental health issues in the under five population, despite increasing recognition of the importance of the early years as a focus for early intervention. Differentiating between normal and abnormal behaviour in younger children can be difficult. However, some studies suggest that 50-60% of children showing high levels of disruptive behaviour at 3-4 years will continue to show these problems at school age⁷.

Comprehensive support for children and young people with emotional and psychological problems or disorders is currently provided through a network of tiered services which include:

- Universal services such as early years services and primary care (Tier 1)
- Targeted services such as youth offending teams, primary mental health workers, educational psychologists and school and voluntary/third sector providers of counselling (Tier 2)
- Specialist community multidisciplinary CAMHS teams (Tier 3)
- Highly specialist services such as inpatient services (Tier 4 CAMHS)

The latest Department of Health report on children and young people's mental health 'Future in Mind' was published in March



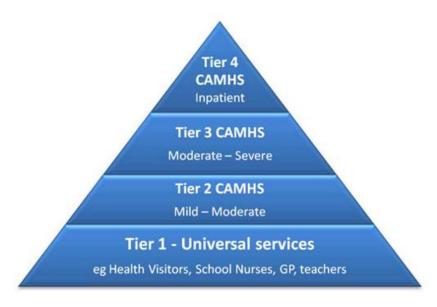
⁷ Annual Report of the Chief Medical Officer 2012, Our Children Deserve Better: PreventionPays, https://www.gov.uk/government/uploads/system/uploads/attachm ent data/file/252660/33571 2901304 CMO Chapter 10.pdf

2015⁸. The report proposed clear change across the whole system to improve children and young people's mental health and wellbeing through re-shaping the way services for children and young people with mental health needs are commissioned and delivered

The THRIVE model proposes to replace the tiered model of CAMHS with a cluster model which tries to draw a clearer distinction between treatment and support, rather than an escalator model of increasing severity or complexity⁹. The tiered model is often criticised by professionals working with children and young people as currently children and young people have to fit the services rather than the services fitting the changing needs of the child or young person. This can create barriers between services, and may mean that children and young people fall through the gaps between tiers or experience poor transitions.

⁹ Anna Freud Centre & The Tavistock and Portman NHS (2014) THRIVE The AFC-Tavistock Model for CAMHS. http://www.annafreud.org/media/2552/thrive-booklet-march-15.pdf







⁸ Department of Health (2015) Future in mind – promoting, protecting and improving our children and young people's mental health and wellbeing. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/41 4024/Childrens_Mental_Health.pdf

WARWICKSHIRE CAMHS SERVICES

TARGETED CAMHS (TIER 2) REFERRALS

Reach is a service commissioned by Warwickshire County Council to provide Tier 2 targeted CAMHS support to children aged 5-18 years across the county. In 2015/16, the service received almost 2,000 referrals and undertook just under 900 assessments. Of those children commencing direct intervention with Reach (184 children in Warwickshire), almost one third (31%) were from Rugby, whereas only 10% were from Stratford-on-Avon.

Figure 1: Children and young people in Warwickshire commencing direct intervention with Reach by district/borough, 2015/16

District/borough	Number	Proportion
North Warwickshire	25	14%
Nuneaton & Bedworth	52	28%
Rugby	57	31%
Warwick	31	17%
Stratford-on-Avon	19	10%
Total	184	100%

Reach also provides online support for children and young people in Warwickshire who can access a range of online support through a live chat facility, forums and publications etc. In 2015/16, 1,163 children and young people in Warwickshire registered for an account, up slightly from 943 registrations the previous financial

year. In 2015/16, the highest proportion of registrations were from children and young people in Rugby (29%), followed closely by Warwick (27%) then Nuneaton and Bedworth (26%).

Figure 2: Children and young people in Warwickshire registering for online support from Reach by district/borough, 2015/16

District/borough	Number of Registrations	Proportion
North Warwickshire	94	9%
Nuneaton & Bedworth	298	26%
Rugby	333	29%
Stratford-on-Avon	126	11%
Warwick	312	27%
Total	1,163	100%

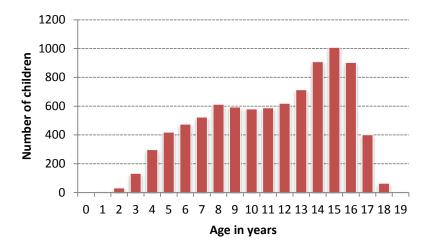
SPECIALIST CAMHS (TIER 3) REFERRALS

Referral into Warwickshire specialist CAMHS is through professionals such as GPs, educational psychologists, social workers or schools. For the three year financial year period, April 2013 to March 2016, Warwickshire CAMHS received just under 12,000 referrals which related to 8,901 children and young people. This means that just under 3,000 children and young people were rereferred to CAMHS within this three year period (although it is not clear from the data whether these children were re-referred for the same presenting problem). A very small proportion (0.7%) of children and young people were referred to CAMHS five times or more within the three year period.



The average age of children referred to Warwickshire CAMHS during this period was 11.7 years. However, the number of children referred to Warwickshire CAMHS increases with age until its peak at children aged 15 years after which the numbers fall again. Approximately one third (32%) of children referred to Warwickshire CAMHS were aged 14 to 16 years. Specialist CAMHS services are offered to children and young people up to the age of 18 years. The drop off fall in referrals highlighted above may not reflect a reduction in need but a lack of provision as children and young people approach their transition to adulthood.

Figure 3: Children referred to Warwickshire CAMHS by age at referral, 2013/14-2015/16, 3 years pooled



At district/borough level, Nuneaton and Bedworth had the greatest number of children referred to CAMHS (2,046 children); the district/borough in Warwickshire with the second greatest concentration of children (23% of the total population of Nuneaton and Bedworth). Interestingly, North Warwickshire had a much lower proportion of children referred to CAMHS (11%) compared to the rest of the county despite an average concentration of children, with 0-18 year olds making up over a fifth (21%) of the borough's population.

