Leeds Maternity Health Needs Assessment March 2020
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Executive Summary

This Maternity Health Needs Assessment (HNA) provides an update on the 2014 analysis looking at the health needs and issues in relation to pregnancy and birth in Leeds. It utilises epidemiological and comparative approaches to explore where trends have changed over time and inequalities that exist in health outcomes for mothers and babies.

There are approximately 10,000 births per year in Leeds - a third to women residing in deprived Leeds. There has been an increase in the proportion of births to Black, Asian and Minority Ethnic (BAME) women since 2009, with ethnic minority groups overrepresented in deprived Leeds. There has also been an increase in births to non-British born mothers. The under 18 conception rate is rising in Leeds and is higher than national and regional rates; with the majority of births being to mothers in deprived Leeds.

There has unfortunately been a rise in the infant mortality rate in Leeds since the last HNA, with a persistent gap between deprived Leeds and Leeds overall. The stillbirth rate for Leeds declined from 2000/02; however, there has been a slight upward trend since 2013/15, as well a broadening inequalities gap. The gap in perinatal mortality rates between deprived and non-deprived Leeds has also widened. Furthermore, 43% of low birth weight (LBW) babies were born in deprived Leeds in 2016-2018. The large number of births taking place in deprived Leeds and the associated poor outcomes has significant resource implications and demonstrates a real need for joint working between agencies to meet demand and ameliorate observed health inequalities. It is also crucial that services are culturally competent and women and families are aware of the relevant services they are entitled to.

Smoking in pregnancy rates in Leeds are higher than national rates and are significantly higher amongst women who are under 18 years old at time of delivery – with no improvement since 2014. The percentage of mothers with obesity in Leeds has been rising, with a greater percentage residing in deprived Leeds. Wards with high rates of maternal obesity are Middleton Park and Killingbeck and Seacroft– both deprived areas with a large White British population. Above average rates of maternal obesity can be seen for some minority ethnic groups - White and Black African and African. Breastfeeding initiation rates in Leeds are lower than national rates, but have increased since 2014; and improvements have been observed in deprived Leeds. Breastfeeding continuation rates (6-8 weeks) are better in Leeds compared to national rates, although have dropped a little since 2013/14 and no improvement in deprived Leeds. The White population in Leeds has the lowest breastfeeding initiation and continuation rates of all ethnicities. Young mothers are also much less likely to initiate breastfeeding.

The percentage of mothers attending their booking appointment before 10 weeks gestation has increased in Leeds overall since 2012/2013. However, the percentage of mothers from deprived Leeds attending before 10 weeks has slightly dropped and thus the inequalities gap has widened. All minority groups other than Indian show below average attendance rates before 11 weeks. Rates of attendance for mums aged 19 and younger have also declined since 2014. There is a broad antenatal education offer in Leeds, but a need to look at the offer as a whole to determine gaps in reach and impact - robust data collection and sharing will be essential for this.

The complexities of women and families accessing services in Leeds are increasing; in terms of both physical health and social factors. Staff report a rise in the number of women homeless and sofa surfing. Many of the health behaviours and risk factors for poor birth outcomes (such as smoking, obesity and substance use) are established prior to pregnancy, often with limited potential to impact on these after conception. There needs to be greater emphasis on opportunities to promote preconception health across the reproductive years. There is also a need to work with

targeted communities in a collaborative way to address inequalities in health outcomes – the Continuity of Care agenda and Best Start Zones (in deprived areas of Leeds) provide opportunities with which to do this. Finally, data collection, reporting and sharing needs to be more robust with regards to women with complex needs – considering numbers, services accessed and health outcomes for mum and baby. This information is crucial to determine gaps in service provision, ascertain whether needs are being met, share best practice and ultimately work to reduce health inequalities.

COVID-19

This HNA was completed in March 2020 – just at the time of the COVID-19 outbreak in the UK and the associated 'lockdown'. Not long before this, the 'Health equity in England: The Marmot Review 10 years on' report was also published. The review cast light on the deteriorating health situation in England in the 10 years since the original Marmot report was produced in 2010 - highlighting that life expectancy in England has stalled. The more deprived an area, the shorter the life expectancy and the gap between deprived and non-deprived is increasing. The same can be seen for healthy life expectancy with people living in deprived areas spending more time in ill-health. The widening health inequalities in Leeds in relation to pregnancy and birth outcomes are in accordance with such findings.

Whilst much of the early commentary around COVID-19 gave the impression that COVID-19 had no boundaries and was indiscriminate in who it affected, it has become increasingly clear that the impacts of the disease fall disproportionately on certain parts of society.

> *Covid-19 is emphatically **not** the great leveller. It has shone a light on the great divides in our society. Everyone can catch it, everyone can die from it but the impact of the virus and the necessary measures to control its spread is not shared equally across society.*
> https://fairhealth.org.uk/2020/04/fair-health-in-the-time-of-covid-19/

COVID-19 threatens to exacerbate the deteriorating health situation outlined in the Marmot review and the health inequalities observed in this HNA. At a local level it is essential that we work as an integrated system to mitigate the impacts on those most at risk and to minimise the widening of the health inequalities gap.

Waves of Pandemic
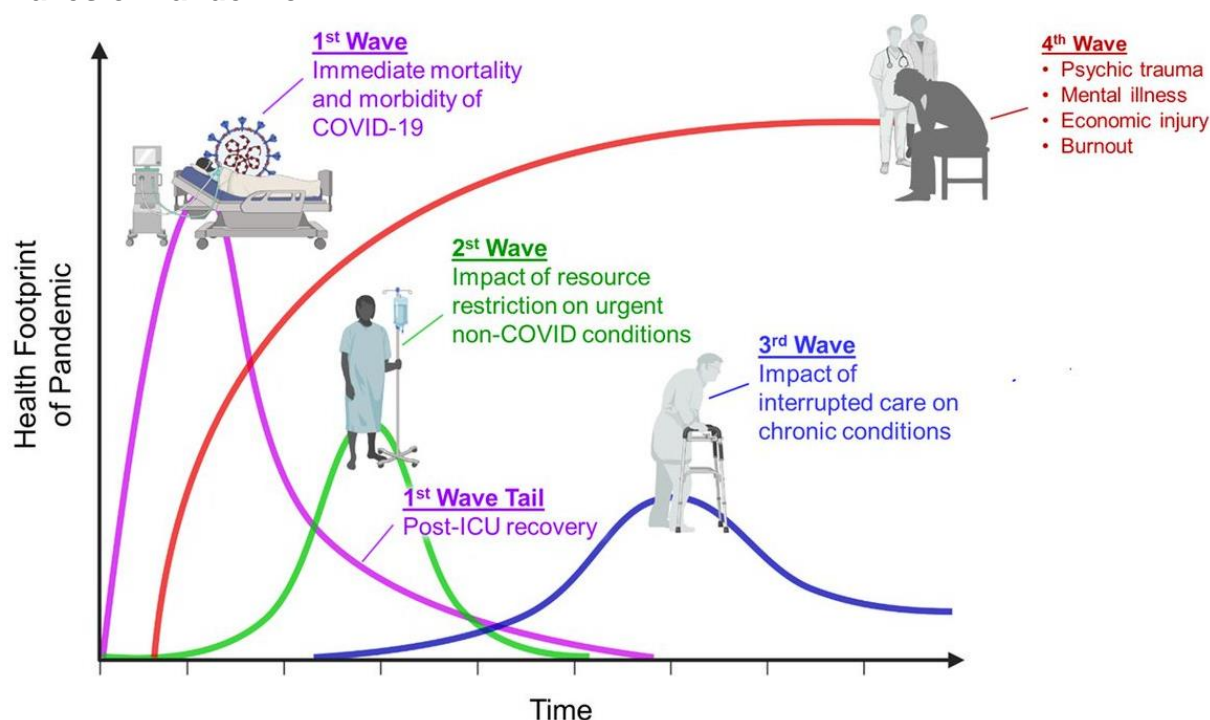
Introduction

Leeds Maternity Health Needs Assessment 2020

This Maternity Health Needs Assessment (HNA) provides an update on the in-depth analysis carried out in 2014 looking at the local health needs and issues in relation to maternity services in Leeds. It looks at where trends have changed over time and the inequalities that exist in health outcomes for mums and babies amongst the different groups living in Leeds.

Health Needs Assessments form the basis for determining priorities for service development, and as such, this report is intended to act as a resource to support Leeds Clinical Commissioning Group (CCG), Leeds Teaching Hospital Trust (LTHT), Public Health and wider partners. The Leeds Maternity Strategy is to be updated in 2020 and the HNA will support the development of this.

The pathway for women, babies and families from pre-conception to the early years is a complex one, with many interdependencies. This Health Needs Assessment seeks to present information that will assist both commissioners and providers to understand the health of local women and babies, and think holistically across maternity services and early years in order to address inequalities.

