TITLE: Patterns of referral and waiting times for specialist Child and Adolescent Mental Health Services

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ABBRIEVIATED TITLE

CAMHS referral patterns and waiting times

ABSTRACT

Background

During 12 month period (2012/13) around 21,480 children and young people (CYP) were referred to CAMHS in Scotland (NHS Scotland 2013). At the end of September 2012 there were 3,602 CYP still waiting for 'start of treatment' or 'removal from the waiting list', 375 (10%) CYP had waited over 26 weeks and 1,204 (33%) CYP had waited over 18 weeks (NHS Scotland 2013). Referral source, referral reason, and the socio-demographic characteristics of CYP, are not routinely collected and therefore associations between these factors and wait times for 'start of treatment' or 'removal from the waiting list' (i.e. the referral outcome) are unknown.

Method

In this exploratory study, a retrospective analysis of referral data was conducted in one CAMHS. Data for 476 referrals between 1st May 2013 and 31st May 2014 were initially analysed to define categories for each of the following key variables: referral source, referral reason and referral outcome. Data on CYP socio-demographic characteristics were extracted from referral records, including age, gender and postcode, from which Scottish Index of Multiple Deprivation (SIMD) quintile of residence was derived. Descriptive statistics were calculated for referral source, referral reason and CYP socio-demographic characteristics. Regression models were then built to determine predictors of a referral being rejected by CAMHS and waiting time for referrals accepted by CAMHS. Data were analysed in SPSS (Version 20).

Results

Of the 476 referrals, 72 % (n=342) were accepted and 12% (n=59) were rejected. Most referrals were made by general practitioners (GPs). Just under a third of referrals to CAMHS (31%) were for CYP with emotional and behavioural difficulties.

The odds of being rejected by CAMHS were significantly higher if referred by teachers and for CYP with emotional and behavioural difficulties.

Age and referral reason were significant independent predictors of waiting time after referral to CAMHS, with CYP referred for hyperactivity/inattention waiting significantly longer.

Conclusions

Policymakers should consider ways to foster dialogue and collaboration between different groups of professionals making and accepting referrals to CAMHS in order to improve timely access to appropriate mental health support services for CYP. Research is urgently needed to investigate the experiences of CYP who are either rejected by CAMHS or wait lengthy periods of time before starting their treatment with CAMHS.

KEY PRACTITIONER MESSAGE

- Child and Adolescent Mental Health Services (CAMHS) are key supportive services for children and young people (CYP) with mental health difficulties.

- CYP who are referred to this CAMHS by teachers were more likely to be rejected than those referred by medical professionals.

- CYP with emotional and behavioural problems were more likely to be rejected by CAMHS.

- CYP who were referred for hyperactivity/inattention resulted in significantly longer wait times.

- We need to investigate the experiences CYP who are rejected by CAMHS or are waiting for CAMHS so that we know they are getting the right help at the right time.

INTRODUCTION

Around 10-20% of the world's children and adolescents have diagnosed mental health disorders or problems (WHO, 2016). The most recent United Kingdom (UK) data, reports that 13% of boys and 10% of girls had mental health difficulties in 2004 (Green et al., 2004). In Scotland in 2013, 14% of 4 to 12 year olds had emotional and behavioural problems, 21% had conduct problems, and 20% had hyperactivity/inattention; additionally, 27% of 11-12 year olds, 31% of 13-14 year olds and 36% of 15-16 year olds, reported feeling sad in the last week (NHS Health Scotland, 2013). If these problems persist or escalate they can influence children and young people's (CYP) developmental trajectory and cause significant health and well-being problems (Levin et al., 2010). The World Health Organisation (WHO, 2014) reports that up to 50% of mental disorders in adults begin before the age of 14. Hence, it is crucial that CYP have access to timely and appropriate mental health services to address their immediate well-being needs and prevent longer-term problems in adulthood.

The main service for CYP with mental health difficulties in the UK is the Child and Adolescent Mental Health Service (CAMHS) (Department of Health, 2008). Equivalent services can be found in other countries for example in the United States of America (USA), Canada, Israel and New Zealand. To enable appropriate access to mental health services a tiered framework is often used to guide intervention (Department of Health, 2008; Oruche et al 2014, Slone et al, 2013, Stasiak et al 2012). As Figure 1 shows, tiers are related to the severity of a CYP's mental health problem.

Figure 1: CAMHS Tiered Framework (DOH 2008, p17)

Tier	Professionals involved
Tier 1	Services provided by practitioners working in universal services (such as GPs, health visitors, teachers and youth workers), who are not necessarily mental health specialists.

	They offer general advice and treatment for less severe problems, promote mental health, aid early identification of problems and refer to more specialist services.
Tier 2	Services provided by specialists working in the community and primary care settings in a uni-disciplinary way (such as primary mental health workers, psychologists and paediatric clinics). They offer consultation to families and other practitioners, outreach to identify severe/complex needs and assessments and training to practitioners at Tier 1 to support service delivery.
Tier 3	Services usually provided by a multi-disciplinary team or service working in a community mental health clinic, child psychiatry outpatient service or community setting. They offer a specialised service for those with more severe, complex and persistent disorders.
Tier 4	Services for children and young people with the most serious problems. These include day units, highly specialised outpatient teams and inpatient units, which usually serve more than one area.

