

Birmingham Public Health

# HeadStart Birmingham Phase 3 Data Analysis including Mental Health Index for 10-16 years olds

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## Version Control

Version	Description	Date	Author
V0.1	Initial draft	07/10/2015	Susan Lowe
V0.2	Update of mental health indicators, inclusion of ward level maps for hospital admissions	20/10/2015	Susan Lowe
V0.3	Addition of ethnicity by ward and migrant data. Sections on schools and Districts. Table showing district level mental health index.	13/11/2015	Susan Lowe

# HeadStart Birmingham

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## *Phase 3 Data Analysis*

1	Introduction .....	3
2	Demographics .....	3
2.1	Population Pyramid.....	3
2.2	Location.....	3
2.3	Ethnicity .....	5
2.4	Migrants .....	6
2.5	Schools .....	7
2.6	Birmingham Districts.....	9
3	Mental Health Index.....	9
3.1	Phase 2.....	9
3.2	Refresh for Phase 3 .....	10
3.3	2015 Updated Mental Health Index .....	11
3.4	Ward Level Mental Health Index .....	12
3.5	District level Mental Health Index .....	13
4	Hospital Admissions .....	13
4.1	Self-harm admissions .....	13
4.2	Mental Health Admissions .....	14
	Appendices .....	16

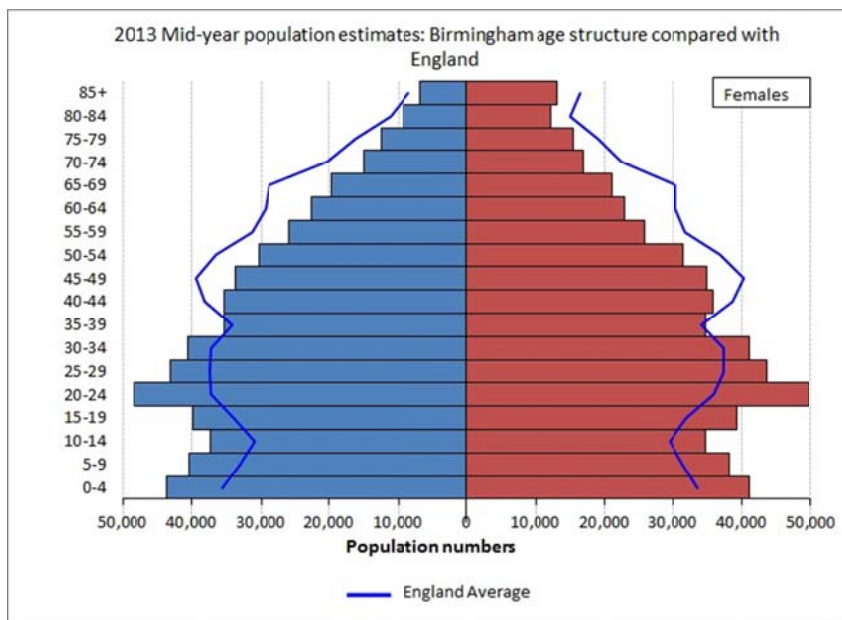
## 1 Introduction

HeadStart is a national programme funded by the Big Lottery. 10 local programmes have been developed around the country of which HeadStart Birmingham is one. This document is to support the Phase 3 bid of the national programme. The main aim of HeadStart are to significantly improve the mental health of at-risk young people aged 10-16. A long-term aim to reduce the onset of mental health disorders<sup>1</sup>. Also enabling improved engagement with school and academic attainment, reduced engagement in risky behaviour e.g. substance misuse, criminality, teen pregnancy, improved employability.

## 2 Demographics

### 2.1 Population Pyramid

There are 102,022 residents aged 10-16 in Birmingham, accounting for 9.3% of the overall population in Birmingham (1,101,360)<sup>2</sup>. Birmingham has a younger age structure to England where 10-16 year olds make up 7.8% of the total population. Figure 1 compares Birmingham's population age structure to England.