The report has been completed as 'desk-based' research. It includes both statistical analysis and qualitative data where this is available

Report Structure

This Health Needs Assessment draws together information gathered from a variety of local and national sources, as well as local stakeholders in order to give an overview of the wide range of issues affecting maternity services in Leeds. It is structured in the following way:

Demographic Data and Birth Indicators: Data looking at fertility rates, birth rates and birth outcomes including infant mortality, perinatal and neonatal mortality and stillbirth rates.

Factors Impacting Birth and Lifelong Outcomes: Smoking in pregnancy, maternal healthy weight and breastfeeding rates.

Maternity Services: Data looking at time of booking, accessing of antenatal education and place of birth in Leeds.

Health Inequalities: Available data and evidence regarding the mothers and babies from population groups known to experience poorer outcomes.

Methodology

An epidemiological approach has been used to better understand the distribution and patterns of determinants of health associated with pregnancy and birth, use of current service provision, and the effectiveness of interventions and services. Given limited resources the cost effectiveness of services has not been considered.

As this HNA builds on a significant body of earlier local work, including Leeds Maternity HNA (Erskine 2014), Leeds Maternity Access Health Equity Audit (Kelly 2017) and a Leeds Health Needs Assessment of Perinatal Mental Health (Erskine, 2017), a comparative approach is also being used to examine service provision between different populations and overtime. This is to enable key stakeholders to identify further actions to improve maternal and infant outcomes going forward.

Where available the views of stakeholders; professionals, patients and service-users, have been included. It is noted that the key maternity and perinatal services regularly undertake consultation work and gather service user feedback. This is important in informing local policy and changes in practice so where possible this has been incorporated.

Demographic Data and Birth Indicators

It is important to consider the numbers of women of child bearing age when thinking about possible birth figures, and also opportunities for preconception care. The ONS predictions suggest a steady increase in the numbers of women of child bearing age in Leeds – 177,000 by 2027. Moreover, ONS predicts approximately 10300 births in Leeds annually in their population projection components of change modelling data (based on the 2016 mid-year estimate).

Figure 1: Predicted Population of Women aged 15-44 years in Leeds - 2016 to 2027
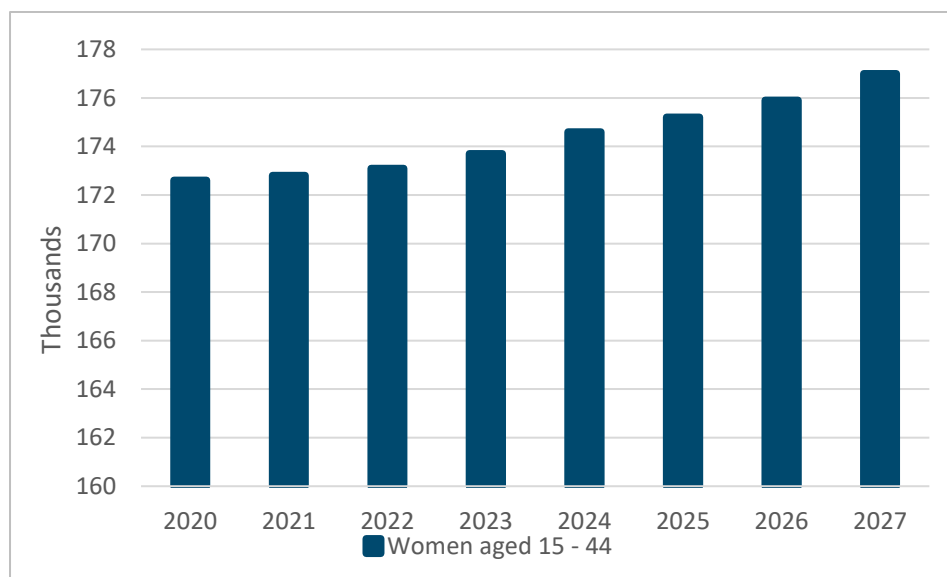
Source: ONS 2016 Based Projection

The correct support and care for women, babies and families from pre-conception to the early years is crucial to ensure the best outcomes; and there exists a broad offer in Leeds – including maternity services, 0-19 Public Health Integrated Nursing Service (PHINS), Children's Services and third sector organisations. When looking at the allocation and targeting of resources it is important to consider the numbers of women of childbearing age, the numbers of women who are pregnant, where they live and their possible level of need. We need to ensure that services are able to meet the demands of the city - reaching the right people and providing the appropriate care for the different groups of women and families living in Leeds. Throughout this report we will where possible utilise the available data to look at maternal factors and birth outcomes in relation to deprivation, ethnicity and age to support this.

Female Population and General Fertility Rate

Population data (2015-2017) based on GP registrations indicates that the population of females in Leeds aged 15-44 years to be 187,255 – an increase since 2014 when the population was 182,753. This is also notably higher than the ONS 2016 population predictions discussed previously.

The General Fertility Rate (GFR) describes the number of live births in a locality per 1,000 women aged 15-44 years. The GFR in Leeds using GP registration data from 2015-2017 is 53.8. The latest nationally reported general fertility rates are for 2017. In contrast to the local data this indicates that Leeds had a fertility rate of 57.9 - a lower rate than both England (61.2) and Yorkshire & Humber (60.6) (PHE, 2019a). For the purposes of this report we will utilise the local data from GP registrations to enable more in depth analysis of those living and giving birth in Leeds.

Table 1: Female Population in Leeds by Ward and General Fertility Rate (2015 to 2017)

Ward Name	% Females Aged 15-44 Years	Mean Number of Females Aged 15-44 Years	Mean Number of births	General Fertility Rate
Adel and Wharfedale	32.7%	3757	226	60.2
Alwoodley	37.0%	4646	293	63.0
Ardsley and Robin Hood	38.3%	4564	274	60.0
Armley	46.7%	5611	383	68.3
Beeston and Holbeck	47.2%	5906	404	68.5
Bramley and Stanningley	43.3%	5553	342	61.6
Burmantofts and Richmond Hill	45.6%	6187	527	85.2
Calverley and Farsley	39.3%	4639	323	69.7
Chapel Allerton	48.0%	6475	357	55.1
Cross Gates and Whinmoor	36.6%	4553	319	70.1
Farnley and Wortley	41.4%	5725	362	63.3
Garforth and Swillington	32.8%	3499	186	53.2
Gipton and Harehills	47.8%	8443	665	78.7
Guiseley and Rawdon	36.0%	4365	263	60.2
Harewood	30.1%	3121	170	54.6
Headingley and Hyde Park	85.2%	13224	117	8.9
Horsforth	39.9%	4759	262	55.0
Hunslet and Riverside	60.2%	8535	412	48.2
Killingbeck and Seacroft	40.6%	5178	327	63.1
Kippax and Methley	36.0%	3842	237	61.8
Kirkstall	55.6%	5778	231	39.9
Little London and Woodhouse	82.8%	17338	300	17.3
Middleton Park	42.4%	6922	513	74.1
Moortown	40.3%	4976	313	62.9
Morley North	36.6%	4506	266	59.1
Morley South	41.4%	4512	261	57.9
Otley and Yeadon	33.0%	3895	236	60.7
Pudsey	38.7%	5145	321	62.5
Rothwell	35.2%	3735	224	59.9
Roundhay	40.0%	5386	322	59.8
Temple Newsam	36.6%	4228	231	54.6
Weetwood	47.2%	5211	229	44.0
Wetherby	28.8%	3041	167	54.9
Leeds	44.6%	187255	10065	53.8

Source: GP Audit Population Public Health Intelligence Leeds, ONS Births data

It can be seen in Table 1 that areas such as Headingley and Hyde Park and Little London and Woodhouse have very low GFRs (8.9 and 17.3 respectively), which can be attributed to the large student populations in these areas.

