

Protecting and improving the nation's health

# How does the health and wellbeing of children and young people in London compare with four major cities in England?

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Public Health England Wellington House 133-155 Waterloo Road London SE1 8UG Tel: 020 7654 8000 www.gov.uk/phe Twitter: @PHE\_uk Facebook: www.facebook.com/PublicHealthEngland

Prepared by: Dr Marilena Korkodilos, Deputy Director, Specialist Public Health Services, PHE (London), Allan Baker, Deputy Head of Epidemiology and Surveillance, Chief Knowledge Officer's Directorate, PHE and Professor Russell Viner, UCL Institute of Child Health and Clinical Lead, London Strategic Clinical Network

For queries relating to this document, please contact: marilena.korkodilos@phe.gov.uk

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## **Executive summary**

### Background

More than two million children and young people (CYP) live in London, representing nearly one in four (24.5%) of all people in London. Measuring and reporting their circumstances is key to improving their wellbeing. Comparisons between London and other major urban centres in England would show where other cities are doing better than London in order to identify opportunities for improving the health of CYP in London.

### Aims

To compare the health and wellbeing of children and young people in London to those of four major cities in England.

#### Methods

Twenty-one indicators were drawn from the Public Health England Children and Young People's Health Benchmarking Tool and Sexual and Reproductive Health Profile Tool and used to compare the cities to the England average (EA). Indicators were chosen for availability, potential for intervention and lifelong importance.

#### Results

Of the ten indicators of health status examined, health outcomes were significantly worse in London than England for six of these. All of the six indicators of health systems quality were also significantly worse in London than England. Outcomes in London are worse than Bristol and Leeds for a range of indicators in particular childhood obesity, immunisation uptake (with the exception of HPV uptake in Bristol) and A&E attendances. A mixed picture is seen when comparing London to Birmingham and Manchester, with some indicators (eg infant and child mortality) being worse than London and others (eg DTAP/IPV/Hib and MMR immunisation uptake) being better.

Key issues of concern for CYP in London include childhood obesity, incidence of sexually transmitted infections, immunisation uptake and A&E attendances.

### Conclusions

Public health challenges associated with CYP in London are significant. There are substantial variations in CYP outcomes in London compared to England and four major cities in England. For London, some indicators match or are better than the England average, whilst other indicators are poorer than England and other major cities in England. The causes of this variation needs to be explored further, whether due to demographic factors or differences relating to policy and health service factors, to inform changes to improve outcomes for CYP in London and to understand what all cities could learn from each other.

## Background

"The state of London's children today determines the state of London tomorrow" (Mayor of London Report, 2007<sup>1</sup>)

What happens before pregnancy, in the early years and childhood affects children's health and wellbeing in later life and has a major impact on their life chances as adults. More than two million children and young people live in London, representing nearly one in four (24.5%) of all people in London aged under 20 years. Measuring and reporting their circumstances is key to improving their wellbeing.<sup>2</sup>

The health and wellbeing of children and young people in London has improved in many ways over the past two decades. However there are areas that have improved little for London's children, such as child poverty and health inequalities. Comparisons have been uniformly made between London and the England average, which may not always be the most suitable comparison for the capital.<sup>3</sup> Population demographics in London are markedly different to that of many parts of England and large urban areas are likely to have a range of health disadvantages (e.g. crowding, pollution) and potential health advantages (eg better access to health services) than rural areas. It is therefore useful to compare London with other major urban centres in England, which are likely to share issues related to urbanicity, demographics and health care. Such a comparison would show where other cities are doing better than London in order to identify opportunities for improving the health of children and young people in London.

## Aims

To compare the health and wellbeing of children and young people in London to those of four major cities in England.

## Methods

## City comparators

London is often regarded as unique among major English cities because of the size of its population, its ethnic diversity and its population 'churn' – the size of the in and outflows of people. The capital is exceptional in terms of its size – over seven times larger than Birmingham, the second largest city in England.<sup>3</sup> Whilst there is no perfect comparator for London, *Capital Concerns: Comparing London's Health Challenges with England's Largest Cities* suggested that of the other major cities in

England the closest comparator cities are Birmingham and Manchester, followed by Leeds and Bristol. These four cities were used in the analysis.