Figure 4: Proportion of children referred to Warwickshire CAMHS by district/borough of validated postcode, 2013/14-2015/16

District/borough	Proportion of children referred to CAMHS	Children as proportion of total population
North Warwickshire	11%	21%
Nuneaton & Bedworth	23%	23%
Rugby	19%	24%
Stratford-on-Avon	21%	20%
Warwick	23%	20%
Out of County	4%	N/A
Total	100%	N/A

A three-year average age-standardised rate of children referred to CAMHS from each district/borough has been calculated by dividing the number of children referred in each area by the estimated local population of children and young people aged 0-18 years,



expressed per 10,000 children. The rate is an average because it includes three years of data, however it is comparable across the districts/boroughs.

Stratford-on-Avon has the highest rate of children referred to CAMHS in Warwickshire compared to Rugby which has the lowest rate. However, the variation between district/borough rates is minimal, suggesting a fairly even distribution of 'need' across the county at this geography.

Figure 5: Number and rate of children referred to Warwickshire CAMHS by district/borough, 2013/14-2015/16

District/borough	Children referred	0-18 year population	Rate of children referred to CAMHS*
North Warwickshire	941	13,020	241 per 10,000
Nuneaton & Bedworth	2,046	28,692	238 per 10,000
Rugby	1,695	24,159	234 per 10,000
Stratford-on-Avon	1,881	24,488	256 per 10,000
Warwick	2,018	28,436	237 per 10,000
Out of County	320	~	~
Total	8,901	118,795	250 per 10,000

^{*}This is averaged three year data i.e. the three year pooled rate has been divided by 3 to give an annual rate.

At CCG level, South Warwickshire had the highest number of children referred to CAMHS within the period 2013/14-15/16 and

the highest 3 year-average rate of children referred to CAMHS per 10,000 children aged 0-18 years.

The presenting problems for children referred to CAMHS were recorded for 2,303 children in the three year period 2013/14-2015/16; approximately one quarter of all referrals. The full list of presenting problems is found the appendix. A child could be referred to CAMHS with several presenting problems, recorded as either 'mild', 'moderate' or 'severe'. Of the quarter of referrals where a presenting problem is recorded, the average number of presenting problems for children referred to Warwickshire CAMHS was seven. Similarly, just over a quarter (27%) of children were referred to CAMHS with at least one severe presenting problem.

Figure 6: Number and rate of children referred to Warwickshire CAMHS by CCG, 2013/14-2015/16

	Children		_
CCG	referred	Proportion	3 yr avg. rate
NHS Coventry & Rugby			
(excl. Coventry)	1,695	19%	234 per 10,000
NHS South Warwickshire	3,899	44%	246 per 10,000
NHS Warwickshire North	2,987	34%	239 per 10,000
Out of county	320	4%	~
Total	8,901	100%	~

Where recorded, the most common presenting problems were emotional difficulties (including anxiety, phobias and OCD) which



were recorded for nearly 80% of children (1,827 children). A quarter (25%) of these children had co-occurring emotional difficulties.

Figure 7: Presenting problems of children referred to CAMHS, 2013/14-2015/16 (where recorded)

Presenting Problem	Number of Children	Proportion of Children
Relationship difficulties	1,827	79%
Emotional difficulties	1,593	69%
Difficulties Not Covered by Other		
Groupings	1,122	49%
Depression	1,111	48%
Behavioural difficulties	952	41%
Care Management	912	40%
Attachment Problems	859	37%
Self-harm	841	37%
ADHD	727	32%
PTSD	436	19%
Bipolar disorder	254	11%
Eating Disorders	247	11%
Substance abuse	132	6%
Psychosis	87	4%
Total	11,100	~

For those where a presenting problem is recorded, there are three that feature in the top five most common across all district & boroughs. These were 'Peer difficulties', 'Family relationships' and 'Generalised Anxiety'.

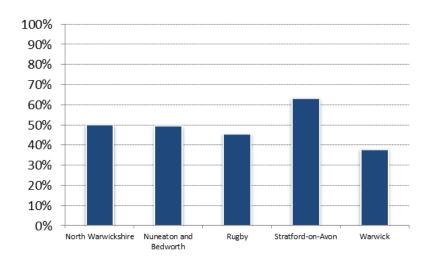
Warwickshire JSNA

Figure 8: Top five most common presenting problems (where recorded)

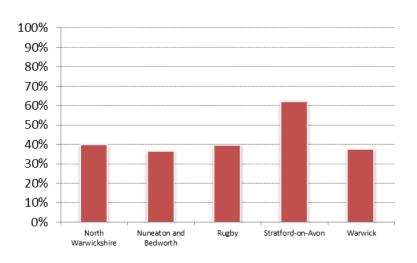
Presenting Problem	North Warks	Nun & Bed	Rugby	Stratford -on-Avon	Warwick
Attachment					
Problems	4	4			
Care					
Management		5			
Depression			2	5	3
Family					
Relationships	2	2	3	1	1
Generalised					
Anxiety	3	3	4	2	4
Peer					
Difficulties	1	1	1	4	2
Social	5		5	3	5

The following charts show the proportion of children (where a presenting problem is recorded) in each district/borough who were referred to CAMHS with the most common presenting problems. Of the quarter of referrals, over 60% of children in Stratford-on-Avon presented with generalised anxiety, social problems, family relationship problems and peer difficulties. The proportion of children presenting with generalised anxiety and social problems is considerably lower in other parts of the county, particularly the north (North Warwickshire and Nuneaton & Bedworth). A full list of presenting problems and the number and proportion of children in each district/borough can be found in the appendix.