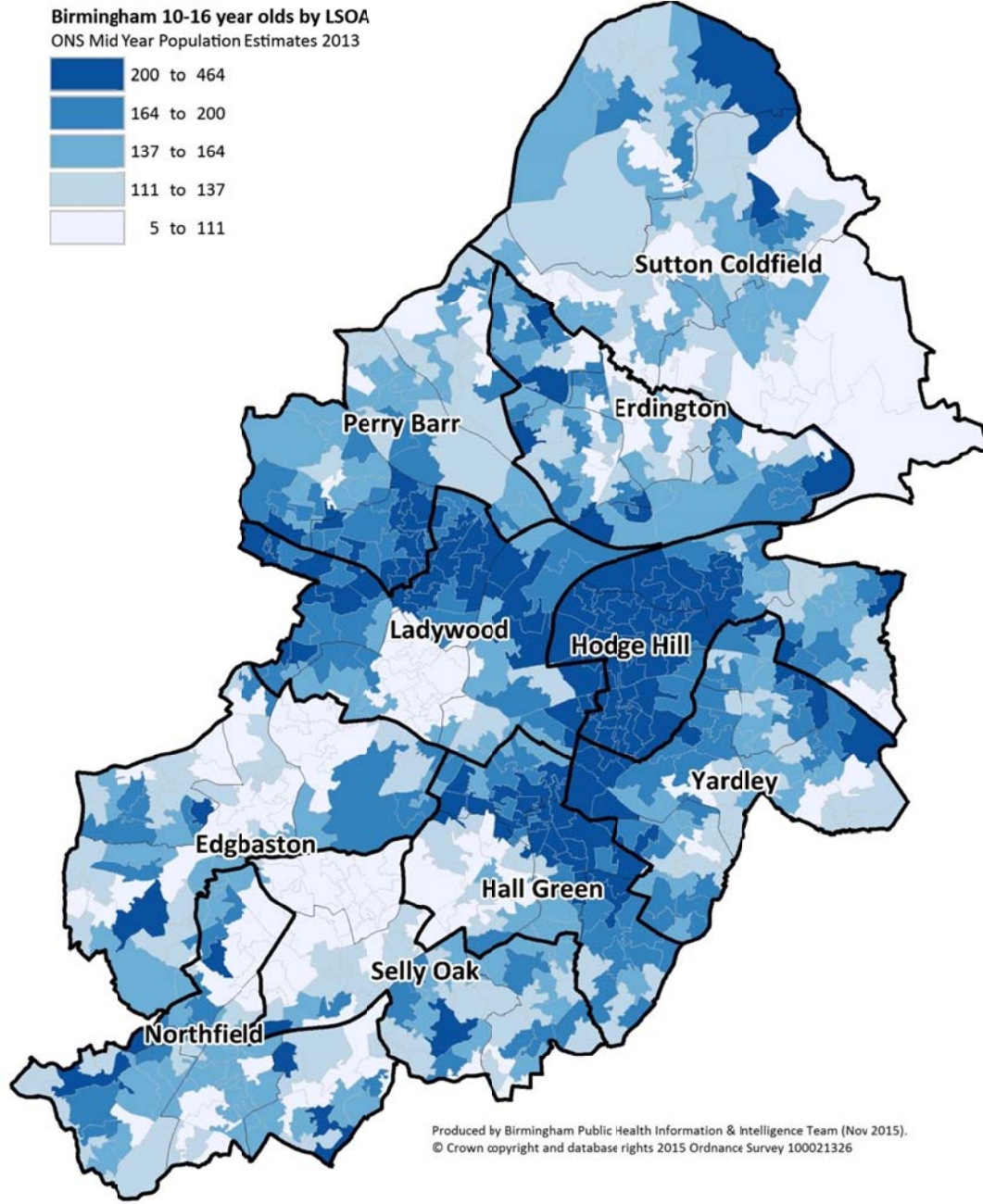
**Figure 1 Population pyramid**

### 2.2 Location

Across the city different areas have different age structure. Bordesley Green ward has the largest number of 10-16 year olds (4,964), which is five times as many as Selly Oak (984) the ward with the lowest number. Figure 2 shows the density of 10-16 population by lower super output area.

<sup>1</sup> HeadStart Our vision for phase 3 lottery July 2015 presentation

<sup>2</sup> ONS : Mid 2013 population estimates



**Figure 2: Children aged 10-16 by lower super output area**

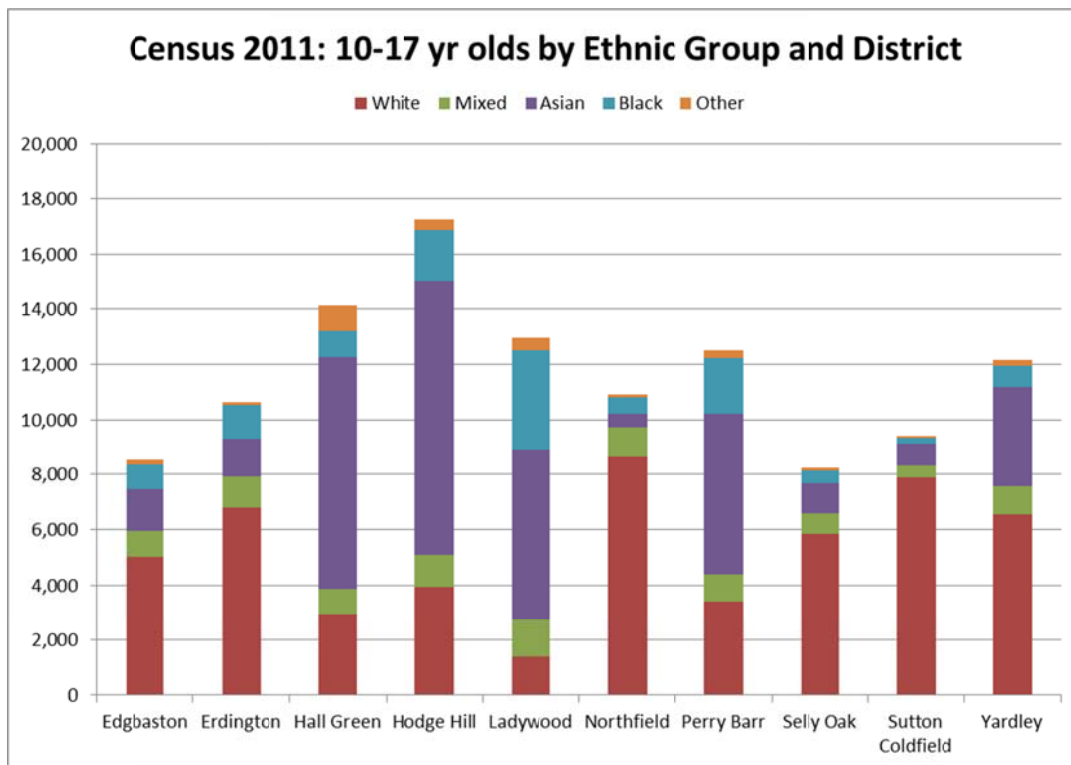
### 2.3 Ethnicity

Table 1 below shows the ethnicity of young people in 2011<sup>3</sup>. 45% of 10-17 year olds in Birmingham were of White ethnicity, followed by 33.5% Asian ethnicity

**Table 1 - Ethnicity and Age of 10-17 year olds in Birmingham (Census 2011)**

Ethnicity/Age	Age 10 to 14	Age 15	Age 16 to 17	Total 10-17	% Age 10-17
White	32,057	6,891	14,094	53,042	<b>45.0%</b>
Mixed	6,403	1,206	2,327	9,936	<b>8.4%</b>
Asian	25,392	4,753	9,314	39,459	<b>33.5%</b>
Black	7,993	1,590	3,050	12,633	<b>10.7%</b>
Other	1,814	322	668	2,804	<b>2.4%</b>
Total	73,659	14,762	29,453	117,874	<b>100.0%</b>

Birmingham is a diverse city and there a wide variations between different wards and districts. Figure 3 below shows the ethnic groups of 10-17 years olds in each of Birmingham’s districts in 2011. The highest number of 10-17 year olds are in Bordesley Green and Washwood Heath wards. Both these wards are in Hodge Hill district. In Bordesley Green the largest ethnic group in this age range is Asian (70%), this is also the case in Washwood Heath (78%).