### Health indicators

The EU has suggested 31 indicators based on parental determinants, child morbidity and mortality, child lifestyle determinants and health systems quality.<sup>4,5</sup> These indicators were proposed to recognise that children's health is a marker of the wellbeing and progress of a society and to stimulate commitment to their positive use by child health professionals in EU member states. The North West Public Health Observatory's Report *North West Children and Young People's Health Indicators* suggested 32 indicators to set a benchmark against which progress towards improving health and reducing inequalities for children in the North West could be measured.<sup>6</sup> The indicators suggested in all reports used were based on objective selection criteria to ensure their fitness for purpose.

We used a subset of these indicators and also looked at sexual health outcomes in young people. In total, 21 indicators were used to compare the cities in England based on availability, potential for intervention and lifelong importance. The PHE Children and Young People's Health Benchmarking Tool and and Sexual Health and Reproductive Health Profile Tool (http://fingertips.phe.org.uk/) were used as the source of the data to ensure comparable results.

## Analyses

Summary data for each city and for England are presented as indicator values and 95% confidence intervals. Significance was estimated based on confidence intervals overlapping the value for England, which was used as the reference value or, for some indicators, specific goals (see Table 1).

## Results

Table 1 summarises child health indicators across London, Birmingham, Manchester, Bristol and Leeds and shows a comparison of each city with the average for England using a colour-coded RAG system (red shows cities that are significantly worse than the England average, with amber showing similar and green showing cities that are significantly better than the England average). Chlamydia diagnoses and immunisation uptake were benchmarked against goals: <1,900 red, 1,900–2,300 amber and ≥2,300 green for chlamydia diagnoses; <90% red and ≥90% green for DTaP/IPV/Hib and MMR immunisation uptake; <previous year's England average red and ≥previous year's England average green for HPV immunisation uptake. High chlamydia diagnoses rates are considered to be good as they demonstrate an improvement in detection.

The RAG rating for each city depends on the width of the 95% confidence interval around each indicator and whether or not this overlaps with the England value or specific goal. The width of confidence intervals may vary between cities, even when their indicator values are similar. For example, the percentage of low birthweight term babies is 3.1% in both London and Leeds, but London is coloured red in Table 1, while Leeds is yellow. This is because the narrower confidence interval for the London value does not overlap with the England figure, but the wider confidence interval for Leeds does overlap.

Confidence intervals for the results in Table 1 are provided in Appendix Table B.

#### Table 1: Child health indicators in London, Birmingham, Manchester, Bristol and Leeds compared with England

Indi	cator	England	London	Birmingham	Manchester	Bristol	Leeds
Den	nography and educational attainment						
1	% child poverty in under 16's (2012)	19.2	23.7	29.9	33.9	23.6	21.6
2	% educational attainment - (GCSEs) (2013/14)	56.8	61.4	56.0	51.5	55.2	51.0
Pare	ental determinants						
3	% women smoking at delivery (2013/14)	12.0	5.1	9.3	12.5	12.7	13.2
4	% breastfeeding initiation (2012/13)	73.9	86.8	68.4	65.1	80.7	68.2
5	% breastfeeding at 6 - 8 weeks after birth (2012/13)	47.2	68.5	51.4	*	*	47.3
Hea	Ith status - Child mortality						
6	Infant mortality per 1,000 live births (2011/13)	4.0	3.8	7.1	4.5	3.3	3.4
7	Child mortality per 100,000 children aged 1-17 years (2011/13)	11.9	12.2	14.9	18.1	10.8	10.0
8	Children killed or seriously injured in road traffic accidents per 100,000 children aged 0-15 years (2010-12)	20.7	15.3	32.5	26.3	14.4	27.3
Hea	Ith status - Child health outcomes						
9	% low birthweight of term babies (2012)	2.8	3.1	3.9	3.4	2.3	3.1
10	% tooth decay in children aged 5 years (2011/12)	0.94	1.23	1.17	1.78	0.78	1.19
11	% overweight/obesity in 4-5 year olds (2013/14)	22.5	23.1	23.3	25.8	23.0	23.0
12	% overweight/obesity in 10-11 year olds (2013/14)	33.5	37.6	38.8	40.3	34.8	34.2
13	Chlamydia diagnoses per 100,000 young people aged 15-24 years (2013)	2,016	2,179	2,167	2,006	2,092	2,607
14	Acute sexually transmitted infections (STIs) including chlamydia per 1,000 young people aged 15-24 years (2012)	34.4	41.9	37.7	37.6	42.7	41.0
15	Teenage pregnancy per 1,000 females aged 15-17 years (2013)	24.3	21.8	25.9	36.5	25.7	31.6
Hea	Ith systems quality						
16	% immunisation uptake DTaP/IPV/Hib at 1 year (2013/14)	94.3	89.8	91.5	95.4	96.0	96.2
17	% immunisation uptake MMR at 2 years (2013/14)	92.7	87.5	88.3	92.9	92.3	95.3
18	% immunisation uptake HPV (2013/14)	86.7	80.0	87.9	77.9	76.6	94.0
19	A&E attendances per 1,000 children aged 0-4 years (2013/14)	525.6	675.3	562.8	803.2	463.7	415.6
20	Hospital admission for asthma per 100,000 children aged 0-18 years (2013/14)	197.1	204.8	346.1	468.2	170.7	170.2
21	Hospital admissions for mental health conditions per 100,000 children aged 0-17 years (2013/14)	87.2	101.9	93.6	101.9	76.2	38.5