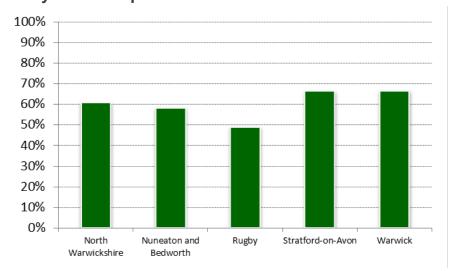
Generalised Anxiety



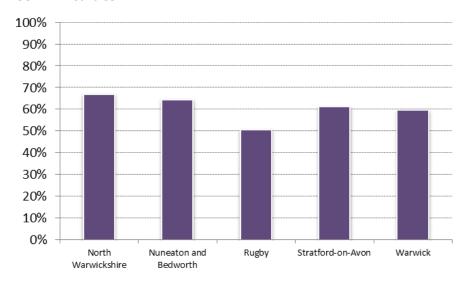
Social



Family Relationships



Peer Difficulties





Where recorded, presenting problems which were most likely to be recorded as severe were difficulties not covered by other groups, such as elimination problems (27%), selective mutism (20%), gender identity (17%) and adjustment disorder (16%). Children presenting with self-harm, depression and psychosis were the least likely to present with a severe problem.

Figure 9: Number and proportion of children with a severe presenting problem (where recorded)

Daniel Care Daniel Care	Number of children with a severe	% of children with a severe presenting
Presenting Problem Difficulties Not Covered	presenting problem	problem
by Other Groupings	144	12.8%
Emotional difficulties	187	11.7%
ADHD	85	11.7%
Relationship difficulties	212	11.6%
Attachment Problems	95	11.1%
Behavioural difficulties	97	10.2%
PTSD	41	9.4%
Care Management	82	9.0%
Substance abuse	11	8.3%
Eating Disorders	17	6.9%
Bipolar disorder	14	5.5%
Self-harm	41	4.9%
Depression	49	4.4%
Psychosis	3	3.4%
Total	1,078	~

Based on the quarter of referrals where a presenting problem was recorded, the average age of children referred to CAMHS changes for some presenting problems depending on the severity of the problem. For example, the average age of children presenting with selective mutism was 10.3 years, however, those who were presenting with severe selective mutism were 4.1 years younger on average at 6.2 years. Conversely, the average age of children presenting with OCD was 11.5 years, however those with severe OCD presented at an older age of 13.9 years. This may suggest that for some mental health problems, the longer a problem is left untreated, the more likely a child is to present with a severe problem at an older age.

Figure 10: CAMHS referrals with a recorded presenting problem by district/borough, 2013/14-2015/16 (where recorded)

	North Warks	Nun & Bed	Rugby	Stratford- on-Avon	Warwick
Number of children	248	545	532	409	497
Average age	11.3	11.6	12.0	11.8	11.7
Number of presenting problems	1,686	3,697	3,474	3,230	3,314
Avg number of presenting problems	6.8	6.8	6.5	7.9	6.7
Avg number of severe presenting problems	0.7	0.5	0.5	0.6	0.6



MOSAIC & METHODOLOGY

Mosaic

Mosaic is a tool for understanding household and customer types, and allocates every household in the country to one of 66 categories. It is built from Experian's UK Consumer Dynamics Database and uses over 450 variables, including the edited Electoral Roll, Experian Lifestyle Survey information, Consumer Credit Activity, self-reported demographics and consumer behaviour alongside the Post Office Address File, Shareholders Register, House Price and Council Tax information and ONS local area statistics. Mosaic can be joined to customer/patient data to help develop a stronger understanding of residents' behaviours, needs and preferences.

Mosaic operates at two levels – Groups and Types. There are 15 Groups, which are then sub-divided into 66 Types.

Methodology

For the purposes of this analysis, we have used Warwickshire CAMHS referrals data provided by Coventry and Warwickshire Partnership Trust (CWPT). The data provided is for CAMHS referrals by postcode for the three year financial year period, April 2013 to March 2016.

Of the 8,901 postcodes provided, 8,864 postcodes (99.6%) were matched to Mosaic and the profile is shown in Figure 11.



Figure 11: Breakdown of CAMHS referrals (April 2013 to March 2016) using Mosaic

		Number	%
Α	Country Living	578	6.5
В	Prestige Positions	640	7.2
С	City Prosperity	44	0.5
D	Domestic Success	973	11.0
E	Suburban Stability	662	7.5
F	Senior Security	483	5.5
G	Rural Reality	829	9.4
н	Aspiring Homemakers	1,130	12.8
I	Urban Cohesion	100	1.1
J	Rental Hubs	265	3.0
K	Modest Traditions	599	6.8
L	Transient Renters	603	6.8
М	Family Basics	1,521	17.2
N	Vintage Value	256	2.9
0	Municipal Challenge	181	2.0
Tot		8,864	100
Sou	rce: Mosaic 2014		

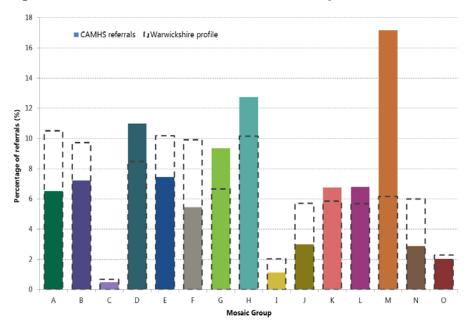
Figure 12 compares the profile of CAMHS referrals in Warwickshire over the past three financial years with the Warwickshire population. Those with coloured bars above the dotted lines are overrepresented in the CAMHS profile when compared with the Warwickshire population. For example, Groups D, G, H and M are much more prevalent in the CAMHS referral profile when compared with the county profile. Similarly, Groups A, F, J and N are significantly under-represented when looking at the referrals profile. The under-represented Mosaic groups typically tend to be either elderly households with no children or grown up children or young people before they have families.