Figure 2: General Fertility Rate in Leeds by Ward (2015 to 2017)
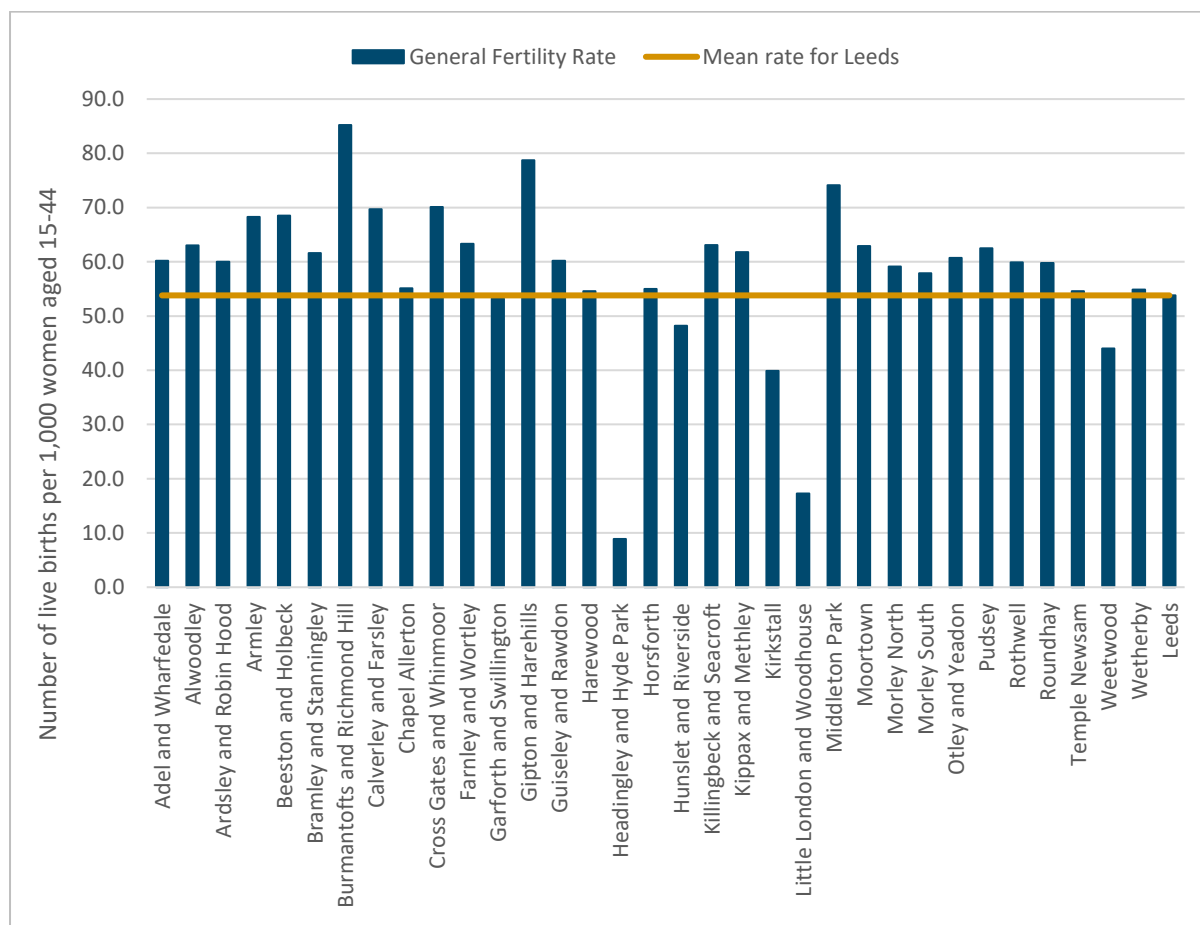
Source: GP Audit Population Public Health Intelligence Leeds, ONS Births

Figure 2 demonstrates that most wards cluster around the Leeds mean of 53.8 births per 1000 women in cohort. There are a few notable exceptions however, including the areas with a high student population as noted; as well as Burmantofts and Richmond Hill, Gipton and Harehills and Middleton Park which all have much higher levels of fertility.

Repeating the analysis using Index of Multiple Deprivation (IMD) Deciles (2015) it can be seen in Table 2 and Figure 3 below that the highest fertility rate is in the most deprived decile (77.2). However, the relationship between deprivation and fertility rates is not linear, with the lowest fertility rate recoded for IMD4 (21.7) and another peak rate for IMD7 (59.7).

Table 2: Female Population in Leeds by IMD Decile and General Fertility Rate (2015 to 2017)

IMD Decile	% Females Aged 15-44 Years	Mean Number of Females Aged 15-44 Years	Mean Number of Births	General Fertility Rate
1	45.8%	43598	3364	77.2
2	47.3%	16798	1077	64.1
3	54.0%	23060	837	36.3
4	55.5%	18057	392	21.7
5	48.7%	15672	756	48.3
6	44.3%	15871	813	51.2
7	40.2%	16939	1011	59.7
8	37.8%	13998	681	48.7
9	36.3%	11890	624	52.5
10	33.4%	11371	509	44.8
Leeds	44.6%	187255	10065	53.8

Source: GP Audit Population Public Health Intelligence Leeds, ONS Births, Index of Multiple Deprivation 2015

Figure 3: General Fertility Rate in Leeds by IMD Decile (2015 to 2017)
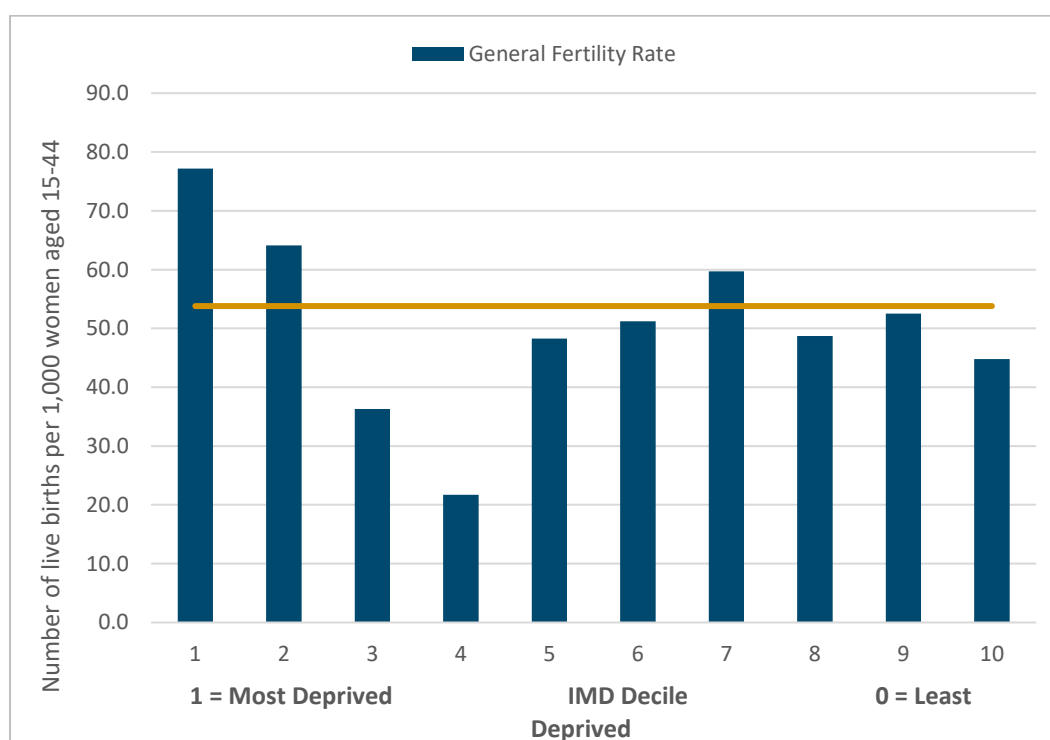
Source: GP Audit Population Public Health Intelligence Leeds, ONS Births, Index of Multiple Deprivation 2015

In line with the association between deprivation and fertility rates, those areas with the highest fertility rates (Burmantofts and Richmond Hill, Gipton and Harehills and Middleton Park) are those with a significant proportion of the female population residing in IMD1 – as was the case at the time of the last HNA in 2014. For example, in Gipton and Harehills the total female population is 16030, with 15180 recorded to be living in IMD1 – this has significant implications for capacity of relevant services and targeting of resources and interventions (Appendix 2).

Births and Deprivation

Table 3: Number of Maternity Bookings in Deprived and Non-Deprived Leeds 2010 to 2018

	2010	2011	2012	2013	2014	2015	2016	2017	2018 Part Year
Not Deprived	7130	7645	7135	7191	7203	6713	6884	6583	3426
Deprived	3605	3875	3720	3560	3519	3300	3422	3284	1652
Leeds	10735	11520	10855	10751	10722	10013	10306	9867	5078

Source: LTHT Maternity Booking Data N.B. Only part year data available for 2018

Maternity booking data from LTHT are used here as a proxy for births and it can be seen in Table 3 that bookings year on year in Leeds are round the 10,000 mark. It can also be seen that around a third of bookings are for women resident in deprived Leeds – for example in 2017 there were 9,867 bookings in Leeds, with 33% (3,284) of these mothers residing in the most deprived decile. We know that mothers and children living in deprived areas often experience worse outcomes and thus it is imperative that resources are allocated accordingly.