Key: red - significantly worse, amber - similar, green - significantly better in comparison with England (or benchmarked goals for immunisation uptake and chlamydia diagnoses)

#### **Definitions:**

- 1. Child poverty: percentage of children
- 2. Educational attainment: percentage of children achieving 5 or more GCSEs at grade A\*-C, including maths and English
- 3. Smoking status at delivery: percentage of women who smoke at time of delivery
- 4. Breastfeeding initiation: percentage of mothers who give their babies breast milk in the first 48 hours after delivery
- 5. Breastfeeding continuation: percentage of infants that are totally or partially breastfed at age 6-8 weeks
- 6. Infant mortality: infant deaths under 1 year per 1,000 live births
- 7. Child mortality: directly standardised rate of death due to all causes per 100,000 persons aged 1-17
- 8. Children killed or seriously injured in a road traffic accident: crude rate of children aged 0-15 who were killed or seriously injured in road traffic accidents per 100,000 population
- 9. Low birthweight of term babies: live births with a recorded birth weight under 2,500g and a gestational age of at least 37 complete weeks as a percentage of all live births with recorded birthweight and a gestational age of at least 37 complete weeks
- 10. The mean number of teeth per child aged 5 that were either actively decayed or had been filled or extracted
- 11. Overweight or obese children aged 4-5 years: percentage of overweight or obese children
- 12. Overweight or obese children aged 10-11 years: percentage of overweight or obese children
- 13. Chlamydia diagnoses: crude rate of chlamydia screening detection per 100,000 young adults aged 15-24 based on their area of residence
- 14. Acute sexually transmitted infections: the indicator is a combination of diagnoses made by genitourinary medicine (GUM) clinics, the National Chlamydia Screening Programme (NCSP) and outside these settings in other sexual health services (non-NCSP, non-GUM settings such as GPs not registered with the NCSP) expressed as a rate per 1,000 population
- 15. Teenage pregnancy: conceptions in women aged under 18 per 1,000 females aged 15-17 years
- 16. Immunisation uptake DTaP/IPV/Hib at 1 year: children for whom the PCT is responsible who received 3 doses of DTaP/IPV/Hib vaccine at any time by their first birthday as a percentage of all children whose first birthday falls within the time period
- 17. Immunisation uptake MMR at 2 years: all children for whom the PCT is responsible who received one dose of MMR vaccine on or after their first birthday and at any time up to their second birthday
- 18. Immunisation uptake HPV: all girls aged 12 to 13 years who have received all three doses of the HPV vaccine within each reporting area (at present PCT responsible population) as a percentage of all girls aged 12 to 13 years within each area
- 19. A&E attendances: A&E attendance rate per 1,000 population aged 0-4 years
- 20. Hospital admissions for asthma for children aged 0-18 years: emergency hospital admissions for asthma, crude rate per 100,000
- 21. Hospital admissions for mental health disorders: inpatient admission rate for mental health disorders per 100,000 population aged 0-17 years