The main discrepancies appear to be with Group F, J and N (under-represented) and M and G (over-represented) households. Group N households account for 6% of the Warwickshire population but represent under 3% of the CAMHS referral profile. Conversely, Group M households account for 6% of the Warwickshire population but represents over 17% of the current CAMHS referral profile.

Figure 13 illustrates the *propensity* or likelihood for each Mosaic Group in Warwickshire to be referred to CAMHS, based on index values. An index value above 100 means that the Mosaic Group is more likely than 'average' to be referred to CAMHS, i.e. the percentage of CAMHS referrals in this Group is more than the percentage in the overall Warwickshire population. Conversely, a

value below 100 means that this Mosaic Group is less likely than 'average' to be referred to CAMHS. Mosaic Groups M and G have the highest propensity to be referred to CAMHS (index value of 279 and 140). A Group M resident is over five times more likely to be referred to CAMHS than a Group N resident.

Figure 12: CAMHS referrals and Warwickshire profile



Source: Mosaic 2014



Figure 13: Likelihood of being referred to Warwickshire CAMHS

		CAMHS referrals %	Warks %	Index
A	Country Living	6.5	10.5	62
В	Prestige Positions	7.2	9.7	74
C	City Prosperity	0.5	0.7	74
D	Domestic Success	11.0	8.5	130
E	Suburban Stability	7.5	10.2	73
F	Senior Security	5.5	9.9	55
G	Rural Reality	9.4	6.7	140
н	Aspiring Homemakers	12.8	10.2	126
I	Urban Cohesion	1.1	2.0	55
J	Rental Hubs	3.0	5.7	52
K	Modest Traditions	6.8	5.9	116
L	Transient Renters	6.8	5.7	120
M	Family Basics	17.2	6.2	279
N	Vintage Value	2.9	6.0	48
0	Municipal Challenge	2.0	2.3	89

Source: Mosaic 2014

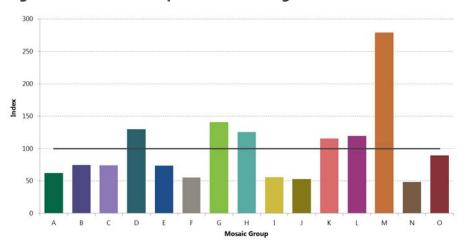
TARGET MOSAIC TYPES

Targeting volume or risk?

There is a choice to be made whether to target volume in terms of the groups and types with the greatest number of people referred to CAMHS or those most *at risk* of being referred. With increasingly limited resources it seems sensible to target the most vulnerable.

Figure 14 shows those Mosaic groups that fall above the line and therefore have an index value of over 100, have a greater propensity to be referred to CAMHS. Conversely, those groups that fall below the line are less likely to be referred to CAMHS.

Figure 14: Mosaic Groups at risk of being referred to CAMHS



Source: Mosaic 2014



The benefit of the data being extracted at postcode level is that we can also match it to the more detailed Mosaic Types as well as Groups. The table below shows the top types in terms of the volume of CAMHS referrals and the top types for those most at risk (with the highest propensity) of being referred to CAMHS.

Figure 15: Volume and risk by Mosaic Type

VOLUME		RISK
M56, D15, G28,	Types	H35, O63, M56,
H30, D16, M55, M54	Types	M54, M55, K47, J42
30%	% of Warwickshire CAMHS	21%
30%	referrals	21/0
15%	% of all households	6%

Source: Mosaic 2014

The figure above shows that there is some crossover when considering the volume and risk profile of Warwickshire CAMHS referrals. Three Mosaic types are the same in the volume and risk profile.

VOLUME

Figure 16 highlighted the top Mosaic types in terms of volume and by focusing attention on these seven Mosaic Types with the highest volumes; this would account for 30% of Warwickshire CAMHS referrals.

Figure 16: Mosaic Types with highest volume of CAMHS referrals

Mosaid	с Туре	Number	%	High on risk?
M56	Solid Economy Stable families with children renting better quality homes from social landlords	509	5.7	1
D15	Modern Parents Busy couples in modern detached homes juggling the demands of school-age children and careers	388	4.4	
G28	Local Focus Rural families in affordable village homes who are reliant on the local economy for jobs	376	4.2	
Н30	Affordable Fringe Settled families with children owning modest, 3-bed semis in areas where there's more house for less money	375	4.2	
D16	Mid-Career Convention Professional families with children in traditional mid-range suburbs where neighbours are often older	359	4.1	
M55	Families with needs Families with many children living in areas of high deprivation and who need support	358	4.0	1
M54	Childcare Squeeze Younger families with children who own a budget home and are striving to cover all expenses	328	3.7	✓

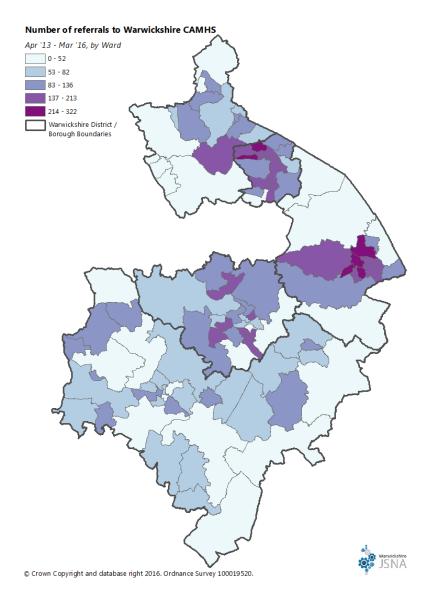


The figure below shows the top five wards in relation to the Warwickshire CAMHS referrals data provided. This considers both the number of children referred to Warwickshire CAMHS and the number of CAMHS referrals between April 2013 and March 2016, demonstrating the level of repeat referrals for the same children, shown in the final column of the table.