Births and Ethnicity

Table 4: Number of Maternity Bookings in Leeds by Ethnic Group 2009 to 2018

Ethnic Origin Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 (Part year)
African	496	585	533	613	583	486	429	496	456	269
Bangladeshi	94	106	179	98	111	85	88	71	60	34
Caribbean	132	120	112	89	84	55	55	66	65	38
Chinese	107	109	109	137	87	77	63	82	61	36
Indian	238	287	371	313	305	266	225	246	199	111
Irish	23	20	58	31	30	23	28	24	23	13
Pakistani	564	632	694	562	605	621	469	538	518	279
White and Asian	27	22	37	47	29	21	32	24	36	13
White and Black African	32	28	33	31	38	30	16	29	20	27
White and Black Caribbean	77	83	91	121	68	73	59	53	65	37
White British	7117	7206	7771	7249	6747	6592	5578	5904	5887	3052
Unknown	1106	652	414	433	810	1059	1872	1539	1085	413
ANY OTHER ASIAN BACKGROUND	249	228	207	210	203	250	207	236	231	128
ANY OTHER BLACK BACKGROUND	37	24	50	108	30	64	72	77	82	42
ANY OTHER ETHNIC GROUP	31	30	142	166	367	372	337	368	472	207
Any other mixed background	44	44	36	25	60	67	67	59	70	36
ANY OTHER WHITE BACKGROUND	448	559	683	622	594	581	416	494	537	343
Grand Total	10822	10735	11520	10855	10751	10722	10013	10306	9867	5078

Source: LTHT Maternity Booking Data

In 2009, 65% of bookings in Leeds were to women recorded as White British, whereas in 2017 this figure was 60% - suggesting an increase in the proportion of maternity bookings to Black Asian and Minority Ethnic (BAME) women. Of the ethnic minority groups, the largest number of bookings in 2017 was for Any Other White Background, closely followed by Pakistani, and then Any other Ethnic Group. The lack of definition around ethnic groups clearly makes it difficult to have a full understanding of the groups booking onto maternity services in Leeds. Furthermore, there are a large number of bookings reported Unknown which affects rates and interpretation. Reporting of ethnic group had started to improve after 2009, but the rate of Unknown has increased since 2013 - with no improvement since the time of the last HNA in 2014.

Figure 4: Percentage of Maternity Bookings in Deprived Leeds by Ethnicity – 2009/10 to 2017/18
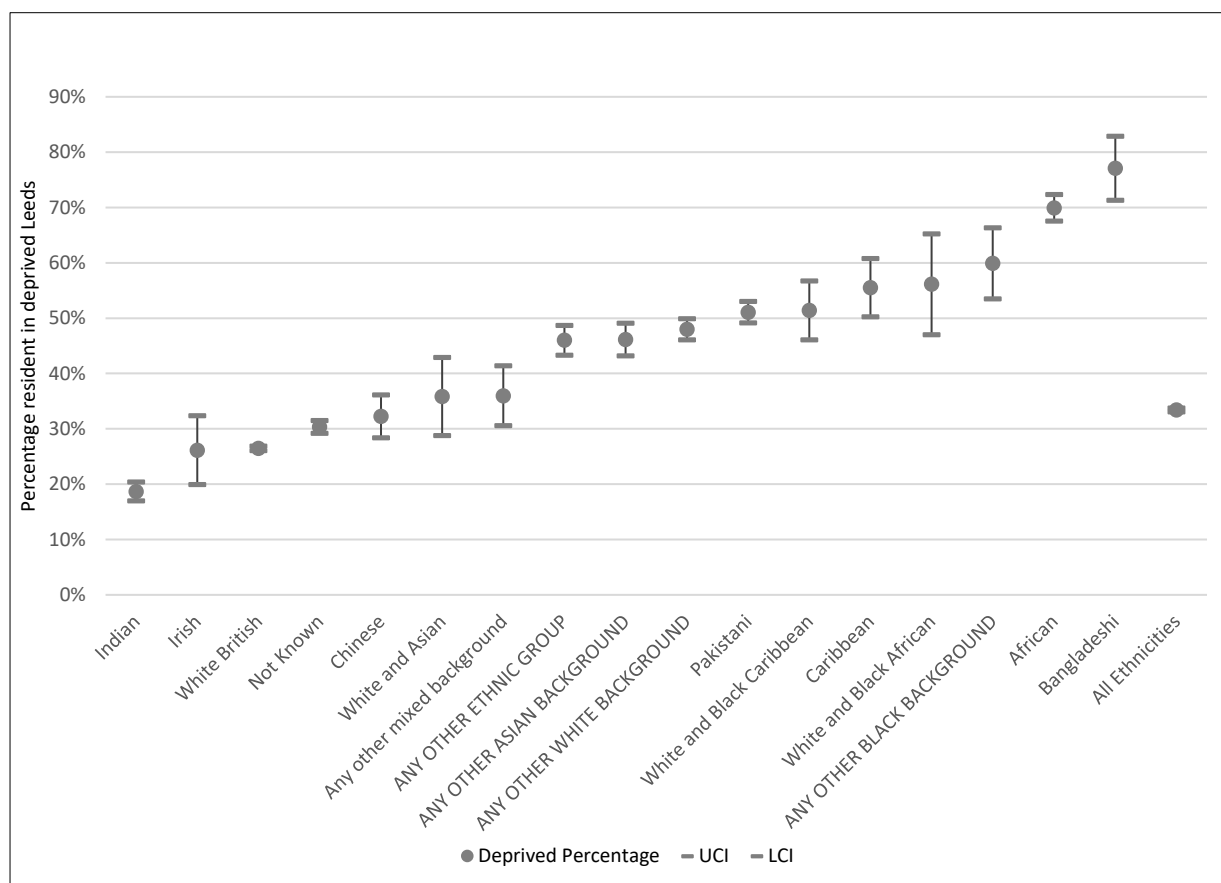
Source: LTHT Maternity Booking Data

Some ethnic groups are almost entirely resident in deprived Leeds. This has reduced slightly over the years, but almost 80% of Bangladeshi babies and around 70% of African babies continue to be born in deprived Leeds. Indeed, most of the ethnic minority groups are over-represented in deprived Leeds – the exceptions being Indian and Irish. 26% of White British women booking onto maternity services do live in deprived Leeds, but this is still less than for All Ethnicities which stands at 33%.

Figure 5: Births to Non-British Born Mothers in Leeds – 2007 to 2017
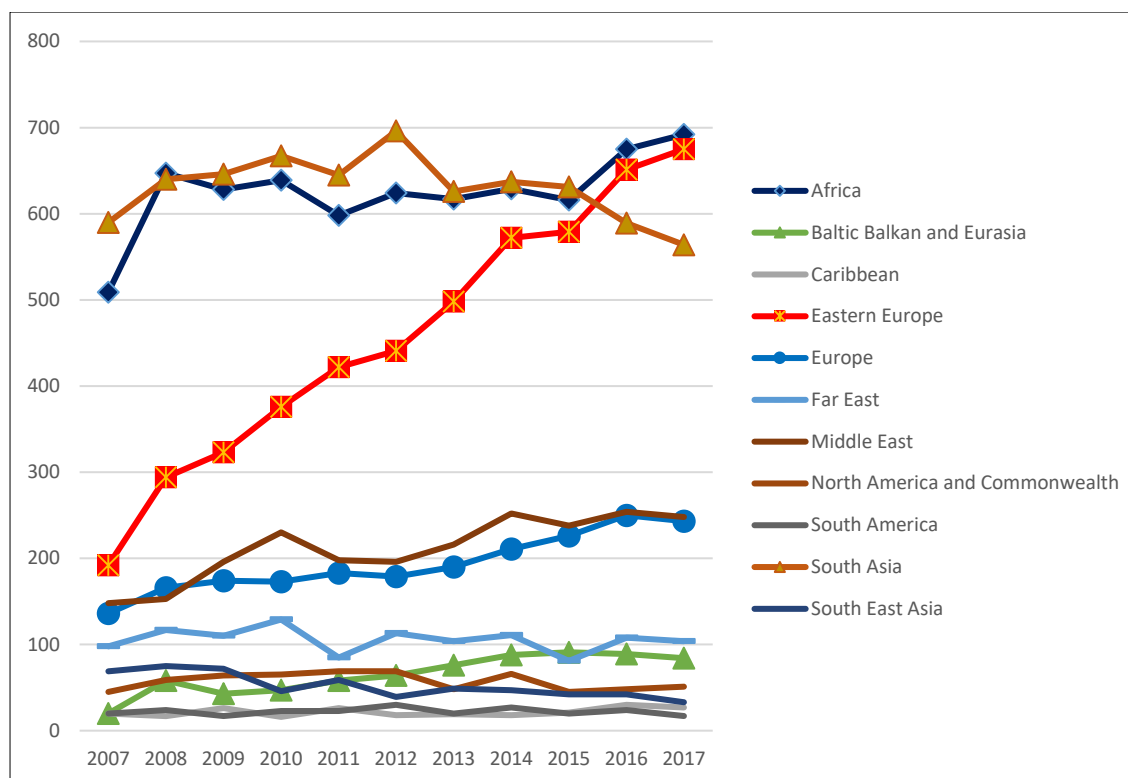
Source: ONS Birth Data

This analysis captures first generation immigrant mothers, but notably does not capture the varying ethnicities of mothers if they are second or third generation and their place of birth is England. Nevertheless, Figure 5 clearly shows the sharp increase in births to mothers of Eastern European origin in Leeds – increasing from 192 in 2007 to 675 in 2017. We can also see that for all the countries of origin recorded the highest rate of births in 2017 was to mothers born in Africa (692), overtaking births to mothers born in South Asia (564). The total number of births to non-British born mothers in 2007 was 1847 and in 2017 was 2738 – showing a rise overall.