### Demography and educational attainment

Just under a quarter of children in London live in poverty, which is higher than the England average, but lower than Birmingham and Manchester. Despite this, children in London are significantly more likely to have better educational attainment than the England average and all four other cities,<sup>i</sup> suggesting that disadvantaged children living in London are more likely to do better in school. Figures on GSCE achievement by free school meal status, as used in the Marmot Indicators, would seem to confirm this<sup>7</sup> and this may in part be related to the ethnicity of London's school children. Within England as a whole in 2013/14, children from Asian, black, Chinese and mixed groups who were eligible for free school meals had better GCSE achievement than white pupils.<sup>8</sup> Although figures on free school meal status by ethnic group are not published for local authorities, Table 2 shows that for under 16s, half of Londoners were from Asian, black and mixed ethnic groups, and this proportion was only higher in Birmingham.

#### Table 2: Percentage of population by broad ethnic group for 0-15 year olds, 2011

						All ethnic
	White	Asian*	Black	Mixed	Other	groups
England	77.9	10.3	5.1	5.5	1.3	100
London	46.3	19.8	19.0	10.9	4.0	100
Birmingham	40.8	35.8	10.9	9.5	3.0	100
Manchester	49.6	22.4	13.4	9.9	4.6	100
Bristol	72.0	7.4	11.0	8.4	1.2	100
Leeds	75.9	11.5	5.0	6.2	1.4	100

\*Asian total includes Chinese Source: 2011 Census

### Parental determinants

London compares well to the England average and compares very well to other cities in terms of parental determinants. Women living in London are less likely to smoke at delivery compared with England and all four cities. They are also more likely to initiate breastfeeding and continue to breastfeed at 6–8 weeks than the England average. Of the four comparator cities only Bristol has a breastfeeding initiation rate that is higher than England, although this is still significantly worse than London. These findings may also be partly related to the ethnicity of mothers in London. Women from all minority ethnic backgrounds are more likely to breastfeed compared with white mothers.<sup>9</sup> Although there is a lack of national data on smoking in pregnancy by ethnic group, women from most minority ethnic backgrounds report lower smoking prevalence than the general population.<sup>10</sup>

<sup>&</sup>lt;sup>i</sup> To enable comparisons of significant differences between London and the other comparator cities, indicator values with 95% confidence intervals are presented in Appendix Table B.

The data in Table 3 show that the proportion of women aged 15–44 from minority ethnic groups is higher in London than in the other comparator cities, except Birmingham. A more detailed table of ethnic populations for children and young people, and women aged 15–44, is provided in Appendix Table A.

						All ethnic
	White	Asian*	Black	Mixed	Other	groups
England	81.6	10.3	4.4	2.5	1.2	100
London	57.5	20.2	14.0	4.8	3.5	100
Birmingham	53.2	30.7	9.6	4.5	2.0	100
Manchester	65.7	18.3	8.6	4.6	2.8	100
Bristol	82.4	7.0	5.9	3.8	0.9	100
Leeds	82.4	9.4	4.1	2.9	1.2	100

#### Table 3: Percentage of population by broad ethnic group for women aged 15-44, 2011

\*Asian total includes Chinese Source: 2011 Census

### Health status

#### Mortality

London has similar infant mortality to the England average and only Birmingham has significantly worse infant mortality than London amongst the other English cities examined. There is regional variation in registering live births according to gestational age category<sup>11</sup>, in Birmingham it accounts for about 20% of the infant mortality rate (personal communication), which may explain part of the increased infant mortality rate in Birmingham. London has higher overall mortality for children and young people (CYP) than the England average, however, CYP seriously injured or killed in a road traffic accident (RTA) is lower in London than the England average.

In comparison with London, Birmingham has substantially higher infant mortality, Manchester has substantially higher CYP mortality but not infant mortality, and Manchester, Birmingham and Leeds have markedly higher RTA deaths and serious injuries, approximately twice that of London.

#### Child health outcomes

London, Birmingham and Manchester each perform uniformly poorly when compared to the England average for child health outcome indicators. The one exception is that London has a

much lower teenage conception rate than the England average, notably lower than in the other cities.

For the other indicators, London has largely similar child health outcome indicators to Birmingham, with the exception of the percentage of babies born at low birthweight. In contrast, Manchester has predominantly higher morbidity than London across most indicators and tops the table for childhood obesity. Bristol and Leeds have similar or lower morbidity to London across most indicators.