Two of the five highest wards are in Nuneaton & Bedworth Borough (Camp Hill and Kingswood) and three (Newbold & Brownsover, Admirals & Cawston and New Bilton) in Rugby Borough. In these wards, the numbers of total Warwickshire CAMHS referrals is approaching one and a half times the number of children referred to CAMHS in the three year period.

Figure 17: Top five wards with the highest number of Warwickshire CAMHS referrals, Apr '13 – Mar '16

		No. of	No. of
Ward	District/Borough	children	CAMHS
		referred	referrals
Camp Hill	Nuneaton & Bedworth	211	322
Kingswood	Nuneaton & Bedworth	212	298
Newbold & Brownsover	Rugby	202	297
Admirals & Cawston	Rugby	206	281
New Bilton	Rugby	182	263



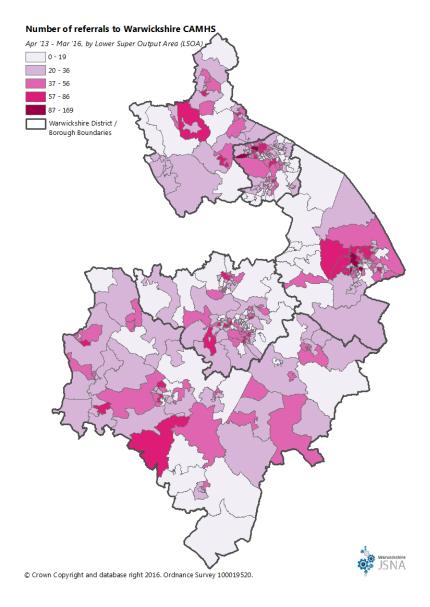


For example, between April 2013 and March 2016, 211 children were referred to Warwickshire CAMHS who lived in Camp Hill ward, however the number of total referrals received from children living in this ward was 322 over the same period, highlighting that a number of children have been referred to the service on more than one occasion.

Analysis at a ward level may mask variation at a lower geographical level. The figure below highlights the top five Lower Super Output Areas (LSOAs) for numbers of Warwickshire CAMHS referrals. Lower Super Output Areas are statistical geographies and are based on population size to facilitate easier comparison between areas.

Figure 18: Five Lower Super Output Areas (LSOAs) with the highest number of Warks. CAMHS referrals, Apr '13 – Mar '16

LSOA	District/Borough	No. of children referred	No. of CAMHS referrals
Camp Hill Village & West	Nuneaton & Bedworth	101	169
New Bilton West & Somers Road	Rugby	74	112
Kingswood Grove Farm & Rural	Nuneaton & Bedworth	69	96
Admirals East	Rugby	65	93
Bidford East, Waterloo & Broom	Stratford-on-Avon	58	74





RISK

Figure 19 shows the top Mosaic types in terms of risk and by focusing attention on these Types, over a fifth of children referred to Warwickshire CAMHS could be targeted by considering just 6% of households in the county. Also by targeting these Mosaic types, we may also be able to engage with households that may require early intervention/preventions services and have not yet been referred to Warwickshire CAMHS.

Figure 19: Mosaic Types with highest 'risk' of referral to CAMHS

Mosa	ic Type	CAMHS referrals %	Warks %	Index	High on volume?
H35	Primary Ambitions Forward-thinking younger families who sought affordable homes in good suburbs which they may now be out-growing	2.6	0.1	1,775	
O64	High Rise Residents Renters of social flats in high rise blocks where levels of need are significant	0.1	0.0	804	
O63	Streetwise Singles Hard-pressed singles in low cost social flats searching for opportunities	0.9	0.2	524	

M56	Solid Economy Stable families with children renting better quality homes from social landlords	5.7	1.4	408	✓
M54	Childcare Squeeze Younger families with children who own a budget home and are striving to cover all expenses	3.7	1.1	341	✓
M55	Families with needs Families with many children living in areas of high deprivation and who need support	4.0	1.6	260	√
K47	Offspring Overspill Lower income owners whose adult children are still striving to gain independence meaning space is limited	3.3	1.5	213	
J42	Learners & Earners Inhabitants of the university fringe where students and older residents mix in cosmopolitan locations	0.7	0.4	201	

Some of the Mosaic types identified in Figure 19 have high index values and appear to be significantly over-represented in the CAMHS profile. Some of these types are not who we would necessarily expect to see as being at 'risk' of being referred to CAMHS. Caution should be used when interpreting some of these



index figures; they are worth setting in the context of relatively small proportions of this type in the overall Warwickshire population. For example, type O63 represents 0.9% of CAMHS referrals but only 0.2% of the Warwickshire population, giving it a high index value yet it doesn't necessarily represent a type that should be focused on for the purposes of this analysis.

As a result, three Mosaic types feature both in the highest volume and also the highest 'risk' for being referred to Warwickshire CAMHS and it seems sensible to focus on these three types in terms of risk factors as they represent over 13% or nearly 1,200 Warwickshire CAMHS referrals and are over-represented in the CAMHS profile compared with the Warwickshire population.