Table 5: Births by Mother's Birth Region in Leeds by Ward – 2013 to 2017

| Row Labels	British	Africa	South Asia	Eastern Europe	Middle East	Europe	Far East	Baltic Balkan and Eurasia	Commonwealth	North America and	South East Asia	Caribbean	South America	Other	Grand Total
Adel & Wharfedale	905	26	25	27	65	29	17	4		11	4	1	1		1115
Alwoodley	1039	48	150	68	67	34	27	19		13	9	3	9	2	1488
Ardsley & Robin Hood	1312	22	14	27	3	16	4	4		3	2	3	1		1411
Armley	1375	118	98	262	27	49	12	21		7	3	4	3		1979
Beeston & Holbeck	1194	277	222	246	43	38	13	29		3	6	9	1		**2081**
Bramley & Stanningley	1601	59	12	89	5	17	19	20		5	5		3		1835
Burmantofts & Richmond Hill	1406	600	90	231	165	91	31	44		2	17	8	5		**2690**
Calverley & Farsley	1452	13	82	25	9	26	8	2		7	3	1	2		1630
Chapel Allerton	1063	188	222	134	32	56	21	15		22	11	29	8	1	1802
Cross Gates & Whinmoor	1438	27	27	44	11	15	12	5		5	3	2			1589
Farnley & Wortley	1576	74	31	130	12	33	8	20		4	3	3	5		1899
Garforth & Swillington	855	6	3	6	2	8	5	6		8			2		901
Gipton & Harehills	1284	397	782	578	85	66	45	24		4	20	10	4	2	**3301**
Guiseley & Rawdon	1267	6	7	18	3	29	15	3		13	2		1		1364
Harewood	798	7	13	11	5	24	7	1		4	1	1	2	2	876
Headingley & Hyde Park	308	65	104	32	46	27	14	8		3	8	1	4		620
Horsforth	1194	17	12	14	7	39	10	4		15	2	2	3		1319
Hunslet & Riverside	984	268	374	236	80	85	24	25		10	11	3	6	4	**2110**
Killingbeck & Seacroft	1477	73	43	62	6	21	13	29		2	4	6	2		1738
Kippax & Methley	1148	11	1	20	1	16	5			6		1	1	1	1211
Kirkstall	849	63	62	36	74	45	16	11		10	8	1	3		1178
Little London & Woodhouse	373	401	180	57	290	72	38	27		9	36	3	7	3	1496
Middleton Park	2085	210	21	196	14	39	28	29		5	4	5	1	1	**2638**
Moortown	1186	42	130	46	41	54	23	18		12	11	4	9		1576
Morley North	1251	22	26	37		25	11	3		11	7		3		1396
Morley South	1192	21	20	64	9	10	11	8		6	2	2		1	1346
Otley & Yeadon	1068	4	2	22	2	22	6	6		7	2		2		1143
Pudsey	1502	16	35	37	7	24	9	7		4	2		2		1645
Rothwell	1056	17	11	29	1	22	5	5		6	4		1		1157
Roundhay	1244	34	189	80	35	41	14	11		16	11	8	7		1690
Temple Newsam	1056	67	15	45	4	10	6	5		1	4	4	2		1219
Weetwood	928	22	41	36	57	18	26	11		19	6		6	2	1172
Wetherby	749	7	3	29		19	5	2		5	2	1	2		824
Grand Total	38215	3228	3047	2974	1208	1120	508	426		258	213	115	108	19	51439

Source: ONS Birth Data

Looking at the data available in Table 5, Gipton and Harehills has the highest number of births – 3301 births between 2013 and 2017 and 61% of these were to mothers born outside the United Kingdom; of these 782 births were to mothers born in South Asia (24%), 578 were to mothers born in Eastern Europe (18%) and 397 were to mothers born in Africa (12%). The second highest number of births was in Bumantofts and Richmond Hill and 47% of the births were to mothers born outside of the United Kingdom (22% Africa, 9% Eastern Europe and 6% the Middle East). The third highest number of births is found in Middleton Park, but fewer are to mothers born outside the United Kingdom (21%) and most of these were born in Africa (8%) or Eastern Europe (7%).

When a mother was not herself born in the United Kingdom she may not be aware of her rights to access relevant services and we know for example that this can result in late booking for antenatal care (Kelly, 2017). It is therefore important to increase awareness amongst women and families of the services they can access in pregnancy; and it will likely be beneficial to focus attention in areas with greater immigrant populations. It is also important to ensure services are culturally competent and for services, organisations and practitioners to have a good understanding of the unique cultural make-up of the areas they operate in.

Births by Mothers Age

The age of a woman at the time of pregnancy and childbirth has implications for birth, maternal and child outcomes. Rates of stillbirth and neonatal death are greater for younger (less than 20) and older (40+) women. In addition, younger women are more likely to smoke during pregnancy and less likely to breastfeed – all of which have an impact upon the developing foetus and health of the baby. For older women, increasing age is associated with higher risk of miscarriage, chromosomal defects and pregnancy complications including gestational diabetes and hypertension.

Figure 6: Live Births by Mothers Age in Leeds – 2016 to 2018
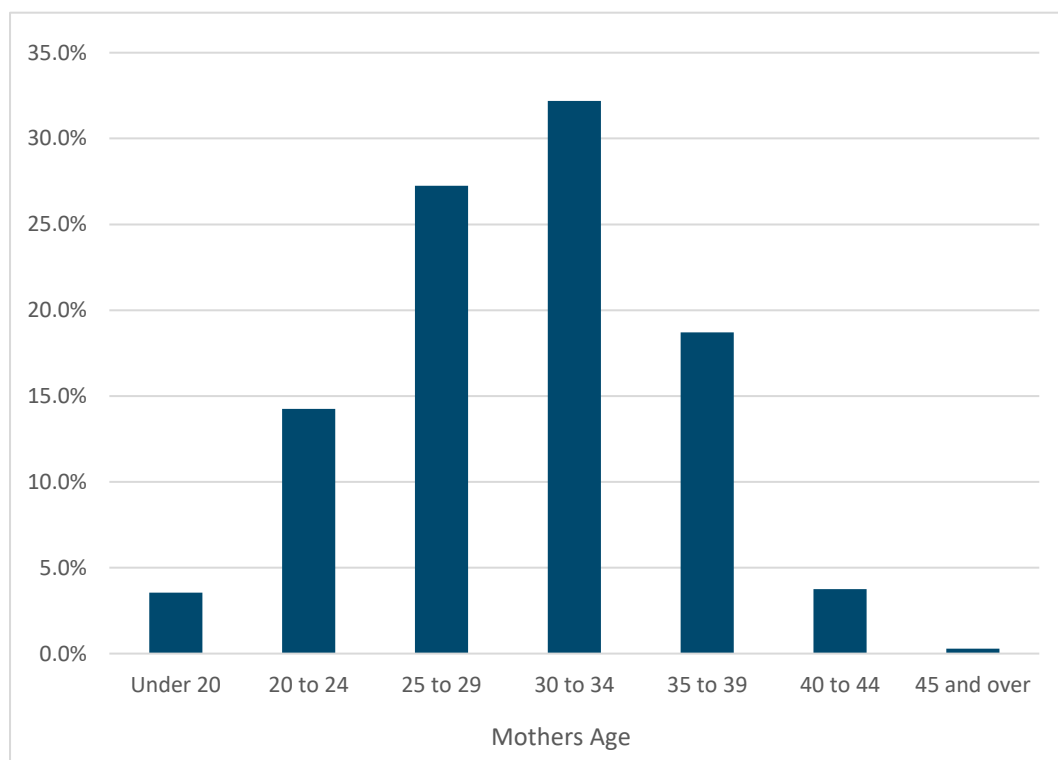
ONS Births, via Civil Registrations Data NHS Digital
N.B. Data are for mothers who gave birth, where their usual residence was Leeds

Figure 6 shows births by age of mother in Leeds for 2016-2018. Notable are the 1166 births (3.5%) to women aged under 20 and women over the age of 40 accounted for approximately 4% of all births to mothers resident in Leeds.

The latest data from Public Health England (PHE) indicates that the Under 18 Conception rate is significantly higher than the national and regional averages – 27.3/1000 compared with 17.8/1000 and 20.6/1000 respectively (PHE, 2017).

Table 6: Number of Maternity Bookings in Leeds for Mothers Aged Under 18 Years Old – 2008 to 2018

Deprivation	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 Part Year
Not Deprived	116	130	125	108	110	79	89	74	68	52	28
Deprived	118	134	159	150	137	113	96	76	81	90	48
Leeds	**234**	**264**	**284**	**258**	**247**	**192**	**185**	**150**	**149**	**142**	**76**

Source: LTHT Maternity Booking Data

The total number of maternity bookings for mothers aged under 18 years old has been declining in Leeds (2008 to 2018). However, although deprived Leeds represents a minority population it increasingly accounts for a larger proportion of the total number of under 18 maternity registrations. Notably, at the time of the last HNA 52% of the maternity bookings for mothers aged under 18 years were in deprived Leeds and in 2017 this had risen to 65%.