During a 6 month period in 2013, around 6,462 CYP were referred to CAMHS in Scotland, of which a quarter (n=1,608) were 'rejected' (NHS Scotland, 2013). Hence, the number of rejected referrals is a significant issue for mental health services and CYP. Rejected referrals are described by NHS Scotland as '*inappropriate referrals'* and are therefore not accepted to wait for CAMHS (NHS Scotland, 2013). The decision making processes about rejection or acceptance to wait are not reported nationally. Rejection implies that these referrals are either inappropriate or being inappropriately rejected. In any event, a rejection suggests that CYP are not able to access help from appropriate services in a timely fashion. However, who is being rejected and why is not routinely reported and we do not know what happens to these CYP once rejected. This means that we currently have a poor understanding about the phenomenon of rejection in Scotland. Evidence from other countries is also lacking.

We also have a poor understanding of the issue of waiting times for CAMHS in Scotland. 'Waiting time' is reported as a measure of the length of days between the date a CYP is referred to CAMHS to the date of '*start of treatment*' or is '*removed from the waiting list*' [NHS Scotland 2013]. The '*start of treatment*' includes those CYP whose mental health needs have been assessed and go on to access help from a member of the specialist CAMHS team. '*Removed from the waiting list*' includes those CYP whose mental health needs have been assessed and do not require any help from the specialist CAMHS team or have made a decision to not take up the help offered by the specialist CAMHS team.

At the end of September 2012, there were 3,602 CYP in Scotland waiting to start their treatment at CAMHS of which, 375 (10%) had been waiting over six months and 1,204 (33%) had been waiting over four months (NHS Scotland, 2013). Thus, some CYP in Scotland wait a considerable length of time to get help from CAMHS.

Literature suggests that CYP waiting for CAMHS or equivalent mental health services is a problem in other countries (Kowalewski et al 2011; Steinman et al 2015) and also a problem in adult mental health services (Beck et al 2015). A study carried out in Canada suggests that CYP categorised as low priority wait the longest (median 90 days) compared to those categorised as moderately (median 60 days), high (median 15 days) or extremely high (median 1 day) priority (Kowalewski et al 2011). However, it is unclear from the literature what other factors influence waiting times including whether there is a relationship between waiting times and referral source (e.g. school teacher, social worker, nurse), referral reason (e.g. emotional and behavioural problems, self-harm) and socio-demographic characteristics of CYP (e.g. age, gender, social deprivation). Yet, it is clear that waiting can lead to families of CYP seeking help from other sources (Schraeder and Reid 2015), but we do not know whether these alternative sources are appropriate. Moreover, we do not know if those

who wait without recourse to seeking help from other sources actually get support while waiting. Indeed, while initiatives to reduce waiting times exist, the potential benefits and harms of waiting remain unknown (McLennan 2015).

The purpose of this article is to report the findings of an exploratory study that examined associations between referral source, reason for referral, and socio-demographic characteristic of CYP on referral outcome as a first step towards understanding the problem of rejection and waiting times for CYP who are referred to CAMHS. The findings have the potential to inform further work to improve timely and appropriate access to mental health services for CYP.

METHODS

Design

A retrospective analysis of CYP referral forms over 12 months (1st May 2013– 31st May 2014) was conducted. The study was exploratory; no hypothesises were formulated in advance, rather it was guided by the following research questions:

1. What is the profile of CYPs' referrals to CAMHS including socio-demographic and referral characteristics (e.g., referral reason, referral source)?

2. What is the pattern of referral decisions and of waiting times for CAMHS?

3. What are the associations between the referral profile (RQ1) and decisions about referral and subsequent waiting time?

Referral form inclusion and exclusion criteria

The following inclusion criteria for referral forms were applied:

1. CYPs between the ages of 1 to 18 (i.e., the age criteria that CAMHS use).

2. All CYPs referred to CAMHS, irrespective of previous use of CAMHS.

No exclusion criteria were applied. For example, any missing information about the CYP was coded as 'unknown'.

Setting

The study was conducted in one Scottish local authority area that included one urban town and a number of rural village settings. The estimated population of CYP using census data aged between 0-18 years was 19,000 (Scottish Government, 2016). The study was undertaken in one CAMHS that provides a specialist mental health service through a range of psychological assessments and treatments to CYP by a multi-disciplinary team, including psychiatrists, mental health nurses, psychologists and family therapists. This was the only CAMH service operating in this area. CYP are generally referred to the specialist CAMHS by GPs, nurses, social workers and teachers for CYP requiring help from tier 2 – 4 CAMH services (see Figure 1).

Sample Size

All CYP referred to the specialist CAMHS in one year (1st May 2013– 31st May 2014) which met eligibility criteria were included. Hence, the sample size was 476 referrals.

Ethics and access

The study was approved by the Research Ethics Committee in the Faculty of Health Science and Sport, University of Stirling. As the study involved the review of referral forms, Caldicott Guardianship was also approved by the Health Board prior to data collection. Caldicott principles are used to protect people's personal identifiable information in UK Health Services (Department of Health 2013).