These are:

- M56: Solid Economy Stable families with children renting better quality homes from social landlords
- **M55: Families with Needs** Families with many children living in areas of high deprivation and who need support
- M54: Childcare Squeeze Younger families with children who own a budget home and are striving to cover all expenses

Figure 20: Key features of target Mosaic Types

M56:	M55:	M54:
Solid Economy	Families with Needs	Childcare Squeeze
No of households in Warwickshire: 3,750	No of households in Warwickshire: 2,610	No of households in Warwickshire: 5,330
Families with children	Cohabiting couples & singles with kids	Married or cohabiting couples
Renting from social landlord	Areas with high unemployment	Likely to have pre- school children
Pockets of social housing	Low household income	Outgoings high in proportion to income
Lower wage service roles	Small socially rented terraces and semis	Own low value homes
Relatively stable finances	Moves tend to be within local community	Both parents working
Small bills can be a struggle	Shop for computer games online	Unsecured personal loans

Figure 21: Top five wards with highest number of households with target Mosaic types (M56, M55, M54)

Ward	District/Borough
Camp Hill	Nuneaton & Bedworth
Brunswick	Warwick
Newbold & Brownsover	Rugby
Sydenham	Warwick
Kingswood	Nuneaton & Bedworth



Figure 22: Top five LSOAs with highest number of households with target Mosaic types (M56, M55, M54)

Ward	District/Borough
Camp Hill Village & West	Nuneaton & Bedworth
Brunswick South East	Warwick
Brunswick North West & Foundry	Warwick
Brownsover South Lake District North	Rugby
Middlemarch & Swimming Pool	Nuneaton & Bedworth

What this does not tell us, however, is what the needs, risk factors and preferences of these types are; the next section examines the characteristics of the most prevalent Mosaic types in the CAMHS referral profile.

RISK FACTORS

The <u>Helping Vulnerable Children JSNA</u> identified potential risk factors when defining vulnerability in children, recognising that this is an inherently complex task in itself with no single approach to defining vulnerability. In some cases, 'vulnerable' is used to define key groups of children, such as children looked after and young carers. In others, vulnerable is used to define children at risk of harm and neglect. There are many factors which have a negative impact on a child, alongside a multitude of protective factors.

As a result, arriving at a cohort of vulnerable children in Warwickshire included consideration of a wide range of potential factors influencing vulnerability in children across the county including education, employment, deprivation, crime, health indicators and existing identified vulnerable groups.

National research published in 2013 found that adverse childhood experiences¹⁰ (ACE) are strongly related to adverse behavioural, health and social outcomes in the UK population. Compared to those with no ACEs, the study found that individuals with more than four ACEs were more likely to smoke, drink heavily, be in custody and be morbidly obese. They also had a greater risk of poor educational and employment outcomes, low mental wellbeing and life satisfaction, recent violence involvement, recent hospital inpatient hospital care and chronic health conditions.

While these childhood experiences are not directly linked to children with mental health disorders, many of the risk factors are similar and this is highlighted in the list below. While any child can experience mental health issues, some children are more vulnerable than others, such as:

- children looked after:
- children with a parent with a mental health issue;
- low income households;
- children who are abused and severely bullied
- children who have experienced stressful life events, for example, bereavement, divorce or serious illness.



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 $^{^{10}}$ A list of these ACEs can be found in the appendix.

While children and young people in these groups may be at higher risk, this does not mean that they are equally vulnerable to mental health issues. A range of protective factors in the individual, family and community influence whether a child or young person will either not experience problems or will not be significantly affected by them, particularly if receiving consistent support from an adult whom they trust.

Further risk factors increase the vulnerability of children and young people experiencing mental health issues including:

- having a long-term physical illness
- having a parent who has problems with alcohol or has been in trouble with the law
- living in poverty or being homeless
- experiencing discrimination, perhaps because of their race, sexuality or religion
- acting as a carer for a relative, taking on adult responsibilities
- having long-standing educational difficulties.¹¹

See more at: https://www.mentalhealth.org.uk/a-to-z/c/children-and-young-people#sthash.U0TUIYJn.dpuf



RELATIONSHIPS WITH RISK FACTORS USING MOSAIC

The types of households that are most likely to be referred to Warwickshire CAMHS (M56, M55 and M54) are also the type of households that are most likely to have the following characteristics:

Social renting

Unemployed

Age 36-45

Lone parent

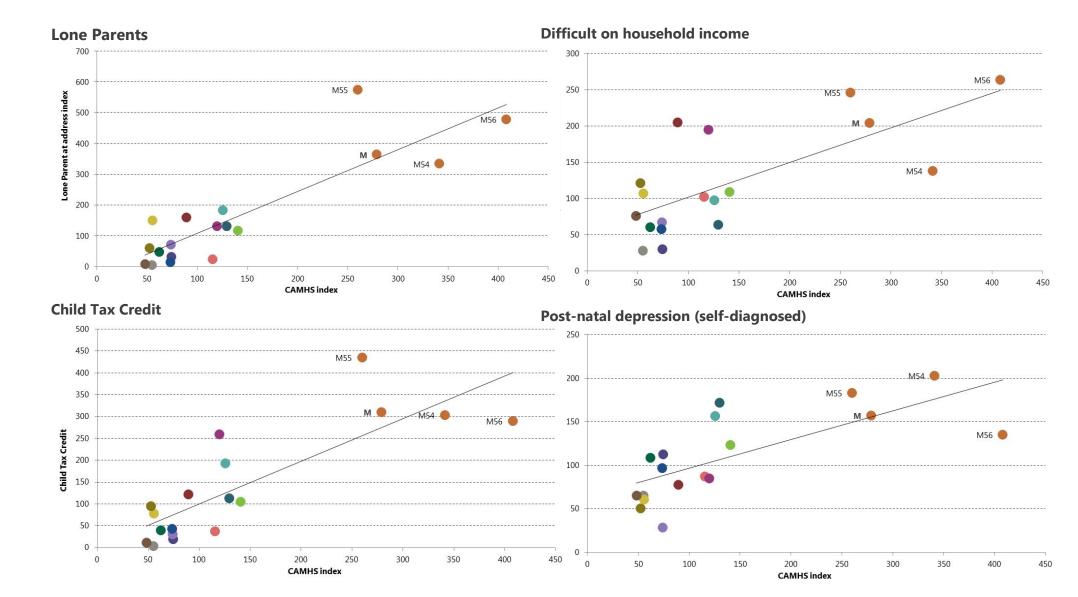
4+ children

Children age 5-11

Pseudo family

Terraced and low property value

Some of these relationships are highlighted further in the following charts. Each of the charts shows the relationship between the Warwickshire CAMHS profile and a number of indicators where the relationship is particularly strong. For example, the first graph shows there is a strong positive relationship between the likelihood of being a lone parent household compared with the likelihood of being referred to Warwickshire specialist CAMHS services for the target Mosaic types previously identified (M54, M55 and M56). These are shown further towards the top right of the trend line, highlighting the strength of the relationship and the increased likelihood of being in a lone parent household for the Mosaic types most at risk of being referred to specialist CAMHS services.