Figure 7: Percentage of Maternity Bookings in Leeds to Mothers Aged Under 18 Years by Deprivation Status – 2010 to 2018
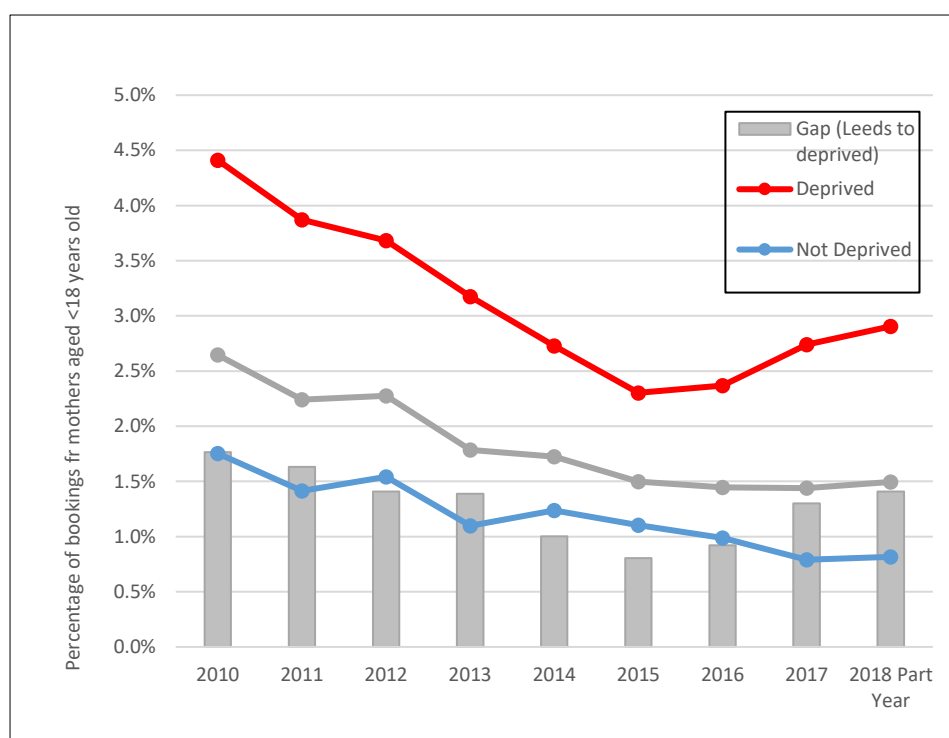
Source: LTHT Maternity Booking Data

Since 2010 the Leeds rate of bookings for those under 18 years of age as a percentage of all bookings has been falling annually with a narrowing gap between deprived and non-deprived Leeds.

However, recent trends have been less favourable with an increase in the rate of under 18 bookings in deprived Leeds and a broadening inequalities gap.

Infant Mortality

Infant mortality is defined as infant deaths under 1 year of age per 1000 live births and is a good indicator of the general health of the population. It reflects the relationship between causes of infant mortality and upstream determinants of population health such as economic, social and environmental conditions. Deaths occurring during the first 28 days of life (the neonatal period) in particular, are considered to reflect the health and care of both mother and newborn (PHE, 2018b).

The infant mortality rate (IMR) in Leeds for 2015-2017 was 4.2, which is slightly higher than the national rate of 3.9 and the regional rate of 4.1; but the differences are not statistically different (PHE, 2018b).

Figure 8: Infant Mortality 3 Year Aggregate Rates by IMD Decile and Leeds Overall - 2004/06 to 2016/18
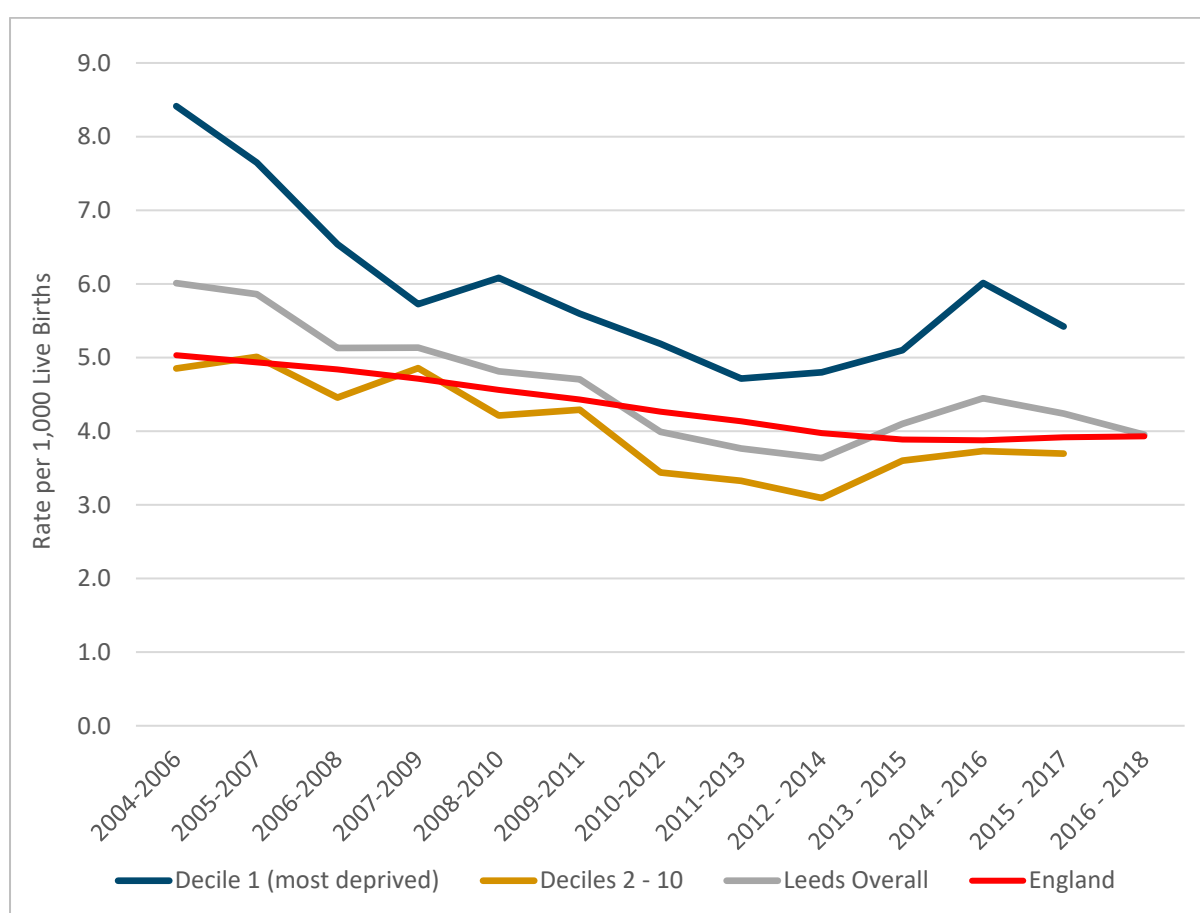
Source: ONS Births, ONS Deaths, via Civil Registrations Data NHS Digital

It can be seen in Figure 8 that the IMR in Leeds has reduced from 6/1000 live births in 2004-2006 to 3.9 in 2016-2018. However, despite this overall downward trend, there was in fact a rise in the IMR between 2012 and 2016; and a widening of the gap between deprived Leeds and Leeds overall. It is suspected that the reasons for the rise in IMR and the widening of the inequalities gap - despite ongoing efforts - reflect the effects of recession and austerity (Taylor-Robinson et. al., 2019). The latest data do show the Leeds IMR has started to fall again, with a drop in the overall infant mortality rate, that is largely due to a drop in the IMR for deprived Leeds from 6 (2014-2016) to 5.4 (2015-2017) per 1000 live births – though large inequalities remain.

Following the Leeds Infant Mortality Plan in 2008, and drawing on evidence about identifiable actions to reduce the gap, Leeds collectively focused its efforts on initiatives such as: reducing smoking during pregnancy and in households; increasing breastfeeding; addressing child poverty; reducing teenage pregnancy and supporting teenage parents; improving maternal nutrition; actions to reduce sudden infant death – and many more. This preventative agenda (now encompassed in the Leeds Best Start Strategy) was widely embraced across the city by the public sector, the third sector and by communities at a local level and has made a real difference to date, but the data presented in Figure 8 demonstrate a need for a continued focus on this work.