Data Collection

Information to address all three research questions was extracted from the referral forms by one researcher (JS) who has clinical experience working with CYP with mental health difficulties. The extracted information was then recorded on an electronic data extraction form which gathered information on CYP's gender, age and postcode (from which Scottish Index of Multiple Deprivation (SIMD) quintile was derived), referral source and referral reason. The referral forms contained free text written by the referrer that included the socio-demographics of the CYP including age, gender and main reason for referral. For example, the main reason for referral to CAMHS was gathered by recording the reasons for referral written on the referral form (i.e. the referrers own language used to describe the CYP's mental health difficulty).   All extracted data was then reviewed by the researcher and judgements were made about what categories the information would fit in to. This categorisation involved a degree of clinical judgement by the researcher. In order to ensure reliability of this categorisation, information was cross-checked with an external reviewer who had clinical expertise working in CAMHS.

Variables

Referral source

Referral source was categorised into 5 groups: *Medical* (general practitioner, paediatric doctor, hospital, psychiatrist and school doctor), *Nursing* (health visitor and school nurse), *Social Work* (social worker), *Education* (teacher) and *Allied Health Professional* (educational psychologist, AHP). These categories were chosen because they represent the main agencies involved in referring CYP to CAMHS (see Figure 1).

Referral reason

There were 6 categories of referral reason: common mental health disorder; emotional & behavioural problem; conduct problem; hyperactivity/inattention; drug or alcohol dependency; self-harm and eating disorder; 'other' (if the referral reason did not fit into any of the other categories). These 6 categories represent the most common mental health problems in children and young people (Claveirole & Gaughan 2011) and were derived from, and are defined in, the Scottish mental well-being and mental health problems indicators (NHS Health Scotland 2013). This pragmatic approach of categorising mental health difficulties was used for the purposes of this study because referees used widely variable terms to describe CYP's reason for referral and there is no common set of categories routinely used in practice.

Socio-demographics characteristics

Socio-demographic variables included gender (male/female), age, and deprivation. These variables were chosen because they are independently associated with mental health difficulties (Claveirole & Gaughan 2011). The age of the CYP was categorised according to CYP's developmental trajectory

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(Daniel et al 2010) as follows: early years (aged 0-5 years); middle childhood (aged 6-12 years); adolescence (aged 13-18 years). Scottish Index of Multiple Deprivation (SIMD) quintile of residence was derived for each CYP referred. CYP postcodes were used to derive scores on the SIMD 2012 using a publically available postcode lookup tool developed by the Scottish Government. SIMD is a relative measure of area-based deprivation ranked from 1 (most deprived) to 5 (least deprived).

SIMD combines 38 indicators across the following 7 domains: income, employment, health, education, skills and training, housing, geographic access and crime. The overall index is a weighted sum of the seven domain scores (Scottish Government, 2012). The SIMD is widely accepted as a means through which scarce government resources can be directed to areas with greatest need across Scotland and the measure is used extensively in research and audit of health and social care services. Whilst SIMD is the current deprivation measure used in Scotland, there is a suggestion that the broad domains used to measure aspects of the populations health and wellbeing are not comprehensive enough (Allik et al 2016, Nicholson & Hutchin 2015, Martin et al 2014).

Referral Decisions

Four referral decision categories were used. These were chosen because they directly or closely match those categories used in the national audit of CAMHS across Scotland (NHS Scotland 2012) and by the study site. All referrals were placed in one of these mutually exclusive categories.

1. '**Accepted**' – represented referrals of CYP who were accepted for treatment by the specialist CAMHS and were therefore waiting to be seen for 'start of treatment.'

2. '**Rejected**' – represented CYP whose referral was rejected by the specialist CAMHS. Reasons for the rejected category were sub categorised as: i) Not mental health; ii) Over 16 and not in school; iii) not enough information in referral form; iv) out of area; v) transferred to another CAMHS; vi) no reason given. Those CYP who were 'over 16 and not in school' denoted that they should have been referred to an adult mental health service.

3. '**Closed**' – which is referred to as 'removed from waiting list' category by the national audit, represented CYP who were 'to be seen' by the specialist CAMH service but were 'removed

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from the waiting list' before 'start of treatment.' No reasons were given for the closed

category.

4. '**Consultation**' – represented CYP whose mental health difficulty was discussed by the

referrer and the specialist CAMH service to determine whether a referral would be

appropriate or not. The study did not track the results of the consultations.

Waiting Times

The mean number of weeks waiting was calculated and reported by: 1) gender; 2) age; 3)

deprivation quintile; 4) referral reason; 5) referral source.

Statistical analysis

Data analysis proceeded in four steps. First, descriptive statistics were calculated for all variables and

reported as N (%) for categorical data and mean (Standard Deviation [SD]) for continuous data.

Second, a logistic regression model was built to examine significant independent predictors of being

'rejected' versus 'accepted' by the CAMHS. Referrals that were categorised as 'closed' or

'consultation' were not included in the model because reasons for 'closed' referrals were not given

and referrals classified as 'consultation' related to professional conversations about decisions on

whether the CYP should be seeking treatment from CAMHS rather than a direct referral. Categorical

variables were entered simultaneously into the model to adequately adjust for their effect on the

outcome. Third, univariate analyses were conducted to assess mean waiting time for CYP 'accepted'

by CAMHS by age, gender, deprivation, referral reason and referral source. Finally, a linear

regression model was built to determine significant independent predictors of mean waiting time. As

data on deprivation were missing for 59 (12.4%) referrals, logistic and linear regression models were

built first excluding SIMD and, then, including SIMD as a sensitivity analysis.