Although young people living in London have similar rates of chlamydia diagnoses as the England average, they have significantly higher rates of sexually transmitted infections overall.

### Health systems quality

Immunisation uptake rates in London are lower than the England average. All four comparator cities have higher immunisation uptake rates for DTaP/IPV/Hib at one year and higher immunisation uptake rates for MMR at two years compared with London. Bristol and Manchester have a lower uptake rate of HPV immunisation compared with London.

Hospital use by children and young people in London is significantly higher than the England average for the three indicators included in Table 1. A&E attendances of children aged 0–4 years and hospital admissions rates for asthma are higher than England in London, Birmingham and Manchester, with Manchester having the highest rate of all five cities in both cases. For hospital admissions for mental health conditions, London and Manchester have the same admission rate, although only London is statistically significantly higher than England.

## Discussion

### Health indicators

Although there have been improvements for CYP living in London, for example, teenage pregnancy rates have fallen by half over the past decade, their health and wellbeing remains a concern.

When compared with the four other cities, London has better outcomes for parental determinants (smoking in pregnancy, breast feeding at delivery). Health outcomes and mortality in London are worse than England for six out of the ten indicators of health status examined, and worse than England for all six indicators of health systems quality.

Outcomes in London are worse than Bristol and Leeds for a range of indicators, in particular, childhood obesity, immunisation uptake (with the exception of HPV uptake in Bristol), A&E attendances and hospital admissions for asthma, and mental health conditions. A mixed picture is seen when comparing London with Birmingham and Manchester, with some indicators (eg infant and child mortality) being worse than London and others (eg DTAP/IPV/Hib and MMR immunisation uptake) being better.

Key issues of concern for CYP in London include child mortality, childhood obesity, incidence of sexually transmitted infections, immunisation uptake and A&E attendances. The extent to which the differences in these outcomes are preventable due to either different characteristics of cities or patterns of practice and service provision of CYP healthcare needs to be explored, as it is likely that both contribute to the poorer outcomes in some health indicators in London.

Birmingham matches London most closely in terms of population size and ethnic diversity, but has a higher overall level of child poverty compared to London. Similarly, Manchester also has a mobile, ethnically diverse population but a much higher level of child poverty than London. Bristol and Leeds have similar average levels of child poverty to London, but are considerably smaller and less ethnically diverse.<sup>3</sup> There are well established partnerships in Manchester and Leeds that bring together key agencies to improve CYP's wellbeing through integrating planning and delivery of services<sup>12,13</sup> and integrating work to improve the health and wellbeing of children has been prioritied in the Bristol Health and Wellbeing Strategy.<sup>14</sup> Further comparisons and actions being taken at a city level to address CYP's wellbeing may be helpful in identifying opportunities for health improvement in London through learning from practice being undertaken elsewhere.

### Defining comparators for London

As with the *Capital Concerns*<sup>3</sup> report, our interest has been in how London compares to other English cities. Therefore, we have not made comparisons with larger metropolitan areas, as these may contain more than one city. The West Midlands metropolitan county, for example, includes the cities of Birmingham, Wolverhampton and Coventry. Comparisons have been made with cities with single-tier administrations, responsible for delivering services to their populations. Devolution plans will, however, produce larger administrative areas, for instance, control of health spending in Greater Manchester.

Comparing London to the cities selected in this report also ensures that the analysis is largely restricted to comparisons of urban areas. In addition, indicators in this report were identified from sources which, in the main, have only published data at local authority level. Although comparisons between London and larger metropolitan areas

may be a fruitful area for future research, it would require additional resource to create indicators for these geographies.

When comparing cities in this way, for both demographic and health indicators, it should be remembered that their populations are defined by administrative boundaries, and that redefining these boundaries would change outcomes significantly. Manchester, for example, has the highest child mortality rate (18.1 per 100,000 children aged 1–17 years) of the cities compared here. Meanwhile, its neighbouring metropolitan boroughs of Trafford, which borders Manchester to the west, and Stockport, which borders to the east, have child mortalty rates of 15.4 per 100,000 children 9.9 per 100,000 children respectively. A reconfiguration of administrative areas could therefore lead to an immediate improvement in child mortality rates in Manchester and a completely different comparative picture.