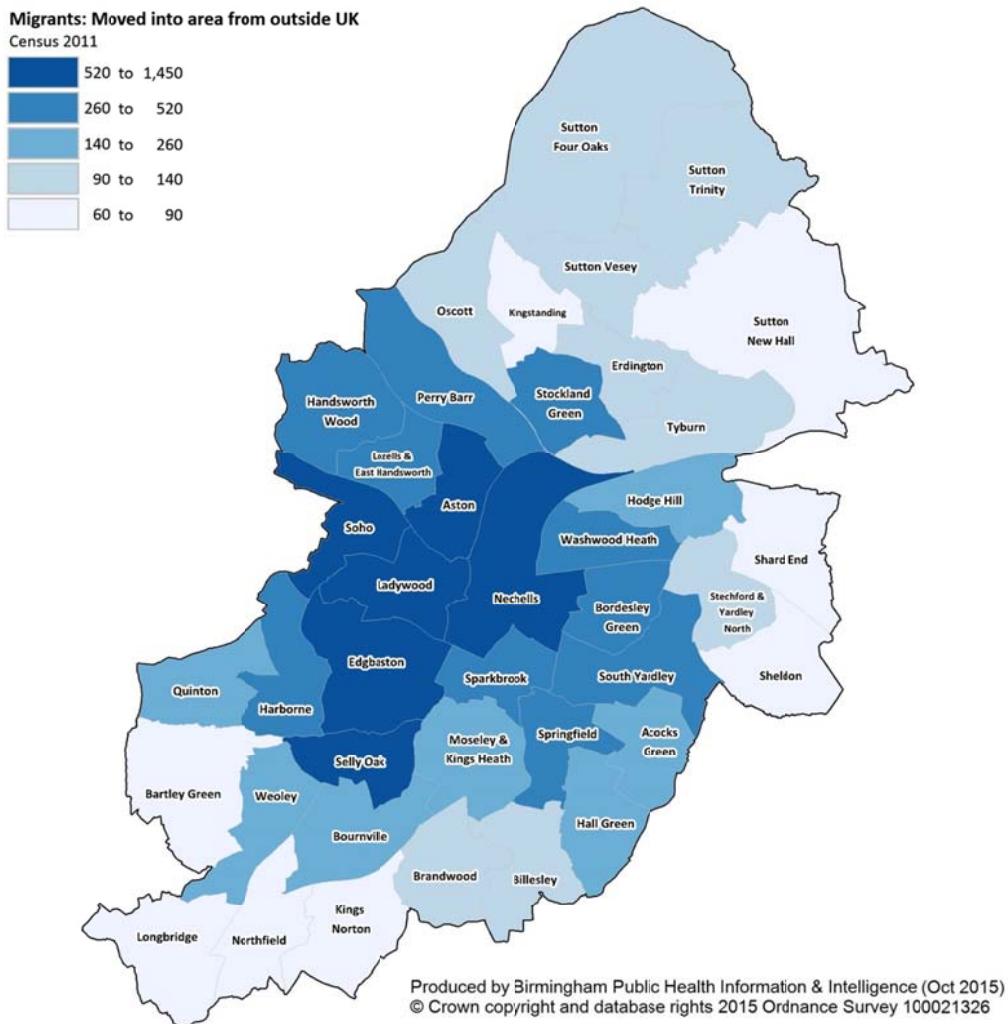


**Figure 3: 10-17 year olds by Ethnicity and District**

<sup>3</sup> Census 2011 <http://www.nomisweb.co.uk/census/2011/lc2109ewls>

## 2.4 Migrants

According to the 2011 Population Census, 22.2% (238,313) of Birmingham’s population were born abroad. This figure shows that the majority of Birmingham residents were born in the UK, although at 77.8%, this is below the national (86.2%) and West Midlands (88.8%) averages. Less than 10% (20,100) of Birmingham residents born abroad arrived in the UK before 1961, while 45% (106,272) arrived between 2001 and 2011. The 70’s, 80’s and 90’s saw on average 27,000 people arriving each decade. The map at Figure 4 below shows the numbers of people who have migrated to Birmingham from outside the UK by ward according to the 2011 Census.



**Figure 4 - Ward map of migrants from outside UK**

At the time of the 2011 Census the most common country of birth after the UK was Pakistan (55,900), followed by India (27,200) and Ireland (16,085). Countries such as Poland ranked 6th, Iran (ranked 13), Somalia (ranked 7), Zimbabwe (ranked 11) and Romania (ranked 19) were not included in to the top 20 at the time of the 2001 Census.

Wards with the highest number of recent migrants (arriving between 2001 and 2011) were Ladywood 73%, followed by Nechells (59.5%) and Harborne (50.7%).

## 2.5 Schools

There are 302 primary schools, 86 secondary schools and 2 all through schools in Birmingham. The map at Figure 5 shows the location of these schools within districts and with the 10-16 year old population.