RESULTS

Sample

476 referrals were made to CAHMS during the study period (Table 1). More males (56.3%) than females (43.7%) were referred; half of referrals (49.2%) were adolescents (aged 13 to 18); and very few children aged between 0-5 years were referred to the service (10.1 %). Around 1 in 10 referrals (10.5%) were made for CYP from the most deprived two quintiles of the SIMD (Table 1). Just under a third of referrals were for 'emotional and behavioural problems' (30.5%), followed by 'common mental health disorders' (24.8%), and 'hyperactivity/inattention' (16.4%). Two-thirds of the referrals for 'emotional and behavioural problems' were for boys (66.2%) and the majority of referrals for 'self- harm and eating disorder' were for girls (76%). There were no referrals for 'conduct disorder' and 'alcohol dependency'. The majority of referrals were made by a medical professional (84.7%) primarily a GP (67.4%) (Table 1). Health Visitors (0.6 %) and Social Workers (2.1 %) made the fewest referrals to CAMHS.

[Insert Table 1 here – Sample Socio-demographic Characteristics]

Referral Outcome

Of the 476 referrals, 71.8% (n=342) were 'accepted' for treatment by CAMHS and 12.4% (n=59) were 'rejected' by CAMHS (Table 1). The main reason recorded by CAMHS for rejected referrals was recorded as 'not mental health' (68% n=40) followed by 'over16/not in school' (10%, n=6) (Table 2). In addition, 1.9 % (n=9) of referrals were made for consultation purposes, and 13.9% (n=66) referrals were closed during the study period. Reasons for referrals being 'closed' were not recorded by CAMHS.

[Insert Table 2 here – Rejection Reason]

Rejected

A logistic regression model adjusted for age, gender, referral reason, and referral source, found that the odds of a referral being rejected were statistically significantly higher for those referred for 'emotional and behavioural problems' (Odds Ratio [OR] 4.48, 95% Confidence Interval [CI] 1.68-11.95) and 'other' reasons for referral (OR 5.63, 95% CI 1.95-16.21). Referrals made by education professionals (i.e., teachers) had statistically significantly higher odds of rejection by CAMHS (OR 3.13, 95% CI 1.19-8.24) (Table 3).

[Insert Table 3 here – Logistic Regression Model]

Waiting time

Of the 342 'accepted' referrals, the mean waiting time was 17.9 weeks (Standard Deviation [SD] = 10.37). Univariate analyses found that being male, or being referred for 'hyperactivity/inattention' resulted in significantly longer waiting times (Table 4). Referrals of 'adolescents' or for 'self-harm/eating disorder' waited significantly less time (Table 4). There was evidence of a socioeconomic gradient in waiting times across SIMD quintiles (i.e., those CYP from the least deprived areas waited less time than those from the most deprived area) although this was not statistically significant (Table 4).

A linear regression model including age, gender, referral reason and referral source, found that age (p=0.042) and referral reason (p=0.004) were significant independent predictors of waiting time after referral to CAMHS, with CYP referred for hyperactivity/inattention waiting significantly longer (Table 4). However, in a sensitivity analysis also including deprivation age (p=0.087) and referral reason (p=0.050) were no longer significant.

[Insert Table 4 – Mean Waiting Time]

DISCUSSION

Our study has identified that the main referral source was the medical profession and that General Practitioners made the majority of referrals to CAMHS. This finding is comparable to other studies where the medical profession, especially GPs, are often the main referrer to CAMHS (Shaw, et al 2013, Church, 2012, & Hinrichs et al, 2012). However, this study does not tell us if the medical profession was the first point of contact when CYP or their parents/carers asked for help. The findings indicate that health visitors and social workers referred very few CYP directly to CAMHS but we do not know if these professionals were involved in identifying CYP in need of specialist mental health help or helping these CYP to access help. Further research is required to explore CYP's and their parent's/carer's pathways to accessing help from specialist CAMHS.

A key finding was that CYP were more likely to be rejected by CAMHS if referred by a teacher compared to a medical professional. In our study teachers were more likely to refer for emotional and behaviour difficulties and CYP with these types of mental health difficulties were more likely to be rejected by CAMHS. Hence, one explanation for higher rates of teacher referral rejections by CAMHS is the reason for a referral. Literature suggests that CYP's emotional and behavioural problems are poorly understood by both parents and professionals involved in their care and the severity of their needs is not recognised (Priddis et al 2014, Jones et al 2011, Westheimer et al, 2008). What happens after these CYP are rejected and whether and where they obtain support elsewhere is unclear.

This study showed that very few children aged 0- 5 years were referred to CAMHS. This appears to be the case in other UK and international studies (Power et al, 2005, Valleley et al, 2007, Pedrini

2015). These findings suggest that children in the early years were not being regularly referred to or accessing CAMHS, however whether this is because there is less need amongst younger children or whether the mental health needs of younger children are not recognised is unknown.

In univariate analysis, this study also found patterns of referral associated with gender that warrant investigation in a larger study. Other studies have found that boys and girls often manifest different mental health, social and behaviour patterns (Currie et al 2012, Maschi, 2010). However, Maschi et al (2010) suggest there is the potential for practitioners and other professionals to be predisposed to gender bias in identifying children's problems, including when making a diagnosis and deciding which service to refer to. Additionally, Sund et al (2012) state that whilst differences in prevalence rates may reflect true rates, they may also be as a result of variation in methods and measures used for assessment of CYP's mental health difficulties. The pattern in our findings suggests that it would be important to look further into whether gender has an impact on the referral process and eventual referral decisions made by the CAMHS.