Perinatal Mortality

The perinatal mortality rate is defined as the number of stillbirths plus the number of babies dying within the first week of life per 1000 total births (live and still births). The Maternity HNA carried out in 2014 identified a significant gap in perinatal mortality rates between deprived and non-deprived Leeds and unfortunately this gap has widened even further. The overall perinatal mortality rate in Leeds has declined from a high of 9.7 in 2005-2007, to 6.4 in 2015-2017; yet the inequality gap has widened – with a rate of 9.7 in 2015-2017 in deprived Leeds compared with 4.8 for IMD deciles 2-10 in Leeds.

Figure 9: Perinatal Mortality Rate by IMD Decile and for Leeds Overall - 2004/06 to 2015/17

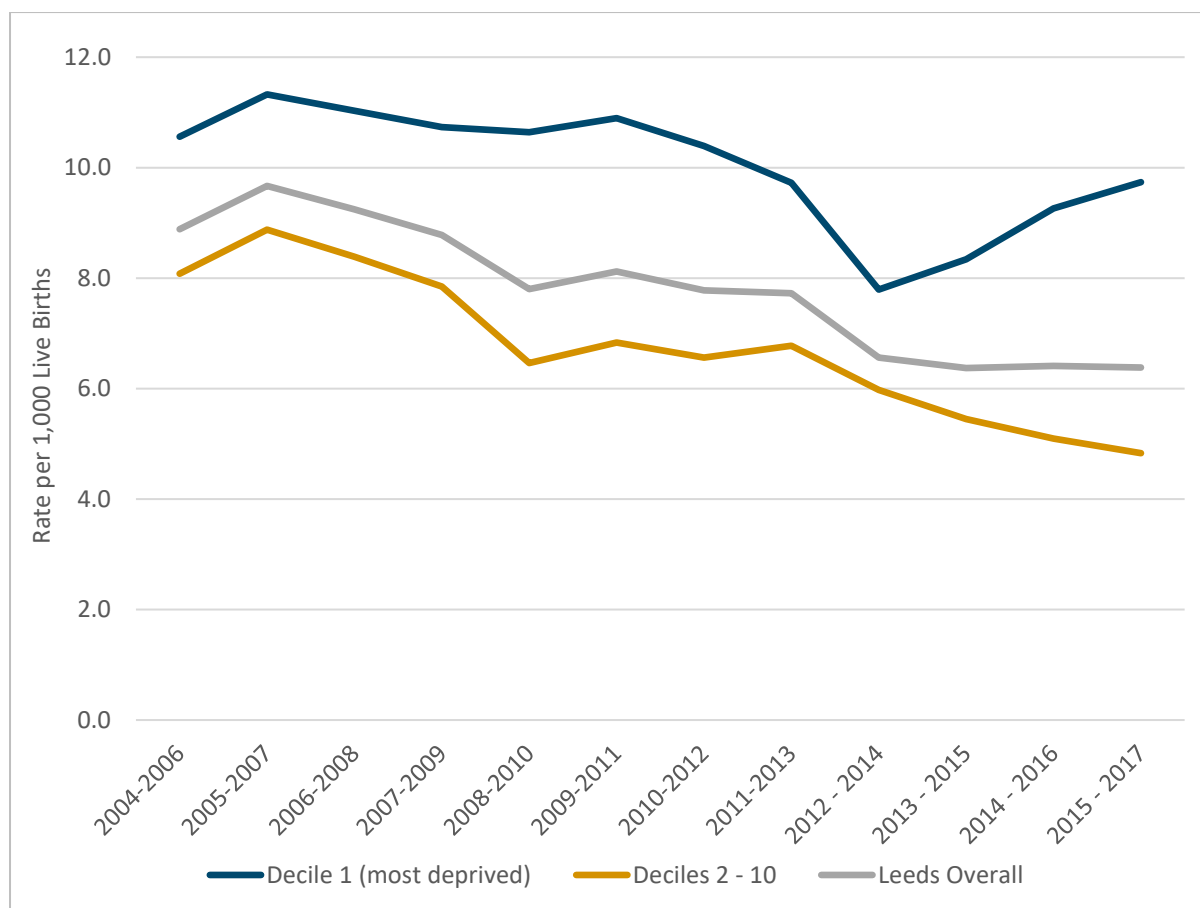Source: ONS Births, ONS Deaths, via Civil Registrations Data NHS Digital

## Neonatal Mortality, Prematurity and Stillbirth

Perinatal mortality is no longer recorded at a national level; there are however data available for neonatal mortality - the number of deaths under 28 days, per 1,000 live births. In Leeds the neonatal

mortality rate (2016-18) is 2.56 compared with 2.69 regionally and 2.83 nationally (PHE, 2019b). This more favourable neonatal mortality rate in Leeds does however mask the health inequalities as discussed above for perinatal mortality.

There are also data available for rates of premature births. Globally, premature birth (less than 37 weeks gestation) is the leading cause of death for children under the age of 5 (WHO, 2018) and there is substantial evidence that smoking during pregnancy and exposure to second-hand-smoke can lead to premature birth (Been et. al., 2014).The rate of premature birth in Leeds reported by PHE for 2015-2017 is 70.3 which is lower than the national (80.6) and regional rate (80.4). Notably the PHE figures are based on a definition which is a crude rate of premature live births (gestational age less than 37 weeks) *and* still births per 1,000 live births and stillbirths (PHE, 2019c).

Stillbirth rates in the United Kingdom have shown little change over the last 20 years, and the rate remains among the highest in high income countries. Risk factors associated with stillbirth include maternal obesity, ethnicity, smoking, pre-existing diabetes, and history of mental health problems, antepartum haemorrhage and fetal growth restriction (birth weight below the 10th customised weight percentile). In 2015 the government announced an ambition to halve the rate of stillbirths by 2030 (PHE, 2019b).

Figure 10: Stillbirth Rate for England and Leeds - 2010/12 to 2016/18
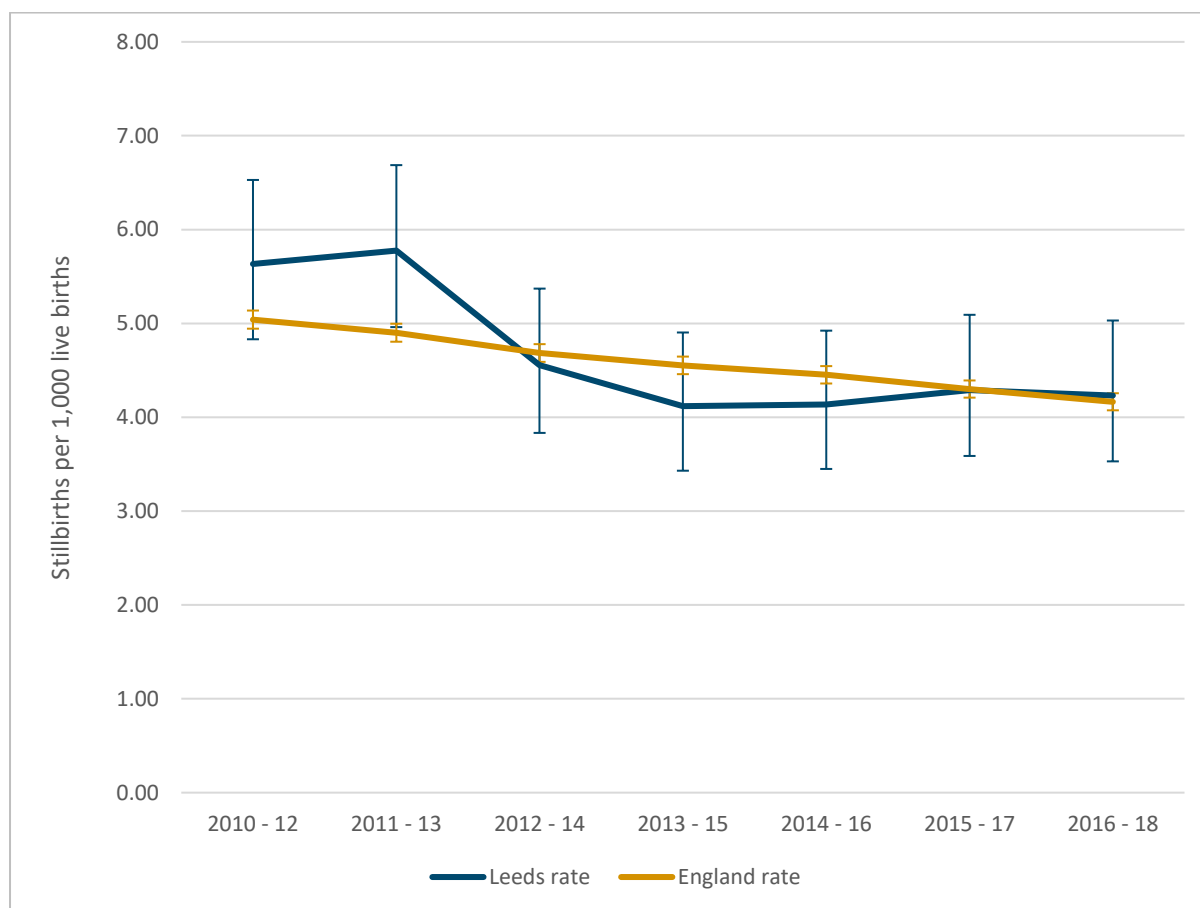
Source: ONS Births and Deaths via Public Health England, Fingertips

The stillbirth rate in 2016-18 for both Leeds and England was 4.2/1000 births. It can be seen in Figure 10 that the stillbirth rate has declined in both England and Leeds since 2010, yet a slight reversal of this trend can be seen in Leeds since 2013/15. Local analysis (Appendix 3) demonstrates that the reduction in the stillbirth rate since 2000/02 has been less marked in deprived Leeds.