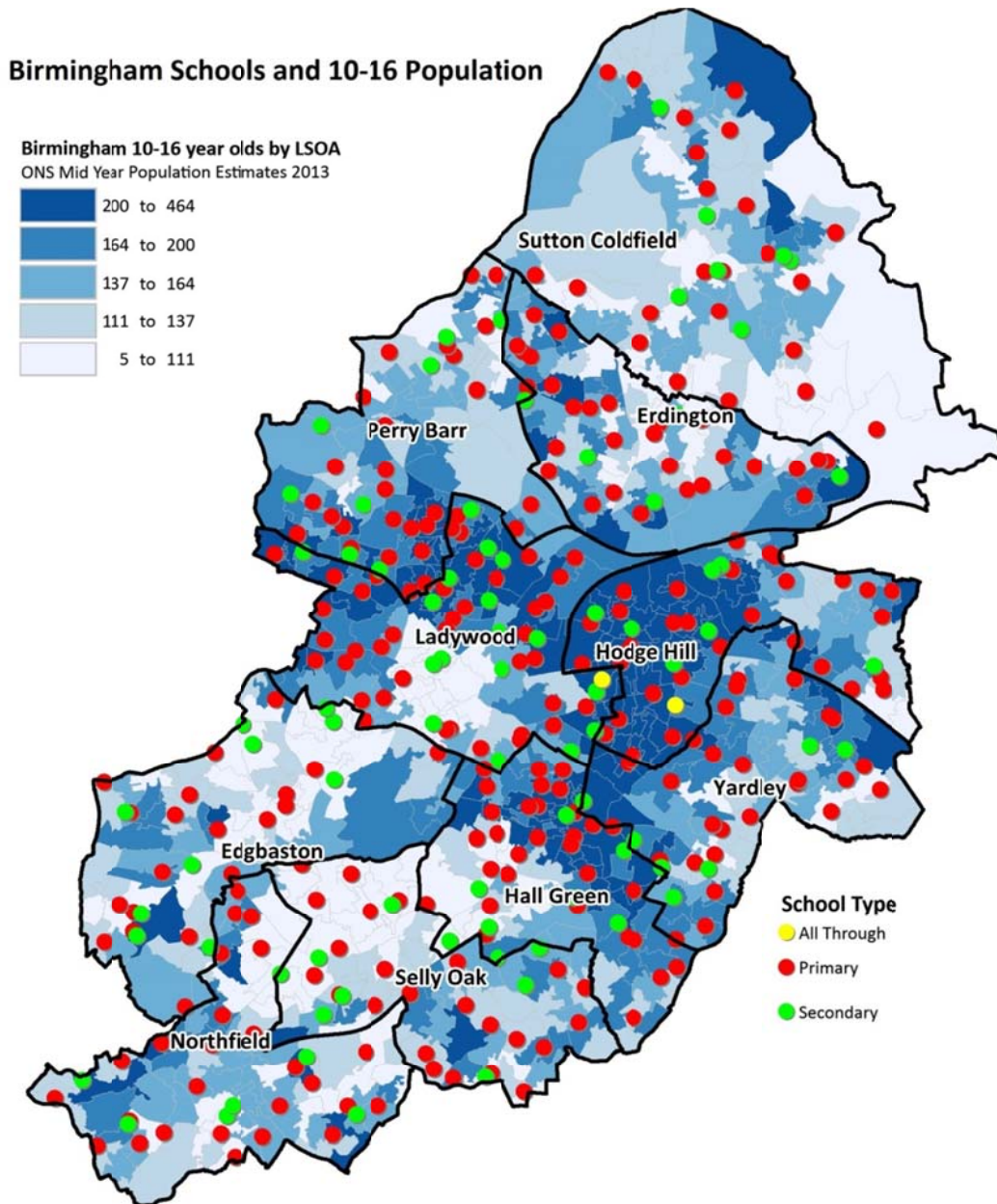


Figure 5 - Map of Birmingham Schools

### (a) Pupils with first language other than English

Birmingham has a large number of pupils who first language is other than English. According to the 2015 School Census data 35% at primary and 39% of secondary school pupils have a first language other than English. Table 2 below shows the top 25 Birmingham schools with pupils who have a different first language than English.

**Table 2 – Top 25 Birmingham Schools with pupils whose first language other than English (School Census Jan 2015)**

URN	School Name	Phase-type grouping	Ward name	% of pupils whose first language is known or believed to be other than English
138864	Montgomery Primary Academy	State-funded primary	Sparkbrook	99.3
103321	Birchfield Community School	State-funded primary	Aston	99.3
134083	Springfield Primary School	State-funded primary	Springfield	96.9
103191	Cromwell Junior and Infant School and Nursery Class	State-funded primary	Nechells	95.6
132074	Anglesey Primary School	State-funded primary	Lozells and East Handsworth	94.7
103329	Heathfield Primary School	State-funded primary	Lozells and East Handsworth	94.4
103324	Arden Primary School	State-funded primary	Springfield	94.1
139571	City Road Primary School	State-funded primary	Soho	94
103333	Heath Mount Primary School	State-funded primary	Sparkbrook	93.9
103154	Prince Albert Junior and Infant School	State-funded primary	Aston	93.7
103204	Greet Primary School	State-funded primary	Springfield	93.6
138059	Park View School the Academy of Mathematics and Science	State-funded secondary	Washwood Heath	92.9
103159	Adderley Primary School	State-funded primary	Washwood Heath	92.6
103265	Ladypool Primary School	State-funded primary	Sparkbrook	92.4
138410	Percy Shurmer Academy	State-funded primary	Sparkbrook	92.2
103406	St Saviour's C of E Primary School	State-funded primary	Washwood Heath	92.2
138052	Oldknow Academy	State-funded primary	South Yardley	91.8
103177	Canterbury Cross Primary School	State-funded primary	Aston	91.3
103215	Highfield Junior and Infant School	State-funded primary	Washwood Heath	91.3
103384	Nelson Mandela School	State-funded primary	Sparkbrook	91.1
103192	Anderton Park Primary School	State-funded primary	Sparkbrook	90.5
103193	Regents Park Community Primary School	State-funded primary	Nechells	90.4
103261	St Benedict's Infant School	State-funded primary	Bordesley Green	90.3
103172	Bordesley Green Primary School	State-funded primary	Bordesley Green	90.2
133730	Wyndcliffe Primary School	State-funded primary	Nechells	90



## 2.6 Birmingham Districts

Birmingham has 10 districts/parliamentary constituencies. The local districts have selected health priorities for their area based on public health data. The health priorities are shown below. More information about the district health profiles can be found on Birmingham Public Health's web pages<sup>4</sup>.

**Table 3 - Birmingham District health priorities 2015**

Edgbaston	EXCESS WEIGHT (CHILD HEALTH)	OLDER ADULT HEALTH AND WELL BEING	IMPROVING MENTAL HEALTH AND WELLBEING
Erdington	EXCESS WEIGHT (CHILD HEALTH)	OLDER ADULT HEALTH AND WELL BEING	IMPROVING MENTAL HEALTH AND WELLBEING
Hall Green	DIABETES	HOMELESSNESS	IMPROVING MENTAL HEALTH AND WELLBEING
Hodge Hill	EXCESS WEIGHT	HOMELESSNESS	DIABETES
Ladywood	EXCESS WEIGHT	REDUCING ALCOHOL CONSUMPTION	IMPROVING MENTAL HEALTH AND WELLBEING
Northfield	EXCESS WEIGHT	REDUCING ALCOHOL CONSUMPTION	IMPROVING MENTAL HEALTH AND WELLBEING
Perry Barr	EXCESS WEIGHT (CHILD HEALTH)		IMPROVING MENTAL HEALTH AND WELLBEING
Selly Oak	EXCESS WEIGHT (CHILD HEALTH)	DEMENTIA PREVENTION AND MANAGEMENT	IMPROVING MENTAL HEALTH AND WELLBEING
Sutton Coldfield	EXCESS WEIGHT (CHILD HEALTH)	OLDER ADULT HEALTH AND WELL BEING	DEMENTIA PREVENTION AND MANAGEMENT
Yardley	EXCESS WEIGHT	SUBSTANCE ABUSE	IMPROVING MENTAL HEALTH AND WELLBEING

## 3 Mental Health Index

### 3.1 Phase 2

For the Phase 2 HeadStart Birmingham bid a mental health index<sup>5</sup> was created to identify priority wards in the city. Indicators were selected relating to factors that may affect the resilience and mental well being of children. The index consists of 22 indicators grouped into 5 sections:

1. Children and families
2. Crime
3. Economics
4. Hospital activity
5. Education.

The city average for each indicator was set at zero with wards scoring better than average receiving a positive score and those with a worse than average score a negative one (calculation of z scores based on

<sup>4</sup> <http://birminghampublichealth.co.uk/page.php?pid=198&mid=213>

<sup>5</sup> Mental Health Resilience document – Appendix 1

the standard deviation from the mean). The scores for each indicator were averaged to create an overall score for each ward based on all the indicators.