Very few referrals in our study were made for CYP from deprived areas. This finding is surprising especially as research suggests that there may be direct links with poverty and children's poor mental health (Leffman & Combe- Orme 2014, Tilleczek et al 2014, Cooper & Stewart 2013). While fewer CYPs from deprived areas were referred to CAMHS, they waited the longest to be seen. Although this finding may be an artefact of the study being conducted with a relatively small sample size in just one area, further investigation is nevertheless required into associations between reasons and outcomes of referral and deprivation, especially to determine whether the socioeconomic gradient identified in this study exists at a national level.

The study demonstrated that referral reason was a significant independent predictor of waiting time. The study suggests that the specialist CAMH service were defining CYP referred with self-harm

and eating disorders need treatment the quickest since these two reasons for referral waited the least time. It is unclear why CYP referred for hyperactivity/inattention waited significantly longer than other CYPs. This is an important finding as CYP with disorders like attention deficit hyperactivity disorder(ADHD) are at risk of poorer outcomes if there are delays in the initiation of appropriate treatment (Arya et al 2015). The implication of this finding for policy and practice is the need to ensure that initial assessments of CYP's mental health needs by referrers and the receiving referral team are robust so that CYP that require support from specialist services receive specialist support and do not fall through 'gaps' between services. The support CYP receive (if any) from other services after being rejected by, or whilst waiting for, CAMHS is not known. For this reason future research should investigate the experiences of CYP rejected or waiting for CAMHS treatment to build a comprehensive understanding of their pathway through health and social care services after the identification of a mental health need.

LIMITATIONS

This study was conducted in one specialist CAMHS in a semi urban/rural community so it might not be representative of other CYP, particularly those in more urban environments. Thus, it will be important to repeat the study in other CAMHS to corroborate or refute the findings of this study. Missing postcode data for identifying deprivation may have also had an impact on the findings. Finally, we developed our own classification of reasons for referral to CAMHS. In order to allow future comparative research in Scotland and other countries there needs to be a consensus about classification.

CONCLUSION

This study has reported the key findings from an exploratory study that examined patterns of referral and waiting time to CAMHS. We found associations between the referral source and referral reason for rejection, and age and referral reason in relation to waiting times. These findings have important messages for policy and practice especially relating to ensuring CYP get the right help at the right time when referred to specialist mental health services. The findings also have potential to inform further research to improve timely and appropriate access to mental health services for CYP and have demonstrated the need for both a larger study utilising the same measures and methods to enable national and international comparison and an investigation of the experiences of CYP and their carer's of rejection by, and waiting, for CAMHS.

Conflict of interest

The authors have declared that they have no competing or potential conflicts of interest.

REFERENCES

Allik, M., Brown, D., Dundas, R., & Leyland, A. (2016) Developing a new small-area measure of deprivation using 20011 and 2011 census data from Scotland. *Health and Place.* 39, 122 – 130.

Arya, A., Agarwal, V., Yadav., Gupta, P, K., Agarwal, M. (2015).   A study of pathway of care in children and adolescents with attention deficit hyperactivity disorder. *Asian Journal of Psychiatry* 17, 10–15.

Beck, A., Burdett, M., & Lewis, H. (2015). The association between waiting for psychological therapy and therapy outcomes as measured by the CORE-OM. *British Journal of Clinical Psychology*, 54, (2), 233-248.

Claveirole, A., & Gaughan, M. (2011). *Understanding Children and Young People's Mental Health.* Wiley Blackwell. United Kingdom

Cooper, K., & Stewart, K. (2013) *Does Money Affect Children's Outcomes?* Joseph Rowntree Foundation Report. Accessed at: https://www.jrf.org.uk/report/does-money-affect-children%E2%80%99s-outcomes

Currie, C., Zanotti, C., Morgan, A., Currie, D., De Looze, M., Roberts, C., Samdal, O., Smith, O. R. F., & Barnekow, V. (2012) *Social determinants of health and well-being among young people. Health*

Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen, WHO Regional Office for Europe.

Daniel, B., Wassel, S., & Gilligan, R. (2010). *Child Development for Child Care and Child Protection Workers*. 2nd Edition. Jessica Kingsley. London.

Department of Health (2008). *Children and Young People in Mind: A Final Report of the National CAMHS Review*. Department of Health. Accessed at: http://webarchive.nationalarchives.gov.uk/20081230004520/publications.dcsf.gov.uk/eorderingdownload/camhs-review.pdf

Department of Health (2013). Policy Paper. Caldicott information governance review: Department of Health response. Accessed at: https://www.gov.uk/government/publications/caldicott-information-governance-review-department-of-health-response.

Green, H., McGinnity. A., Meltzer, H., Ford, T., & Goodman, R. (2004). *Mental health of children and young people in Great Britain.* A Summary Report. Office of National Statistics.

Hinrichs, S., Owens, M., Dunn, V., Goodyer, I. (2012). General practitioner experience and perception of Child and Adolescent Mental Health Services (CAMHS) care pathways: a multi-method research study. *BMJ Open.* 2, 1 – 11.

Jones, R., Everson-Hock, E., Papaioannou, D., Guillaume, L., Goyder, E, Chilcott, J., Cooke, J., Payne, N., Duenas, A., Sheppard, L., & Swann, C. (2011). Factors associated with outcomes for looked-after children and young people: A correlates review of the literature. *Child: Care, Health and Development*. 37, (5) 613-622.

