Purpose

In order to plan services which meet the health needs of your population, you need to carry out a systematic review of those needs in which you:

- identify the needs of a target population;
- help to prioritise those needs to ensure better planning of local services;
- ensure effective allocation of finite resources; and
- support the development of an implementation plan that outlines how identified needs will be addressed.

This report is intended to help you do the first two of these stages (identify the needs of a target population and prioritise those needs to ensure better planning of local services) by drawing together key data and information which will help you measure the extent and nature of the needs of a particular target population. This includes:

- appropriate evidence-based information on prevalence;
- incidence and risk factors affecting child and maternal health and the provision of healthcare services; and
- basic national statistical and other data necessary for the preparation of a Children's Health Needs Assessment (CHNA).

The Child and Maternal Health Intelligence Network offers a range of other resources which will also help you with the later stages of this process. At the end of this report, a section called 'next steps' points you in the direction of some of these.

Using this report

Health and social needs are inherently complex; it is unlikely that there will be a single factor which is responsible for the particular situation in your local area. For this reason, it is important that no single item of information is treated in isolation. Instead the various pieces of data and evidence should be used as pieces of a jigsaw which when linked together give you a picture of the needs of your local community.

As with all health data and intelligence, it is important to 'sense check' the findings with colleagues and compare it with your own local knowledge. Is the picture given by the data what you would expect? There can sometimes be anomalies in data which have been submitted for central collection or one-off events or changes, for example a new housing development, in a local area which have resulted in atypical results. The data may not be wrong but you should be sure that you understand the reasons why something is not as you might expect. Contact the Child and Maternal Health Intelligence Network local specialist in your area if you need further advice - www.chimat.org.uk/default.aspx?QN=CHIMAT_LOCAL

Where prevalences have been used to calculate estimates of the approximate numbers affected, these estimates have been rounded up to the nearest five.

This report is intended for you to cut and paste text, tables and charts and include them in your own local documents. Please acknowledge the Child and Maternal Health Intelligence Network as the source and state the date on which you accessed the report.

Prevalence of certain disorders
Pre-school children

There are relatively little data about prevalence rates for mental health disorders in pre-school age children. The Report of the Children and Young People’s Health Outcomes Forum (Department of Health, 2012, p.32) "recommends a new survey to support measurement of outcomes for children with mental health problems. In particular, we recommend a survey on a three-yearly basis to look at prevalence of mental health problems in children and young people. This could build on the work of the survey, ‘Mental health of children and young people in Great Britain, 2004’.” A literature review of four studies looking at 1,021 children aged 2 to 5 years inclusive, found that the average prevalence rate of any mental health disorder was 19.6% (Egger, H et al, 2006). Applying this average prevalence rate to the estimated population within the area, gives a figure of 1,635 children aged 2 to 5 years inclusive living in North Lincolnshire who have a mental health disorder.

School-age children

Prevalence estimates for mental health disorders in children aged 5 to 16 years have been estimated in a report by Green et al (2004). Prevalence rates are based on the ICD-10 Classification of Mental and Behavioural Disorders with strict impairment criteria – the disorder causing distress to the child or having a considerable impact on the child’s day to day life. Prevalence varies by age and sex, with boys more likely (11.4%) to have experienced or be experiencing a mental health problem than girls (7.8%). Children aged 11 to 16 years olds are also more likely (11.5%) than 5 to 10 year olds (7.7%) to experience mental health problems. Using these rates, the table below shows the estimated prevalence of mental health disorder by age group and sex in North Lincolnshire. Note that the numbers in the age groups 5-10 years and 11-16 years do not add up to those in the 5-16 year age group as the rates are different within each age group.

### Estimated number of children with mental health disorders by age group and sex

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>890</td>
<td>1,340</td>
<td>2,230</td>
<td>610</td>
<td>750</td>
<td>1,355</td>
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Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report).

These prevalence rates of mental health disorders have been further broken down by prevalence of conduct, emotional, hyperkinetic and less common disorders (Green, H. et al, 2004). The following tables show the estimated number of children with conduct, emotional, hyperkinetic and less common disorders in North Lincolnshire, by applying these prevalence rates (the numbers in this table do not add up to the numbers in the previous table because some children have more than one disorder).
### Estimated number of children with conduct disorders by age group and sex

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>570</td>
<td>770</td>
<td>410</td>
<td>485</td>
<td>160</td>
<td>295</td>
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</table>

Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report). Green, H. et al (2004).