### 3.2 Refresh for Phase 3

In order to prioritise areas for Phase 3 it was agreed to refresh the Mental Health Index. The age range for the HeadStart programme has increased to include 10-16 year olds so any indicators with the previous age range have been updated but using the same indicators. A straight comparison between 2013 and 2015 showed little change in the wards with the lowest and highest scores. The results can be seen more clearly in the maps at Figure 6 and Figure 7. The full data is shown in Appendix 2.

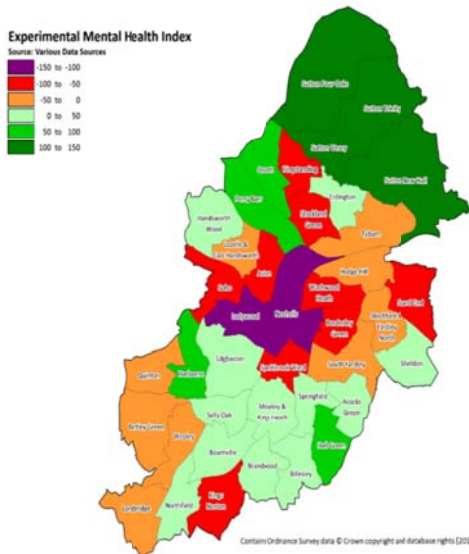


Figure 6 - 2013 Original Experimental Mental Health Index

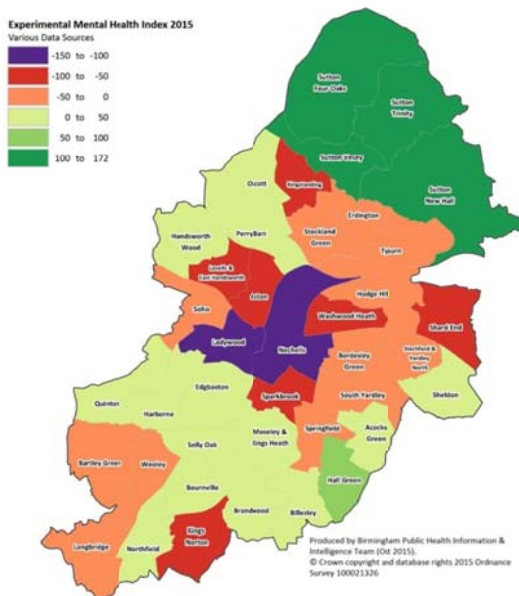


Figure 7 - 2015 Refresh of Original Experimental Mental Health Index

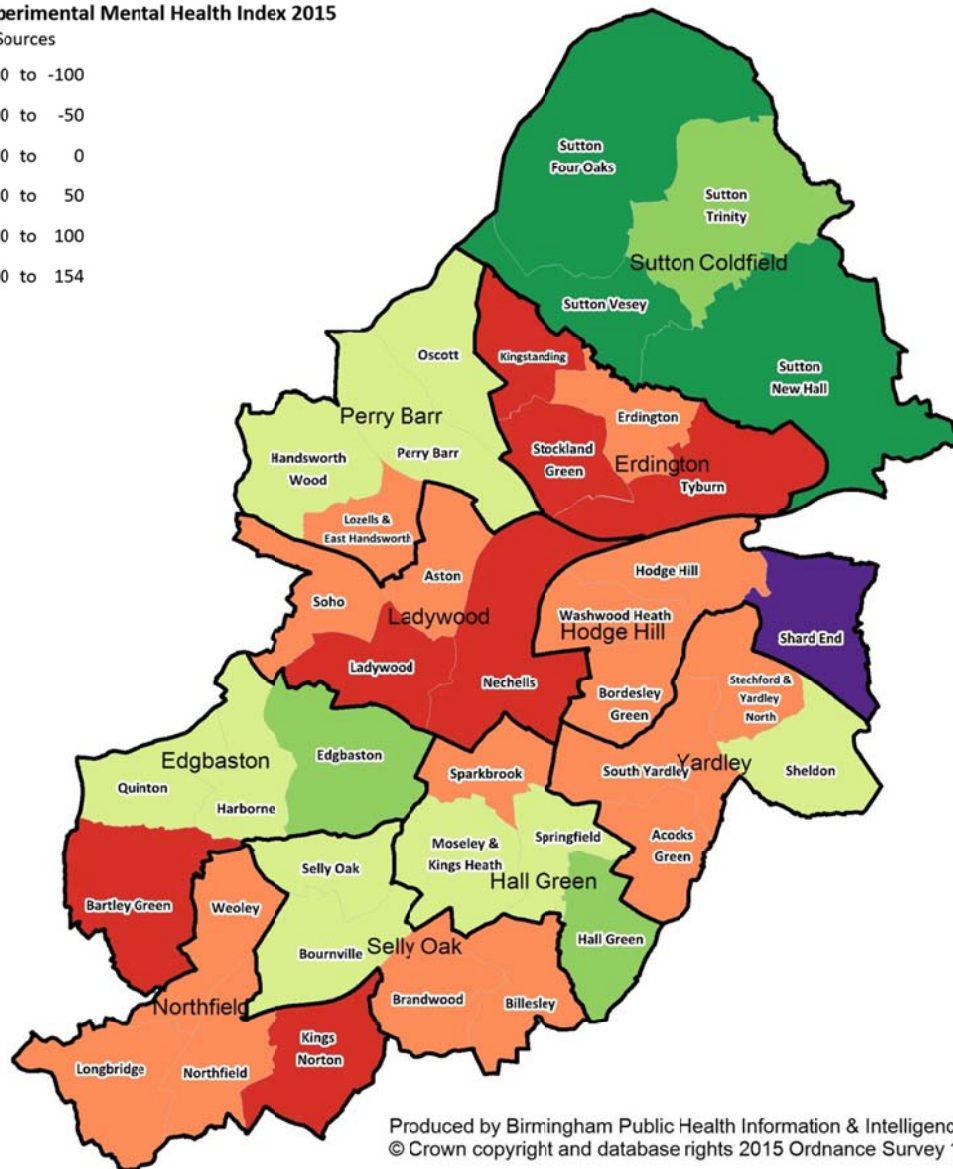
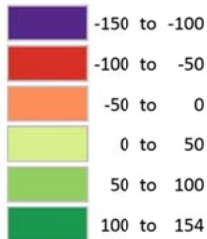
### 3.3 2015 Updated Mental Health Index