Kowalewski, K., McLennan, J., & McGrath, P, (2011). A preliminary investigation of wait times for child and adolescent mental health services in Canada. *Journal Of The Canadian Academy Of Child And Adolescent Psychiatry / Journal De L'académie Canadienne De Psychiatrie De L'enfant Et De L'adolescent*. 20, (2), 112-119.

Leffmann, T., & Comb-Orme, T. (2014). Prenatal Stress, Poverty, and Child Outcomes. *Child Adolescent Social Work Journal*. 31, 577–590.

Martin, J., McLean, G., Park, J., Martin, D., Connolly, M., Mercer, S., & Smith, D. (2014) Impact of socioeconomic deprivation on rate and cause of death in severe mental illness. *BMC Psychiatry*. 14:261

Maschi, T., Perez, R., & Gibson, S. (2010). Examining Gender Differences in Service Utilization among Children: Nature, Nurture, or Social Network? *Child Adolescence Social Work Journal*. 27, 177-191

McLennan, J., D. (2015) Wait time to what? Could reducing wait times for child mental health services worsen outcomes? *Journal of The Canadian Academy Of Child And Adolescent Psychiatry / Journal De L'académie Canadienne De Psychiatrie De L'enfant Et De L'adolescent*. 24, (1), 55-58.

NHS Scotland (2012). *CAMHS HEAT Target Updated Definitions.* Accessed at:

http://www.isdscotland.org/Health-Topics/Waiting-Times/Child-and-Adolescent-Mental-Health/CAMH-Waiting-Times-Scope-and-Definitions-v1.0.pdf

NHS Scotland (2013). *Child and Adolescent Mental Health Services Waiting times in Scotland. Publication Report. Quarter ending 30 June 2013.* Information Services Scotland.

Nicholson, L., & Hotchin, H. (2015) The relationship between area deprivation and contact with community intellectual disability psychiatry. *Journal of Intellectual Disability Research*. 59, 5, 487 – 492.

Oruche, U, M., Downs, S., Holloway, E., Dracker, C., & Aalsma, M. (2014) Barriers and facilitators to treatment participation by adolescents in a community mental health clinic. *Journal of Psychiatric and Mental Health Nursing*. 21, 241-248.

Pedrini, L., Sisti, D., Tiberti, A., Preti, A., Fabiani, M., Ferraresi, L., Palazzi, S., Parisi, R., Ricciutello, C., Marco B. L., Rocchi, M.B.L., Squarcia, A., Trebbi, S., Tullini, A., and De Girolamo, G. (2015). Reasons and pathways of first-time consultations at child and adolescent mental health services in Italy: an observational study. *Child and Adolescent Psychiatry and Mental Health* 9 (29) 1 – 9.

Power, T. J., Eiraldi, R. B.,Clarke, A. T.; Mazzuca, L. B., Krain, A. L. (2005). Improving Mental Health

Service Utilization for Children and Adolescents.

School Psychology Quarterly. 20 (2)187-205.

Priddis, L. E., Landy, S., Moroney,D., & Kane, R. (2014). An Exploratory Study of Aggression in School-

Age Children: Underlying Factors and Implications for

Treatment. Australian Journal of Guidance and Counselling. 24, (1) 18–35.

Schraeder, K, E., & Reid, G, J. (2015). Why wait? The effect of wait-times on subsequent help-seeking

among families looking for children's mental health services. *Abnormal Child Psychology.* 43 (3) 553

– 565.

Scottish Government. (2012). *Scottish Index of Multiple Deprivation (SIMD)*. Accessed at:

http://simd.scotland.gov.uk/publication-2012/

Shaw, I., Clegg Smith, K., Middleton, H., & Woodward, L. (2005) A Letter of Consequence: Referral

Letters from General Practitioners to Secondary Mental Health Services. *Qualitative Health

Research.* 15, 116-128.

Slone, M., Meir, Y., & Tarrasch, R. (2013) Individual differences in referral for help for severe

emotional difficulties in adolescence. *Children and Youth Services Review*. 35, 1854 – 1861.

Stasiak, K., Parkin, A., Seymour, F., Lambie, I., Crengle, S., Pasene-Mizziebo,E., Merry, S. (2013)

Measuring outcome in child and adolescent mental health services: consumers' views of measures.

Clinical Child Psychology & Psychiatry. 18 (4) 519 – 535.

Steinman, K., Shoben, A., Dembe, A., & Kelleher, K. (2015).How long do adolescents wait for

psychiatry appointments? *Community Mental Health Journal*. 51 (7), 782-789.

Sund, A. M., Larsson, B., and Wichstrøm, L. (2011) Prevalence and characteristics of depressive

disorders in early adolescents in central Norway. *Child and Adolescent Psychiatry and Mental Health*.

5, 1 – 13.

Tilleczek, K., Ferguson, M., Campbell, V., & Lezeu, K. (2014). Mental Health and Poverty in Young

Lives: Intersections and Directions. *Canadian Journal of Community Mental Health.* 33, (1) 63 -76.

Valleley, R., Kosse, S., Schemm, A., Foster, N., Polaha, J., & Evans, J. (2007) Integrated Primary Care
for Children in Rural Communities: An examination of Patient Attendance at Collaborative Behavioral
Health Sciences. *Families, Systems and Health.* 25 (3) 323 – 332.