While Mosaic does not cover a number of the risk factors identified in the section above, there are some relationships and emerging trends worth highlighting with the three Mosaic types identified:

- **Children in household** (supporting/validating the Mosaic profile of CAMHS referral data)
- Lone parent at address
- Never worked/long-term unemployed
- Benefit claimants
- Depression/post-natal depression
- Taken remedies for stress/anxiety
- Drink alcohol less than once a month

CONCLUSIONS

Tier 2 CAMHS targeted service interventions seem to be unevenly distributed across the county when considering the 2015/16 data at district/borough level. Of the children commencing direct intervention with Reach (184 children in Warwickshire in 2015/16), almost a third (31%) were from Rugby and only 10% were from Stratford-on-Avon.

Conversely, the analysis of Warwickshire specialist Tier 3 CAMHS referrals at district/borough level suggests a fairly even geographical spread of 'need' across Warwickshire when the rates of referral are considered.

There is more notable variation looking at the absolute numbers of specialist CAMHS referrals at district/borough level and concentrations at ward level. Nuneaton & Bedworth had the greatest number of children referred to CAMHS (2,046 children or 23%); the district/borough in Warwickshire with the second greatest concentration of children. Interestingly however, North Warwickshire had a much lower proportion of children referred to CAMHS (11%) compared to the rest of the county despite an average concentration of children (21%).

At ward level, two of the five wards with the highest number of referrals are in Nuneaton & Bedworth Borough (Camp Hill and Kingswood) and three (Newbold & Brownsover, Admirals & Cawston and New Bilton) in Rugby Borough. In these wards, the numbers of total Warwickshire CAMHS referrals is approaching one and a half times the number of children referred to CAMHS in the period, highlighting the re-referral of a number of children and young people during the three year period.

Despite the relatively even spread of 'need' at district/borough level, there are emerging differences in terms of how those needs differ. Although presenting problems were only available for a quarter of specialist referrals, over 60% of children in Stratford-on-Avon presented with generalised anxiety, social problems, family relationship problems and peer difficulties. The proportion of children presenting with generalised anxiety and social problems is



considerably lower in other parts of the county, particularly the north (North Warwickshire and Nuneaton & Bedworth).

Based on the quarter of referrals where presenting problems were recorded, the severity of some presenting problems typically increases with age. If the provision of timely early intervention services was increased and utilised further to support children and young people to resolve less severe presenting problems, this would not only ensure better outcomes for the children and young people concerned, preventing them from presenting with more severe problems in future, but it would also reduce pressure on existing Tier 3 CAMHS services.

There are some clear messages from profiling CAMHS referrals using Mosaic and key areas to target in terms of preventive work as a result of this profiling¹². The types of households that are most likely to be referred to Warwickshire CAMHS (M56, M55 and M54) are also the type of households that are most likely to have the following characteristics many of which are linked to deprivation: lone parents, social renting, unemployment, benefit claimants, difficult on household income and a number of children in the household.

A number of health conditions are also more common in these households too including depression, post-natal depression and households likely to have taken remedies for stress and anxiety. This supports the national evidence that children are more vulnerable to mental health conditions if a parent has a mental health issue.

Interestingly, alcohol is another common risk factor identified in national research however; the analysis of Warwickshire specialist CAMHS referrals did not suggest a strong association with alcohol consumption in those households most at risk of being referred to CAMHS services.

¹² This profiling was done with specialist CAMHS Tier 3 referrals. There will be need for CAMHS services outside of these referrals.



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APPENDIX

Adverse Childhood Experiences (ACEs)

ACE	Question	Response
Parental separation	Were your parents ever separated or divorced?	Yes
Domestic Violence	How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?	Once or more than once
Physical abuse	How often did a parent or adult in your home ever hit, beat, kick or physically hurt you in any way? This does not include gentle smacking for punishment	Once or more than once
Verbal abuse	How often did a parent or adult in your home ever swear at you, insult you, or put you down?	More than once
Sexual abuse	How often did anyone at least 5 years older than you (including adults) ever touch you sexually? How often did anyone at least 5 years older than you (including adults) try to make you touch them sexually? How often did anyone at least 5 years older than you (including adults) force you to have any type of sexual intercourse (oral, anal or vaginal)?	Once or more than once to any of the three questions
Mental illness	Did you live with anyone who was depressed, mentally ill or suicidal?	Yes

ACE	Question	Response
Alcohol abuse	Did you live with anyone who was a problem drinker or alcoholic?	Yes
Drug abuse	Did you live with anyone who used illegal street drugs or who abused prescription medications?	Yes
Incarceration	Did you live with anyone who served time or was sentenced to serve time in a prison or young offender's institution?	Yes

Full list of presenting problems

Presenting Problem	Explanation
	-
Anxious	Anxious away from caregivers (Separation anxiety)
Social	Anxious in social situations (Social anxiety/phobia)
Generalised	
Anxiety	Anxious generally (Generalized anxiety)
OCD	Compelled to do or think things (OCD)
Panic Disorder	Panics (Panic disorder)
Agoraphobia	Avoids going out (Agoraphobia)
Specific Phobia	Avoids specific things (Specific phobia)
Habit Problems	Repetitive problematic behaviours (Habit problems)
Depression	Depression/low mood (Depression)
Self-Harm	Self-Harm (Self injury or self-harm)
Bipolar	Extremes of mood (Bipolar disorder)
Psychosis	Delusional beliefs and hallucinations (Psychosis)
Substance	
Abuse	Drug and alcohol difficulties (Substance abuse)