The HeadStart Executive group agreed that it would be useful to include other indicators that are now available to the mental health index. The new indicators available at ward level are:

- Under 18 conceptions
- Free school meals
- Young offenders <16
- Victims of crime <16
- CAMHS users
- Young carers
- Persistent pupil absence
- Pupil exclusion

#### Updated Experimental Mental Health Index 2015

Various Data Sources



Produced by Birmingham Public Health Information & Intelligence (Oct 2015)  
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Figure 8 - 2015 updated Mental Health Index Map

### 3.4 Ward Level Mental Health Index

Adding the new indicators has changed the wards with the greatest level of need according to the index. Ladywood and Nechells are still in the top 4 wards but Shard End has become the ward with the lowest scores on the index. Updating the index has created the biggest worsening in scores in Tyburn, Billesley and Oscott wards. The biggest improvements in scores have been in Washwood Heath, Sparkbrook, Bordesley Green and Edgbaston. Table 4 below shows the overall ranking for the Mental Health Index for Phase 2, the Phase 3 refresh and the updated Index including the new indicators. The breakdown of scores for the individual indicators is available.<sup>6</sup> A full list of indicators and their sources can be found at Appendix 3.

**Table 4 - Mental Health Index Ward Score Rank**

Ward	2013 Rank	2015 Rank Refresh	2015 Rank New Indicators	Change from 2013
Shard End	6	3	1	5
Ladywood	1	2	2	-1
Kingstanding	4	5	3	1
Nechells	2	1	4	-2
Kings Norton	9	9	5	4
Stockland Green	12	17	6	6
Tyburn	18	13	7	11
Bartley Green	14	12	8	6
Aston	5	4	9	-4
Stechford and Yardley North	15	14	10	5
Soho	7	10	11	-4
Longbridge	20	19	12	8
Weoley	13	16	13	0
Washwood Heath	3	6	14	-11
Lozells And East Handsworth	11	8	15	-4
Erdington	21	20	16	5
Billesley	27	23	17	10
Northfield	23	26	18	5
South Yardley	16	15	19	-3
Hodge Hill	17	18	20	-3
Sparkbrook	8	7	21	-13
Acocks Green	28	22	22	6
Bordesley Green	10	11	23	-13
Brandwood	29	25	24	5
Sheldon	30	24	25	5
Oscott	34	34	26	8
Springfield	19	21	27	-8
Quinton	22	28	28	-6
Handsworth Wood	25	27	29	-4
Bournville	33	35	30	3

<sup>6</sup> Mental Health Index Comparison - Appendix 2

Harborne	35	31	31	4
Perry Barr	31	33	32	-1
Moseley And Kings Heath	32	32	33	-1
Selly Oak	26	30	34	-8
Edgbaston	24	29	35	-11
Hall Green	36	36	36	0
Sutton Trinity	38	37	37	1
Sutton New Hall	40	39	38	2
Sutton Vesey	37	38	39	-2
Sutton Four Oaks	39	40	40	-1

### 3.5 District level Mental Health Index

The ward level index scores have also been amalgamated to show a District level index below at Table 5. Ladywood has the lowest index score, followed by Erdington and Hodge Hill.

**Table 5 - Mental Health Index District Score Rank**

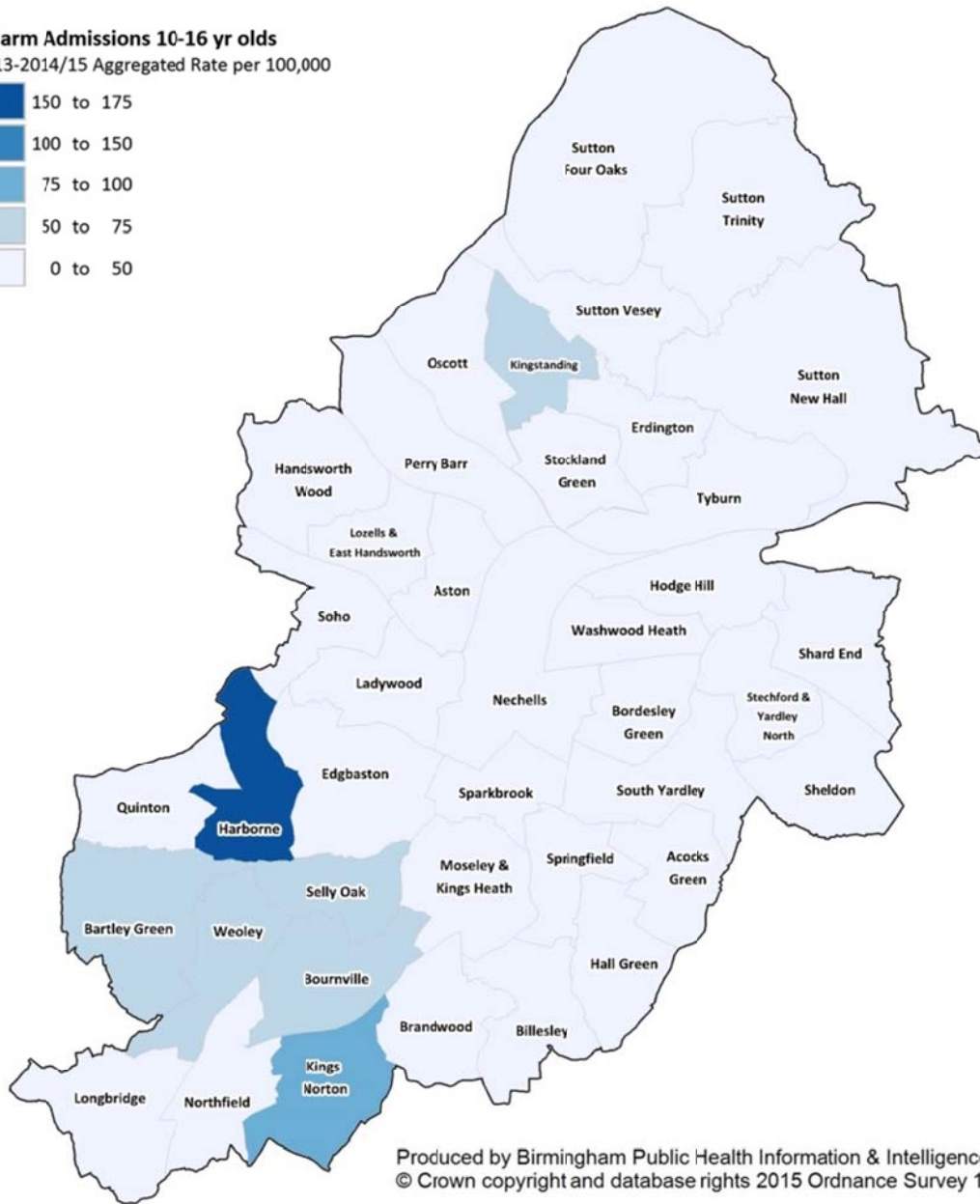
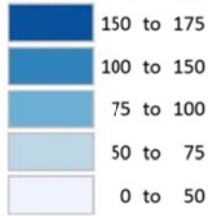
District	Mental Health Index Score	Rank
Ladywood	-262.226	1
Erdington	-221.599	2
Hodge Hill	-149.472	3
Northfield	-141.127	4
Yardley	-62.2579	5
Selly Oak	49.41897	6
Edgbaston	50.12499	7
Perry Barr	64.7876	8
Hall Green	145.0429	9
Sutton Coldfield	527.3077	10