### Estimated number of children with emotional disorders by age group and sex

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>280</td>
<td>585</td>
<td>135</td>
<td>240</td>
<td>145</td>
<td>350</td>
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Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report). Green, H. et al (2004).

### Estimated number of children with hyperkinetic disorders by age group and sex

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>185</td>
<td>165</td>
<td>165</td>
<td>145</td>
<td>25</td>
<td>25</td>
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Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report). Green, H. et al (2004).
### Estimated number of children with less common disorders by age group and sex

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>155</td>
<td>165</td>
<td>135</td>
<td>95</td>
<td>25</td>
<td>65</td>
</tr>
</tbody>
</table>

Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report).

A study conducted by Singleton et al (2001) has estimated prevalence rates for neurotic disorders in young people aged 16 to 19 inclusive living in private households. The tables below show how many 16 to 19 year olds would be expected to have a neurotic disorder if these prevalence rates were applied to the population of North Lincolnshire.

### Estimated number of males aged 16 to 19 with neurotic disorders

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>215</td>
<td>70</td>
<td>40</td>
<td>25</td>
<td>40</td>
<td>25</td>
<td>360</td>
</tr>
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Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report).

### Estimated number of females aged 16 to 19 with neurotic disorders

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>470</td>
<td>45</td>
<td>105</td>
<td>80</td>
<td>35</td>
<td>25</td>
<td>730</td>
</tr>
</tbody>
</table>

Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report).

### Autistic Spectrum Disorder (ASD)

A study of 56,946 children in South East London by Baird et al (2006) estimated the prevalence of autism in children aged 9 to 10 years at 38.9 per 10,000 and that of other ASDs at 77.2 per 10,000, making the total prevalence of all ASDs 116.1 per 10,000.

A survey by Baron-Cohen et al (2009) of autism-spectrum conditions using the Special Educational Needs (SEN) register alongside a survey of children in schools aged 5 to 9 years produced prevalence estimates of autism-spectrum conditions of 94 per 10,000 and 99 per 10,000 respectively. The ratio of known to unknown cases is about 3:2. Taken together, a prevalence of 157 per 10,000 has been estimated, including previously undiagnosed.
The European Commission (2005) highlights the problems associated with establishing prevalence rates for Autistic Spectrum Disorders. These include the absence of long-term studies of psychiatric case registers and inconsistencies of definition over time and between locations.

Nevertheless, the Commission estimates that according to the existing information, the age-specific prevalence rates for ‘classical autism’ in the European Union (EU) could be estimated as varying from 3.3 to 16.0 per 10,000. These rates could however increase to a range estimated between 30 and 63 per 10,000 when all forms of autism spectrum disorders are included. Debate remains about the validity and usefulness of a broad definition of autism. The EU definition of rare diseases focuses on those diseases lower than 5 per 10,000. The Commission notes that ASD could be considered as a rare disease using the most restrictive diagnosis criteria but it seems more appropriate to not refer to ASD as a rare disease.

The next table shows the numbers of children with autistic spectrum disorders if the prevalence rates found by Baird et al (2006) and by Baron-Cohen et al (2009) were applied to the population of North Lincolnshire.

### Estimated number of children with autistic spectrum disorders

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>15</td>
<td>30</td>
<td>45</td>
<td>155</td>
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### Estimated need for services at each tier

Estimates of the number of children and young people who may experience mental health problems appropriate to a response from CAMHS at Tiers 1, 2, 3 and 4 have been provided by Kurtz (1996). A description of the services offered at each tier can be found in the notes section below. The following table shows these estimates for the population aged 17 and under in North Lincolnshire.

### Estimated number of children / young people who may experience mental health problems appropriate to a response from CAMHS

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>5,325</td>
<td>2,485</td>
<td>660</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report). Kurtz, Z. (1996).

### Factors influencing and influenced by mental health

The reasons why a child or young person experiences mental health problems are likely to be complex. However, certain factors are known to influence the likelihood of someone experiencing problems. The information below describes some of these factors.