In this report, we have not compared London to the metropolitan counties, however, for reasons outlined above, such comparisons could be considered for future analyses.

## Conclusions

Public health challenges associated with CYP in London are significant. There are substantial variations in CYP outcomes in London compared to England and four major cities in England. For London, some indicators match or are better than the England average, whilst other indicators are poorer than England and other major cities in England. The causes of this variation needs to be explored further, whether due to demographic or city characteristics or differences relating to policy and health service factors, to inform changes to improve outcomes for CYP in London and to understand where cities could learn lessons from London.

## References

- 1. Greater London Authority (2007) The State of London's Children Report
- 2. Public Health England London (2014) *The health and wellbeing of children and young people in London: An evidence based resource*
- 3. London Health Observatory (2012) *Capital Concerns: Comparing London's health challenges with England's largest cities*
- 4. European Union Community Health Monitoring Programme (2002) *Child Health Indicators* of Life and Development (CHILD) Report to the European Commission
- 5. Child health measurement and indicators (2011) *An update in a gaps perspective. RICHE Work Package 2*
- 6. North West Public Health Observatory (2008) *North West Children and Young People's Health Indicators* Available at http://www.nwph.net/nwpho/publications/CAYPHI.pdf
- 7. Marmot Indicators for local authorities in England, 2014. Available at http://www.lho.org.uk/lho\_topics/National\_Lead\_Areas/Marmot/MarmotIndicators2014.aspx
- Department for Education (2015) GCSE and equivalent attainment by pupil characteristics: 2014 (Table 2a in National and Local Authority tables) Available at: https://www.gov.uk/government/statistics/gcse-and-equivalent-attainment-bypupil-characteristics-2014
- 9. Health and Social Care Information Centre (2012) *Infant Feeding Survey, 2010.* Available at:

http://www.hscic.gov.uk/catalogue/PUB08694/Infant-Feeding-Survey-2010-Consolidated-Report.pdf

10. Health and Social Care Information Centre (2014) Statistics on Smoking, 2014. Available at:

http://www.hscic.gov.uk/catalogue/PUB14988/smok-eng-2014-rep.pdf

- 11. Department of Health (2007) Review of the health inequalities infant mortality PSA target
- 12. *The Greater Manchester Strategy 2013-2020.* Available at http://www.agma.gov.uk/gmca/gms\_2013/index.html
- 13. Leeds' Children and Young People's Plan 2011-2015. Available at https://www.nfer.ac.uk/emie/documents/Plans/CYPP2009\_LEED\_2009-14.pdf
- 14. *Bristol Health and WellBeing Strategy 2013* Available at http://www.bristol.gov.uk/page/adult-care-and-health/health-and-wellbeing-strategy

### Appendix Table A: Percentage of population by ethnic group, results from the 2011 census

0-15 years	White	White					Other	Black	Black	Black			All ethnic
(persons)	British	Other	Indian	Pakistani	Bangladeshi	Chinese	Asian	African	Caribbean	Other	Mixed	Other	groups
England	73.6	4.3	2.7	3.7	1.5	0.5	1.9	3.0	1.0	1.1	5.5	1.3	100
London	36.3	10.0	5.3	3.8	4.5	0.8	5.4	10.8	4.0	4.2	10.9	4.0	100
Birmingham	38.2	2.5	4.9	21.3	5.1	0.7	3.8	4.4	3.5	3.0	9.5	3.0	100
Manchester	45.6	4.0	2.2	13.5	2.2	1.6	2.9	8.6	1.5	3.3	9.9	4.6	100
Bristol	67.8	4.2	1.9	3.1	1.0	0.4	1.1	6.0	1.3	3.7	8.4	1.2	100
Leeds	72.9	3.0	2.0	5.7	1.4	0.6	1.7	3.4	0.6	1.0	6.2	1.4	100