## 4 Hospital Admissions

### 4.1 Self-harm admissions

The map at Figure 9 below shows the rate of self-harm hospital admissions amongst 10-16 year olds. This is a 3 year aggregated rate. The darker colour meaning a higher rate of admissions. Because the total number of admissions is very low when looking at ward level, we have carried out statistical process control test on the rates. We can say that the rates are statistically significantly higher than the Birmingham average in Bartley Green, Bournville, Harborne and Kings Norton.

**Self-Harm Admissions 10-16 yr olds**  
2012/13-2014/15 Aggregated Rate per 100,000

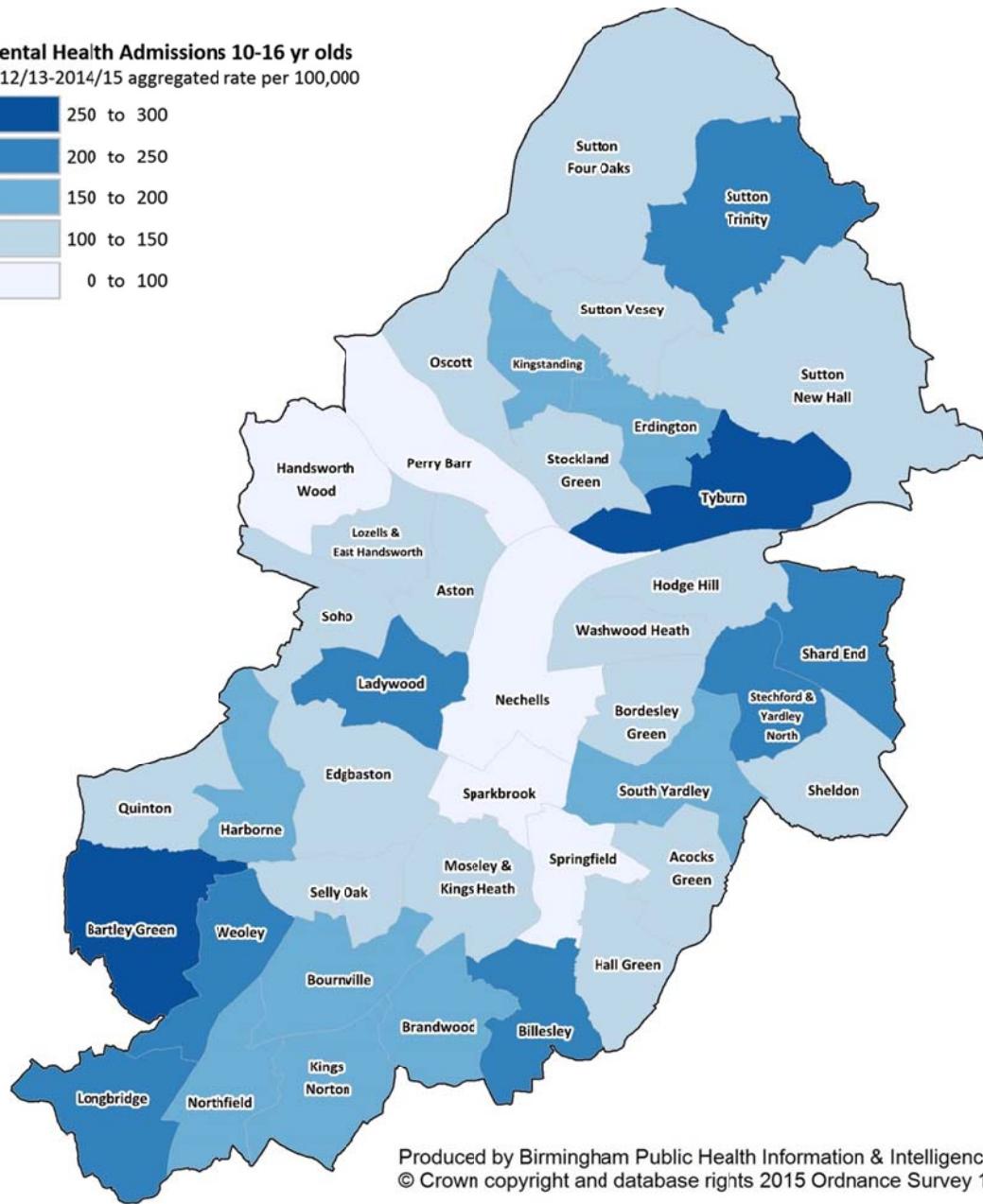
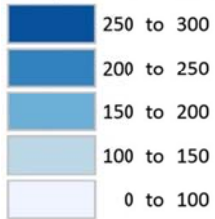


**Figure 9 - Map of hospital admissions for self harm ages 10-16**

## 4.2 Mental Health Admissions

The map at Figure 10 below shows the rate of mental health hospital admissions amongst 10-16 year olds. This is a 3 year aggregated rate. The darker colour meaning a higher rate of admissions. Because the total number of admissions is low when looking at ward level, we have carried out statistical process control test on the rates. We can say that the rates are statistically significantly higher than the Birmingham average in Bartley Green, Billesley, Longbridge, Shard End, Stechford and Yardley North, Tyburn and Weoley.