#### Children and young people with learning disabilities

People with learning disabilities are more likely to experience mental health problems (Emerson, E. et al, 2008). Estimation of the population prevalence of learning disability is problematic and should be treated with caution. Emerson et al (2011, p.1) estimates that there are 286,000 children and young people (180,000 boys and 106,000 girls) aged 0 to 17 with learning disabilities. Further Emerson et al (2011, p.3) estimates that 2.46% of girls and 4.01% of boys, aged 7 to 15 years in 2011, were identified at School Action Plus or with a Statement of Special Educational Need (SEN) with a primary SEN associated with learning disabilities. (School Action Plus is used when there is evidence that a child is not making progress at school and there is a need for action to be taken to meet learning difficulties; the school will seek external advice from the LEA’s support services, the local Health Authority or from Social Services). In addition, Emerson et al (2004) calculated prevalence in children and young
people with learning disabilities for different age groups as follows: 5 to 9 years: 0.97%; 10 to 14 years: 2.26%; and 15 to 19 years: 2.67%. The following table applies these prevalence rates to North Lincolnshire.

### Estimated total number of children with a learning disability

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>95</td>
<td>215</td>
<td>270</td>
</tr>
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</table>

Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report). Emerson E. at al (2004).

These rates for different age groups reflect the fact that as children get older, more are identified as having a mild learning disability. The Foundation for People with Learning Disabilities (2002) estimates an upper estimate of 40% prevalence for mental health problems associated with learning disability, with higher rates for those with severe learning disabilities. The following table shows how many children with learning disabilities who also experience mental health problems might be expected in North Lincolnshire.

### Estimated total number of children with learning disabilities with mental health problems

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<tbody>
<tr>
<td>North Lincolnshire</td>
<td>40</td>
<td>90</td>
<td>110</td>
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</table>

Source: General Practice (GP) registered patient counts aggregated up to CCG level (CCG report); Office for National Statistics mid year population estimates for 2012 (local authority report). The Foundation for People with Learning Disabilities (2002).

**Looked-after children**

Looked-after children are more likely to experience mental health problems (Ford, T. et al, 2007). It has been found that among children aged 5 to 17 years who are looked after by local authorities in England, 45% had a mental health disorder, 37% had clinically significant conduct disorders, 12% had emotional disorders, such as anxiety or depression, and 7% were hyperkinetic (Meltzer, H. et al, 2003).

Variation was shown depending on the type of placement with two-thirds of children living in residential care found to have a mental health disorder compared with four in ten of those place with foster-carers or their birth parents.

**Homelessness and sleeping rough**

Vonstands, P. (2002) states that homeless adolescents and street youth are likely to present with depression and attempted suicide, alcohol and drug misuse, and are vulnerable to sexually transmitted diseases, including acquired immune deficiency syndrome (AIDS). Two major studies of this group in London (Craig, T. et al, 1996) and Edinburgh (Wrate, R. et al, 1999) found significant histories of residential care, family breakdown, poor educational attainment and instability of accommodation. These were associated with sexually risky behaviours, substance misuse and comorbid psychiatric disorders, particularly depression.

In a study by Quilgars et al (2011), the estimated number of young people aged 16 to 24 sleeping rough in England in 2008/9 was 3200, giving a rate of 5.1 per 100,000. In a study of 16 to 25 year olds who were sleeping rough in London, Vasiliou (2006) found that 67% had mental health problems. Applying these rates to the population in North Lincolnshire provides an estimate of 10 young people with mental health problems who are sleeping rough.

**Suicide and self-harm**

Suicide is a complex issue and one which requires further research to understand better the specific risk factors associated with it. Looking at suicides in the UK between 1997 and 2003, one study has made the following observations (Windfuhr, K., 2008):

* Three times as many young men as young women aged between 15 and 19 committed suicide
Only 14% of young people who committed suicide were in contact with mental health services in the year prior to their death, compared with 26% in adults.

Looking at the difference between sexes, 20% of young women were in contact with mental health services compared to only 12% of young men.

According to ONS, in 2011 there were 159 deaths of 10 to 19 year olds from intentional self-harm or undetermined intent in England and Wales. This is a rate of 2.35 deaths per 100,000 population aged 10 to 19 years.

Self-harm is a related issue:

- Levels of self-harm are higher among young women than young men. The rates of self-harm in young women averaged 302 per 100,000 in 10 to 14 year olds and 1,423 per 100,000 in 15 to 18 year olds. Whereas for young men the rates of self-harm averaged 67 per 100,000 in 10-14 year olds and 466 per 100,000 in 15 to 18 year olds (Hawton, K., 2012). Self-poisoning was the most common method, involving paracetamol in 58.2% of episodes (Hawton, K., 2012).

- Presentations, especially those involving alcohol, peaked at night. Repetition of self-harm was frequent (53.3% had a history of prior self-harm and 17.7% repeated within a year) (Hawton, K., 2012). Common characteristics of adolescents who self-harm are similar to the characteristics of those who commit suicide (Hawton, K., 2005).