15-24 years (persons)	White British	White Other	Indian	Pakistani	Bangladeshi	Chinese	Other Asian	Black African	Black Caribbean	Black Other	Mixed	Other	All ethnic groups
England	76.0	5.1	2.9	2.7	1.2	1.6	1.8	2.3	1.1	0.6	3.5	1.3	100
London	40.4	11.9	6.7	3.5	3.8	2.5	5.4	8.3	4.3	2.5	6.8	4.0	100
Birmingham	49.2	3.7	6.8	14.3	3.4	2.7	3.1	3.1	3.6	1.8	6.3	2.2	100
Manchester	59.8	6.3	2.9	7.4	1.2	5.2	2.4	4.1	1.3	1.2	5.5	2.6	100
Bristol	75.5	5.4	1.7	1.5	0.5	2.5	1.2	3.0	1.2	1.4	5.2	0.9	100
Leeds	79.6	3.6	2.2	3.2	0.6	1.5	1.2	1.9	0.7	0.5	3.8	1.2	100

15-44													
years	White	White					Other	Black	Black	Black			All ethnic
(females)	British	Other	Indian	Pakistani	Bangladeshi	Chinese	Asian	African	Caribbean	Other	Mixed	Other	groups
England	73.2	8.3	3.3	2.6	1.0	1.2	2.2	2.6	1.2	0.6	2.5	1.2	100
London	38.0	19.5	6.8	2.7	2.9	2.2	5.5	8.0	4.1	1.9	4.8	3.5	100
Birmingham	48.1	5.0	7.0	15.1	3.4	1.9	3.2	3.6	4.3	1.8	4.5	2.0	100
Manchester	57.3	8.4	2.7	8.0	1.2	3.8	2.6	5.6	1.7	1.3	4.6	2.8	100
Bristol	73.7	8.7	1.9	1.6	0.5	1.6	1.4	3.1	1.3	1.5	3.8	0.9	100
Leeds	77.2	5.2	2.6	3.4	0.6	1.3	1.6	2.7	0.8	0.5	2.9	1.2	100

## Appendix Table B: Child health indicators in London, Birmingham, Manchester, Bristol and Leeds compared with England

(with 95% confidence intervals)