ADHD	Difficulties sitting still or concentrating (ADHD/Hyperactivity)
Behavioural	Behavioural difficulties (CD or ODD)
Risk To Others	Poses risk to others
Care Management	Care management of CYP behaviour (e.g., management of child)
Elimination Problems	Doesn't get to toilet in time (Elimination problems)
PTSD	Disturbed by traumatic event (PTSD)
Eating Disorders	Eating issues (Anorexia/Bulimia)
Family Relationships	Family relationship difficulties
Attachment Problems	Problems in attachment to parent/carer (Attachment problems)
Peer Difficulties	Peer relationships difficulties
Personality Disorder	Persistent difficulties managing relationships with others (includes emerging personality disorder)
Selective Mutism	Does not speak (Selective mutism)
Gender Identity	Gender discomfort issues (Gender identity disorder)
Physical Symptoms	Unexplained physical symptoms
Development Difficulties	Unexplained developmental difficulties
Self-care	Self-care Issues (includes medical care management, obesity)
Adjustment	Adjustment to health issues

Average Age of Children referred to CAMHS by presenting problem & severity of problem

Presenting Problem	Average Age	Average Age of Severe	Difference in years
Elimination Problems	8.0	7.8	-0.2
Development Difficulties	9.0	7.3	-1.7
ADHD	9.7	7.7	-2
Behavioural	10.3	9.4	-0.9
Selective Mutism	10.3	6.2	-4.1
Habit Problems	10.4	11.3	0.9
Risk To Others	10.6	12.4	1.8
Anxious	10.9	10.7	-0.2
Care Management	10.9	12.2	1.3
Self Care	11.0	12.1	1.1
OCD	11.5	13.9	2.4
Peer Difficulties	11.5	10.4	-1.1
Specific Phobia	11.6	11.3	-0.3
Attachment Problems	11.6	11.2	-0.4
Social	11.9	12.9	1
Generalised Anxiety	12.0	12.8	0.8
Family Relationships	12.1	12.7	0.6
PTSD	12.4	13.4	1
Personality Disorder	12.4	9.1	-3.3
Physical Symptoms	12.5	13.3	0.8
Panic Disorder	12.8	13.3	0.5
Eating Disorders	12.8	11.4	-1.4
Adjustment	12.8	13.4	0.6
Bipolar	13.1	12.1	-1



Presenting Problem	Average Age	Average Age of Severe	Difference in years
Agoraphobia	13.2	14.4	1.2
Gender Identity	13.3	13.4	0.1
Self Harm	13.4	13.5	0.1
Psychosis	13.4	15.3	1.9
Depression	13.6	14.9	1.3
Substance Abuse	14.7	15.1	0.4
Average Total	11.7	11.5	-0.2

Number and proportion of children presenting with each presenting problem by district/borough

Presenting Problem	North V	Varks	Nun 8	Bed ع	Rugby		Stratford-on-Avon		Warwick	
	Number	%	Number	%	Number	%	Number	%	Number	%
Anxious	67	26%	143	26%	143	26%	183	45%	159	31%
Social	102	40%	205	37%	216	40%	256	62%	192	38%
Generalised Anxiety	127	50%	275	49%	248	46%	260	63%	192	38%
OCD	35	14%	71	13%	56	10%	76	19%	63	12%
Panic Disorder	47	19%	109	20%	122	23%	146	36%	97	19%
Agoraphobia	33	13%	77	14%	78	14%	89	22%	76	15%
Specific Phobia	32	13%	64	12%	80	15%	69	17%	42	8%
Habit Problems	47	19%	78	14%	80	15%	65	16%	65	13%
Depression	91	36%	222	40%	269	50%	235	57%	249	49%
Self Harm	74	29%	193	35%	205	38%	149	36%	188	37%
Bipolar	28	11%	65	12%	66	12%	47	11%	39	8%
Psychosis	8	3%	19	3%	23	4%	12	3%	21	4%
Substance Abuse	10	4%	37	7%	38	7%	14	3%	29	6%
ADHD	68	27%	165	30%	145	27%	156	38%	175	35%



Procenting Problem	North V	Varks	Nun 8	2 Bed	Rug	Rugby		Stratford-on-Avon		Warwick	
Presenting Problem	Number	%	Number	%	Number	%	Number	%	Number	%	
Risk To Others	62	25%	140	25%	145	27%	100	24%	85	17%	
Behavioural	88	35%	186	33%	186	34%	118	29%	161	32%	
Care Management	100	40%	228	41%	207	38%	161	39%	183	36%	
Elimination Problems	24	9%	51	9%	49	9%	39	10%	35	7%	
PTSD	48	19%	89	16%	98	18%	93	23%	94	19%	
Eating Disorders	31	12%	61	11%	51	9%	57	14%	42	8%	
Family Relationships	154	61%	324	58%	265	49%	272	66%	336	67%	
Attachment Problems	115	45%	229	41%	178	33%	126	31%	179	35%	
Peer Difficulties	170	67%	360	65%	276	51%	252	61%	302	60%	
Personality Disorder	43	17%	112	20%	85	16%	53	13%	64	13%	
Selective Mutism	7	3%	7	1%	23	4%	7	2%	16	3%	
Gender Identity	1	0%	8	1%	10	2%	1	0%	8	2%	
Physical Symptoms	11	4%	32	6%	20	4%	37	9%	37	7%	
Development Difficulties	16	6%	58	10%	36	7%	64	16%	89	18%	
Self Care	37	15%	53	10%	57	11%	70	17%	73	14%	
Adjustment	10	4%	36	6%	19	4%	23	6%	23	5%	
Total number of children	253	~	556	~	542	~	410	~	505	~	