- Young South Asian women in the United Kingdom seem to have a raised risk of self-harm. Intercultural stresses and consequent family conflicts may be relevant factors (Hawton, K., 2005).

- As many as 30% of adolescents who self-harm report previous episodes, many of which have not come to medical attention. At least 10% repeat self-harm during the following year, with repeats being especially likely in the first two or three months (Hawton, K., 2005).

- The risk of suicide after deliberate self-harm varies between 0.24% and 4.30%. Our knowledge of risk factors is limited and can be used only as an adjunct to careful clinical assessment when making decisions about after care. However, the following factors seem to indicate a risk: being an older teenage boy; violent method of self-harm; multiple previous episodes of self-harm; apathy, hopelessness, and insomnia; substance misuse; and previous admission to a psychiatric hospital (Hawton, K., 2005).

Information about hospital admission for self-harm and for mental health conditions is included in our Local Authority Child Health Profiles, available here [www.chimat.org.uk/profiles](http://www.chimat.org.uk/profiles).

**Workforce**

The National Service Framework for Children, Young People and Maternity Services (Department of Health, 2004) recommends a minimum ratio of 15 full time equivalent (FTE) for every 100,000 population (non-teaching services) or a ratio of 20 FTE for every 100,000 population (teaching services). On this basis, the minimum workforce requirement North Lincolnshire would be 30 FTE (non-teaching services). No further guidance on this figure is available from Standard 9 of the NSF.

The report 'Building and sustaining specialist child and adolescent mental health services' (Royal College of Psychiatrists, 2006) recommends that specialist CAMHS require 20 FTE per 100,000 population to meet the needs of children and young people aged 15 years or less. In addition, this report recommends that 5 FTE Primary Mental Health Workers (PMHW) per 100,000 population. This would indicate a requirement for North Lincolnshire of approximately 35 FTE staff, including 10 FTE as PMHW.

**Notes**

**A description of CAMHS Tiers 1 to 4**

Child and adolescent mental health services (CAMHS) cover all types of provision and intervention ranging from mental health promotion and primary prevention to specialist care. Services are often separated into 4 tiers. Whilst some services may have structural and/or functional tiers, others may combine some tiers.
Tier 1 CAMHS is provided by professionals whose main role and training is not in mental health. These include GPs, health visitors, school nurses, social services, voluntary agencies, teachers, residential social workers and juvenile justice workers.

Tier 2 CAMHS is provided by specialist trained mental health professionals. They work primarily on their own but may provide specialist input to multiagency teams. Their role involves helping young people that have not responded to Tier 1 interventions and they usually provide consultation and training to Tier 1 professionals. Roles include clinical child psychologists, paediatricians (especially community), educational psychologists, child psychiatrists and community child psychiatric nurses/nurse specialists.

Tier 3 CAMHS is aimed at young people with more complex mental health problems than those seen at Tier 2. Many of the professionals working at Tier 2 will work in this area, however the service is provided by a multidisciplinary team. Roles include child and adolescent psychiatrists, social workers, clinical psychologists, community psychiatric nurses, child psychotherapists, occupational therapists and art, music and drama therapists.

Tier 4 services are aimed at children and adolescents with severe and/or complex problems. These specialised services may be offered in residential, day patient or out-patient settings. The service requires a combination or intensity of interventions that cannot be provided by Tier 3 CAMHS. These services include adolescent in-patient units, secure forensic adolescent units, eating disorder units, specialist teams for sexual abuse and specialist teams for neuro-psychiatric problems. (York, A. et al, 2006, Kurtz, Z., 1996)

Next steps

- Find out more about mental health and psychological wellbeing from the Child and Maternal Health Intelligence Network knowledge hub
  www.chimat.org.uk/camhs

- Sign up for one of our eBulletins
  www.chimat.org.uk/default.aspx?QN=CHMK9#MH

- Find out more about the general population for your area by looking at its demographic profile
  atlas.chimat.org.uk/IAS/profiles/needsassessments

- Find out more about research, policy, guidance by searching the knowledge hub.
  www.chimat.org.uk/default.aspx?QN=CHMK1

- Contact your local specialist from the Child and Maternal Health Intelligence Network for further advice and support
  www.chimat.org.uk/default.aspx?QN=CHIMAT_LOCAL

References


A full metadata document is available which gives further details of the methodology and data sources used in the analysis in this report. Available at www.chimat.org.uk/resource/view.aspx?RID=138618

Last updated 15 October 2012