Table 1: Sample Characteristics

	Total		Accepted		Rejected		Closed		Consultation	
	(n=476, 100%)		**(n=342, 71.8%)**		**(n=59, 12.4%)**		**(n=66, 13.9%)**		**(n=9, 1.9%)**	
Variable	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
GENDER										
Male	56.3	268	55.8	191	55.9	33	56.1	37	77.8	7
Female	43.7	208	44.2	151	44.1	26	43.9	29	22.2	2
AGE										
Early years (0-5 years)	10.1	48	10.5	36	11.9	7	7.6	5	0.0	0
Middle childhood (6-12 years)	40.5	193	41.8	143	39.0	23	34.8	23	44.4	4
Adolescence (13-18 years)	49.2	234	47.8	163	49.2	29	57.6	38	57.6	8
Missing	*0.2*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*11.1*	*1*
SIMD[1]										
Quintile 1 - Most deprived	0.8	4	0.6	2	0.0	0	3.0	2	0.0	0
Quintile 2	9.7	46	9.9	34	11.9	7	6.1	4	11.1	1
Qunitile 3	41.6	198	43.9	150	42.4	25	33.3	22	11.1	1
Quintile 4	27.3	130	24.9	83	33.9	20	44.1	26	11.1	1
Quintile 5 - Least deprived	8.2	39	7.9	27	8.5	5	8.5	5	22.2	2
Missing	*12.4*	*59*	*13.5*	*46*	*3.4*	*2*	*10.6*	*7*	*44.4*	*4*

REFERRAL REASON

Common mental health disorder	24.8	118	25.7	88	10.2	6	34.8	23	11.1	1
Emotional and behavioural problem	30.5	145	29.2	100	49.2	29	21.2	14	22.2	2
Conduct problem	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Hyperactivity/Inattention	16.4	78	17.8	61	8.5	5	8.5	5	0.0	0
Self-harm and eating disorder	15.3	73	16.4	56	8.5	5	8.5	5	0.0	0
Other	13.0	62	10.8	37	23.7	14	23.7	14	66.7	6

REFERRAL SOURCE

Medical	**84.7**	**403**	**86.3**	**295**	**79.7**	**47**	**89.4**	**59**	**22.2**	**2**
GP	67.4	321	68.1	233	68.1	40	69.7	46	22.2	2
Paediatric doctor	9.5	45	9.6	33	3.4	2	15.2	10	0.0	0
Hospital (e.g., A&E, children's ward)	3.2	15	3.2	11	5.1	3	1.5	1	0.0	0
Psychiatrist	0.4	2	0.3	1	1.7	1	0.0	0	0.0	0
School doctor	4.2	20	5.0	17	1.7	1	3.0	2	0.0	0
Nursing	**3.4**	**16**	**2.6**	**9**	**5.1**	**3**	**4.5**	**2**	**11.1**	**1**
School Nurse	2.7	13	1.8	6	3.4	2	4.5	3	11.1	1
Health Visitor	0.6	3	0.9	3	0.0	0	0.0	0	0.0	0
Education	**6.7**	**32**	**5.6**	**19**	**13.6**	**8**	**6.1**	**4**	**11.1**	**1**
Teacher	6.7	32	5.6	19	13.6	8	6.1	4	11.1	1
Social Work	**2.1**	**10**	**1.5**	**5**	**0.0**	**0**	**0.0**	**0**	**55.6**	**5**
Social worker	2.1	10	1.5	5	0.0	0	0.0	0	55.6	5
Allied Health Professional (AHP)	**2.7**	**13**	**3.5**	**12**	**1.7**	**1**	**0.0**	**0**	**0.0**	**0**
Educational psychologist	1.7	8	2.3	8	0.0	0	0.0	0	0.0	0
AHP	1.1	5	1.2	4	1.7	1	0.0	0	0.0	0
missing	0.4	2	0.6	2	0.0	0	0.0	0	0.0	0

Table 2: Rejection Reason

Reason	Rejected	
	%	n
Not Mental Health	67.8	40
Over 16 / not in school	10.2	6
Not enough information	6.8	4
Out of area	1.7	1
Transferred to another CAMHS	1.7	1
No reason given	11.9	7
Total	**100**	**59**

Table 3: Binary Logistic Regression Model (Rejected/Not Rejected by CAMHS)