**Mental Health Admissions 10-16 yr olds**  
2012/13-2014/15 aggregated rate per 100,000



**Figure 10 - Map of hospital admissions for mental health aged 10-16**

## Appendices

### *Appendix 1 – Mental Health Resilience document*



Mental Health  
Resiliencev2.docx

### *Appendix 2 – Mental Health Index Comparison*



Mental Health  
Experimental Resilien

### *Appendix 3 – Mental Health Index Metadata*

Groups / Indicators	Description	Source
<b>Children &amp; Families</b>		
Child Poverty (%)	Child Poverty - IMD 2010 Income Deprivation Affecting Children Index (IDACI)	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> IMD 2010
Child Protection Plan	Rate per 10,000	Birmingham City Council. Extract September 2014
Children in Need	Rate per 10,000	Birmingham City Council. Extract September 2014
Looked After Children	Rate per 10,000	Birmingham City Council. Extract September 2014
Obese Children (Reception Year)	National Childhood Measurement Programme aggregated 2011/12-2013/14	Birmingham NCMP
Obese Children (Year 6)	National Childhood Measurement Programme aggregated 2011/12-2013/14	Birmingham NCMP
Child Development at age 5	Children achieving a good level of development at age 5 (2011/12)	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> Department for Education
Troubled Families	Rate per 10,000 referred to troubled families affected by alcohol/substance misuse, domestic abuse, mental health issues, or having difficulty parenting), 2014	Early Help Needs Analysis
Domestic Abuse	Prevalence by ward (Public health intelligence calculations)	
Overcrowding	Percentage of households with 1 or more rooms too few - Census 2011	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> Census 2011
Income Deprivation	The percentage of the population living in low income families reliant on means tested benefits. - IMD 2010 income domain	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> IMD 2010
<b>Economics</b>		
Long Term Unemployment	Average monthly claimants of jobseekers allowance who have been claiming for more than 12 months, proportion expressed as rate per 1000 of the working age population - 2012/13	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> NOMIS Labour Market Statistics
Unemployment	Claimant rate: Percentage of the working age population who are claiming out of work benefit - 2012/13	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> NOMIS Labour Market Statistics
NEET %	Not in Education, Employment or Training (as at	Early Help Needs Analysis



	September 2014)	
Lone parent not in employment %	Percentage in ward	Census 2011
<b>Crime</b>		
Total Recorded Crime 2014/15 (rate per 1,000)	Total recorded ASB and crime per 1000 population 2014/15	<a href="https://data.police.uk/data/">https://data.police.uk/data/</a>
Crime Comparator 2007-08 (rate per 1,000)**	Crime Comparator is a total of the following crime types: Burglary of Domestic Home, Criminal Damage, Common Assault, Theft From Motor Vehicle, Theft Of Motor Vehicle, Other Vehicle Crime, Robbery, Theft of Pedal Cycle, Theft from a Person and Wounding. The PSA1 Crime Comparator is measured as a rate per 1,000 population.	<a href="http://local.bebirmingham.org.uk">http://local.bebirmingham.org.uk</a>
% Police & LPS Dealing with ASB & Crime 2010*	Indicator devised from the Annual Opinion Survey. The percentage is based on the number of respondents who stated that they strongly agree or tend to agree that the Police and other local public services are successfully dealing with ASB and crime issues in the local area.	<a href="http://local.bebirmingham.org.uk">http://local.bebirmingham.org.uk</a>
<b>Education</b>		
Special Education Need 2015 prevalence	Prevalence by ward	School Census Jan 2015
GCSE Achievement (5A*-C inc. Eng & Maths)	GCSE Achievement (5A*-C inc. Eng & Maths) - 2011/12	<a href="http://www.localhealth.org.uk">http://www.localhealth.org.uk</a> Department for Education
<b>Hospital Activity</b>		
Hospital Admissions for Self Harm, aggregated 2012-13 to 2014-15, 10-16 year olds (rate per 100,000)	A&E Attendances for Deliberate Self-Harm (10-16 year olds) [A&E patient group code 30] - Rate per 100,000 - 2012/13, 2013/14, 2014/15	Secondary User Service
Admissions from Mental Health, aggregated 2012-13 to 2014-15, 10-16 year old rate per 100,000)	Admissions from Mental Health (10-16 year olds) [ICD-10: F00-F99]Rate per 100,000 - 2012/13 , 2013/14, 2014/15	Secondary User Service
<b>New Indicators 2015</b>		
Under 18 conception rate	Under 18 conceptions (rate per 1,000) 2011-13	Office National Statistics
Pupils receiving free school meals	Percentage pupils at state-funded primary and secondary receiving free school meals 2015	School Census 2015
Offender aged <16	Rate per 10,000 Under 16 recorded as committing a crime 2013-14	West Midlands Police
Victims of crime <16	Rate per 10,000 Under 16 recorded as victim of crime 2013-14	West Midlands Police
Persistent absentees	% enrolled pupils classed as persistent absentees (38 sessions or more) Autumn 2013 and Spring 2014	<a href="https://www.gov.uk/government/statistics/">https://www.gov.uk/government/statistics/</a> Department for Education
CAMHS Referrals	Rate per 10,000 referrals to CAMHS service 2009-2012	CAMHS Service
School exclusions	Children's services data on state-maintained schools 2013-14	BCC Children's Services
Young Carers	Prevalence of provision of unpaid care by 0-15 year olds	<a href="http://www.nomisweb.co.uk/census/2011/lc3304ew">http://www.nomisweb.co.uk/census/2011/lc3304ew</a> Census 2011