Indicator	England	London	Birmingham	Manchester	Bristol	Leeds
Demography and educational attainment						
1 % child poverty in under 16's (2012)	<b>19.2</b> (19.2-19.2)	23.7 (23.6-23.7)	29.9 (29.7-30.1)	<b>33.9</b> (33.6-34.2)	23.6 (23.3-23.9)	21.6 (21.5-21.8)
2 % educational attainment - (GCSEs) (2013/14)	56.8 (56.7-56.9)	61.4 (61.0-61.7)	56.0 (55.1-56.9)	<b>51.5</b> (50.0-52.9)	<b>55.2</b> (53.5-57.0)	<b>51.0</b> (49.9-52.1)
Parental determinants						
<sup>3</sup> % women smoking at delivery (2013/14)	12.0 (11.9-12.1)	5.1 ( 5.0-5.2 )	9.3 ( 8.9-9.8 )	<b>12.5</b> (11.8-13.2)	<b>12.7</b> (11.9-13.5)	<b>13.2</b> (12.5-13.9)
4 % breastfeeding initiation (2012/13)	73.9 (73.7-74.0)	86.8 (86.6-87.0)	68.4 (67.7-69.1)	65.1 (64.1-66.1)	80.7 (79.7-81.7)	68.2 (67.4-69.1)
5 % breastfeeding at 6 - 8 weeks after birth (2012/13)	<b>47.2</b> (47.1-47.3)	68.5 (68.3-68.8)	<b>51.4</b> (50.6-52.1)	n/d	n/d	<b>47.3</b> (46.4-48.3)
Health status - Child mortality						
<sup>6</sup> Infant mortality per 1,000 live births (2011-13)	4.0 ( 3.9-4.1 )	3.8 ( 3.7-4.0 )	7.1 ( 6.4-7.9 )	<b>4.5</b> ( 3.7-5.4 )	3.3 ( 2.6-4.3 )	3.4 ( 2.8-4.1 )
7 Child mortality per 100,000 children aged 1-17 years (2011-13)	<b>11.9</b> (11.6-12.3)	<b>12.2</b> (11.2-13.2)	<b>14.9</b> (12.3-17.8)	<b>18.1</b> (13.7-23.5)	<b>10.8</b> (7.2-15.6)	<b>10.0</b> (7.3-13.4)
8 Children killed or seriously injured in road traffic accidents per 100,000 children aged 0-15 years (2010-12)	20.7 (20.2-21.2)	<b>15.3</b> (14.2-16.4)	32.5 (28.5-36.9)	<b>26.3</b> (20.8-32.9)	<b>14.4</b> (10.0-20.1)	<b>27.3</b> (22.5-32.9)
Health status - Child health outcomes						
9 % low birth weight of term babies (2012)	2.8 ( 2.8-2.8 )	3.1 ( 3.0-3.2 )	3.9 ( 3.7-4.3 )	<b>3.4</b> ( 3.0-3.9 )	2.3 ( 2.0-2.7 )	3.1 ( 2.7-3.4 )
<sup>10</sup> Tooth decay in children aged 5 years (mean number of teeth) (2011/12)	0.94 (0.93-0.96)	1.23 (1.19-1.27)	<b>1.17</b> (1.00-1.34)	<b>1.78</b> (1.41-2.15)	0.78 (0.42-1.14)	<b>1.19</b> (1.07-1.32)
11 % overweight/obesity in 4-5 year olds (2013/14)	22.5 (22.4-22.6)	<b>23.1</b> (22.9-23.4)	23.3 (22.6-23.9)	25.8 (24.7-26.9)	<b>23.0</b> (21.9-24.3)	<b>23.0</b> (22.1-23.8)
12 % overweight/obesity in 10-11 year olds (2013/14)	<b>33.5</b> (33.4-33.7)	<b>37.6</b> (37.2-37.9)	<b>38.8</b> (38.0-39.6)	40.3 (39.0-41.7)	<b>34.8</b> (33.3-36.4)	<b>34.2</b> (33.2-35.3)
<sup>13</sup> Chlamydia diagnoses per 100,000 young people aged 15-24 years (2013)	2,016 (2,005-2,026)	2,179 (2,151-2,207)	2,167 (2,099-2,236)	2,006 (1,921-2,093)	2,092 (1,987-2,201)	2,607 (2,519-2,698)
14 Acute sexually transmitted infections (STIs) including chlamydia per 1,000 young people aged 15-24 years (2012)	<b>34.4</b> (34.3-34.6)	<b>41.9</b> (41.5-42.3)	37.7 (36.8-38.6)	37.6 (36.5-38.8)	42.7 (41.2-44.2)	<b>41.0</b> (39.9-42.1)
15 Teenage pregnancy per 1,000 females aged 15-17 years (2013)	24.3 (24.0-24.7)	<b>21.8</b> (21.1-22.6)	<b>25.9</b> (23.8-28.1)	<b>36.5</b> (32.4-41.0)	<b>25.7</b> (21.9-29.9)	<b>31.6</b> (28.6-34.9)
Health systems quality						
16 % immunisation uptake DTaP/IPV/Hib at 1 year (2013/14)	94.3 (94.3-94.4)	89.8 (89.6-89.9)	<b>91.5</b> (91.1-91.9)	95.4 (94.9-95.9)	96.0 (95.5-96.4)	96.2 (95.8-96.5)
17 % immunisation uptake MMR at 2 years (2013/14)	92.7 (92.6-92.7)	87.5 (87.3-87.6)	88.3 (87.8-88.7)	92.9 (92.3-93.4)	92.3 (91.7-93.0)	95.3 (94.9-95.7)
18 % immunisation uptake HPV (2013/14)	86.7 (86.6-86.8)	80.0 (79.6-80.4)	87.9 (87.1-88.7)	77.9 (76.3-79.5)	76.6 (74.7-78.4)	94.0 (93.2-94.7)
19 A&E attendences per 1,000 children aged 0-4 years (2013/14)	525.6 (524.8-526.3)	675.3 (673.3-677.4)	562.8 (557.8-567.9)	803.2 (794.2-812.3)	463.7 (456.1-471.3)	415.6 (410.0-421.3)
<sup>20</sup> Hospital admission for asthma per 100,000 children aged 0-18 years (2013/14)	<b>197.1</b> (194.6-199.6)	204.8 (198.6-202.0)	346.1 (325.2-368.0)	468.2 (430.2-508.8)	170.7 (145.5-199.1)	170.2 (151.1-191.1)
21 Hospital admissions for mental health conditions per 100,000 children aged 0-17 years (2013/14)	87.2 (85.5-88.9)	101.9 (97.4-106.6)	93.6 (82.6-105.6)	101.9 (84.2-122.4)	76.2 (59.3-96.4)	38.5 (29.4-49.4)