Variable	Rejected Unadjusted	Adjusted Model 1 (Excluding SIMD)[1]	Model 2 (Including SIMD)[2]
Age			
Early years (0 to 5)	1.09 (0.44-2.69)	0.76 (0.26-2.25)	0.80 (0.27-2.39)
Middle childhood (6 to 12)	0.90 (0.50-1.63)	0.73 (0.36-1.48)	0.74 (0.37-1.49)
Adolescence (13 to 18)	Reference	Reference	Reference
Gender			
Male	1.00 (0.58-1.75)	0.80 (0.41-1.56)	0.81 (0.41-1.57)
Female	Reference	Reference	Reference
Referral Reason			
Common mental health disorder	Reference	Reference	Reference
Emotional and behavioural problem	4.25 (1.69-10.72) *	4.48 (1.68-11.95) *	4.35 (1.62-11.70) *
Hyperactivity/inattention	1.20 (0.25-4.12)	1.43 (0.38-5.41)	1.41 (0.37-5.36)
Self-harm and eating disorder	1.31 (0.38-4.50)	1.08 (0.30-3.86)	1.06 (0.30-3.80)
Other	5.55 (1.98-15.55) *	5.63 (1.95-16.21) *	5.59 (1.93-16.20) *
Referral Source			
Medical	Reference	Reference	Reference
Nursing	2.09 (0.55-8.01)	1.74 (0.42-7.26)	1.79 (0.42-7.65)
Education	2.64 (1.09-6.38) *	3.13 (1.19-8.24) *	3.18 (1.20-8.44) *
Allied Health Professional[3]	0.33 (0.04-2.53)	0.25 (0.03-1.95)	0.26 (0.03-2.08)
SIMD Quintile			
1/2 – Most Deprived[4]	1.05 (0.30-3.67)	–	1.05 (0.28-3.95)
3	0.90 (0.32-2.56)	–	1.07 (0.35-3.23)
4	1.30 (0.45-3.80)	–	1.39 (0.45-4.34)
5 – Least Deprived	Reference		Reference

Notes:

[1] Variables included in Model 1 and variable coding were as follows: Target: Rejected = 1 / Not rejected = 0; Predictors: Age (early years = 1, middle childhood = 2, adolescence = reference); Gender (male = 1, female = reference); Mental Health Category (common mental health disorder = reference, Emotional and behavioural problem = 1, hyperactivity/inattention = 2, self-harm and eating disorder = 3, other = 4); Professional Category (medical = reference, nursing = 1, education = 2, allied health professional = 3). Hosmer and Lemeshow χ^2 = 3.91, p=0.866.

2 Variable included in Model 2 and variable coding as above with the addition of SIMD (quintile 1 = 1, quintile 2 = 2, quintile 3 = 3, quintile 4 = 4, quintile 5 = 5). Hosmer and Lemeshow χ^2 = 5.42, p=0.712.

[3][4] Due to small numbers in the 'Social Worker' (n=5) and 'Other' (n=3) categories these have been included in the 'Allied Health Professional' category.

[4][2] Due to small numbers 'Quintile 1' (n=2) this has been aggregated with 'Quintile 2'.

* p < 0.05

Table 4: Unadjusted and Adjusted Mean Waiting Time

Variable	Waiting Time (weeks) Unadjusted	95% CI				Adjusted[1]	95% CI						
	Mean	Lower	Upper	F	P	Estimated Marginal Mean	Lower	Upper	F	P	β	t	P
Age				13.23	<0.001 *				3.21	0.042 *	–	–	–
Early years (0 to 5)	22.14	19.63	24.65	–	–	18.18	13.97	22.39	–	–	0.11	1.88	0.061
Middle childhood (6 to 12)	20.11	18.61	21.60	–	–	17.41	14.47	20.35	–	–	0.15	2.35	0.020 *
Adolescence (13 to 18)	15.06	13.31	16.80	–	–	14.38	11.49	17.26	–	–	–	–	–
Gender				7.43	0.007 *				0.001	0.972	–	–	–
Male	19.27	17.94	20.61	–	–	16.68	13.76	19.59	–	–	-0.002	-0.04	0.972
Female	16.22	14.40	18.04	–	–	16.63	13.54	19.72	–	–	–	–	–
Referral Reason				8.75	<0.001 *				3.86	0.004 *	–	–	–
Common mental health disorder	16.89	14.66	19.12	–	–	16.05	12.51	19.59	–	–	0.04	0.43	0.668
Emotional and behavioural problem	20.03	18.23	21.83	–	–	18.70	15.56	21.84	–	–	0.15	1.80	0.073
Hyperactivity/inattention	22.20	20.13	24.26	–	–	20.48	16.95	24.00	–	–	0.20	2.43	0.016 *
Self-harm and eating disorder	12.55	9.49	15.62	–	–	12.86	8.87	16.85	–	–	-0.08	-1.07	0.288
Other	15.69	11.97	19.42	–	–	15.20	11.25	19.14	–	–	–	–	–
Referral Source				0.44	0.784				1.08	0.367	–	–	–
Medical	18.04	16.86	19.23	–	–	18.46	16.95	19.96	–	–	0.13	1.44	0.150
Nursing	19.76	10.99	28.54	–	–	20.62	14.13	27.10	–	–	0.10	1.44	0.152
Education	17.48	11.77	23.20	–	–	16.74	12.10	21.38	–	–	0.05	0.64	0.521
Social Worker	12.91	-0.22	26.05	–	–	12.98	4.11	21.84	–	–	-0.02	-0.29	0.771
Allied Health Professional	16.60	11.31	21.90	–	–	14.49	9.14	19.83	–	–	–	–	–
SIMD Quintile				0.54	0.708						–	–	

1 – Most Deprived	25.43	0.02	50.84	–	–	–	–	–	–	–	–	–	–
2	18.97	15.27	22.67	–	–	–	–	–	–	–	–	–	–
3	17.79	16.18	19.39	–	–	–	–	–	–	–	–	–	–
4	17.67	15.37	19.96	–	–	–	–	–	–	–	–	–	–
5 – Least Deprived	16.35	12.46	20.23	–	–	–	–	–	–	–	–	–	–

Notes:
[1] Model R^2 = 12.4%; Adjusted R^2 = 9.5%. * $p<0.05$