Figure 11: Stillbirth Rate in Leeds Overall and Deprived Leeds – 2000/02 to 2015/17
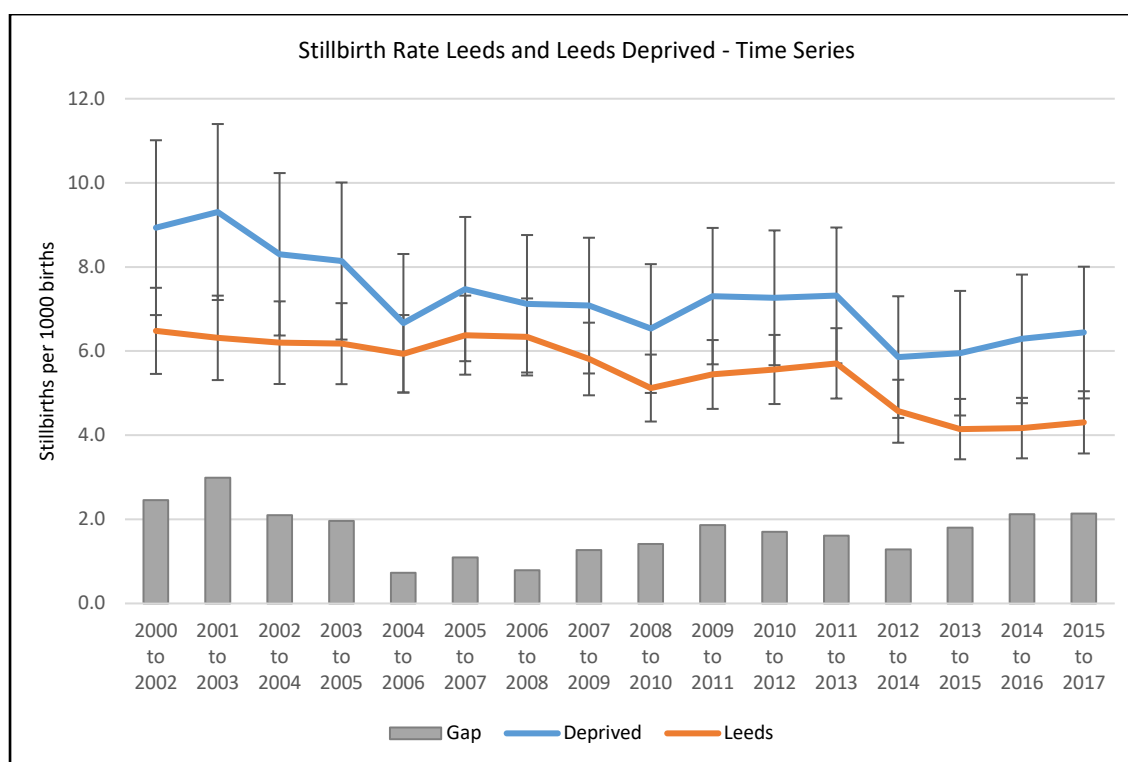
Source: ONS Births, ONS Deaths, via Civil Registrations Data NHS Digital

N.B. Leeds overall refers to IMD deciles 1 – 10 and Leeds deprived refers to decile 1 (most deprived)

Figure 11 demonstrates the declining stillbirth rate for Leeds overall and also in deprived Leeds since 2000/02. However, the slight upward trend since 2013/15 can also be observed, as well as the widening inequalities gap - with the stillbirth rate being higher in deprived Leeds for the last two time periods (6.4 in deprived Leeds in 2015/17 compared with 4.3 in Leeds overall). It is interesting to note that the first upward trend in stillbirth rates over this time period occurred after 2008, indicating a link with the economic recession and the associated impacts on services and vulnerable families. It is thus reasonable to suggest that the second upward trend since 2013 is connected to further austerity measures over this time.

In addition to maternal social deprivation, extremes of maternal age and Non-White ethnicity are known risk factors for stillbirth and neonatal death – as are other maternal characteristics including maternal obesity, smoking during pregnancy, alcohol abuse and substance use (Parliamentary Office of Science and Technology, 2016), which shall be looked at later in the report.

The Leeds Child Death Overview Panel (CDOP) have utilised aggregated data from 2012-17 to look at the associations between ethnicity and age and neonatal deaths in Leeds.

Table 7: Ethnicity of Babies who die under 28 Days (Neonatal Deaths) and Breakdown of Ethnicity for all Leeds Births (2012-2016)

Ethnicity of babies who dies aged under 28 days (neonatal deaths) and breakdown of ethnicity for all Leeds births Analysis of deaths in the period 2012-2016 reviewed by Leeds CDOP		
	Number (%) neonatal deaths considered by Panel	Percentage of Leeds births*
White British	68 (55%)	67%
African and African Mixed and "Black other"	12 (10%)	6% ("Black")
Asian and Asian Mixed	30 (24%)	13%
Black Caribbean and Caribbean Mixed	6 (5%)	2%
Other	8 (6%)	12%
*Source: Maternity Dataset Ethnicity Data 2016. Note: Ethnic categories do not match, and any comparison must be treated with caution.		

Ethnicity was available for all 124 cases considered in the CDOP report and a breakdown of the ethnicity of babies dying under 28 days is presented in Table 7. The largest single ethnic group, unsurprisingly, is White British accounting for 55% of neonatal deaths. However, this is an under-representation compared to the proportion of White British mothers (67%). Those of Non-White ethnic origin appear to be relatively over-represented, both in relation to mothers of African origin and those of Asian origin. However, these data should be interpreted with caution as the ethnic categories for the two data sources do not match. This pattern of over-representation of Black African and Asian ethnic groups has been noted in previous CDOP annual reports, and appears to be a persistent pattern, which fits with the national picture. A specific analysis was undertaken of ethnicity and child deaths and the findings indicated that for Asian and mixed Asian mothers prominent risk factors were high parity and high BMI; for African, Caribbean and Mixed women prominent risk factors were late booking and high BMI (Yellin, 2019).

Of the 124 neonatal deaths reviewed for the period 2012-2017, age of mother was available for all (Table 8). A total of 9 (7%) were young mothers aged under 20 years old, which is an overrepresentation compared to the proportion of young mothers in the overall population of Leeds women giving birth (4%). A further 28 (23%) were mothers in the age group 20-24, and this also represents an over-representation compared to the population of Leeds mothers of that age (15%). 30 babies (24%) had mothers aged over 35 years, and this is also a slight overrepresentation compared to the overall proportion of Leeds mothers aged over 35 giving birth (21%). Yellin (2019) highlights that it is difficult to draw conclusions based on this relatively small sample, but that the over-representation of mothers aged under 24 and over 35 appears to reflect the known national risk factors for younger and older mothers.

Table 8: Age Breakdown of Women whose Babies died in the Neonatal Period and Age Breakdown for all Women giving Birth in Leeds (2012-2016)

Age breakdown of women whose babies died in the neonatal period and age breakdown for all women giving birth in Leeds Analysis of deaths in the period 2012-2016 reviewed by Leeds CDOP		
Age Group	**Number (%) women whose babies died in neonatal period**	**Number (Percentage) of all women giving birth in Leeds***
Under 20 years	9 (7%)	412 (4%)
20-24 years	28 (23%)	1587 (15%)
25-29 years	27 (22%)	2871 (28%)
30-34 years	30 (24%)	3255 (32%)
35-39 years	27 (22%)	1699 (17%)
40 years and above	3 (2%)	399 (4%)
*Source: Office for National Statistics Birth Registrations 2015		

Low Birth Weight

Low Birth Weight (LBW) is defined as live births with a recorded birth weight under 2500g and a gestational age of at least 37 weeks as a percentage of all live births with recorded birth weight and a gestational age of at least 37 weeks. Low birth weight increases the risk of childhood mortality and of developmental problems for the child and is associated with poorer health in later life. At a population level there are inequalities in low birth weight and a high proportion of low birth weight births could indicate lifestyle issues for the mothers and/or issues with the maternity services (PHE, 2020). In Leeds in 2018, 3.60% of term babies were low birth weight, which is statistically worse than the national rate (2.86%) and regional rate (3.14% in Yorkshire and Humber) (PHE, 2020).

Figure 12: Low Birth Weight of Term Babies in England, Leeds and CIPFA Statistical Neighbours – 2018
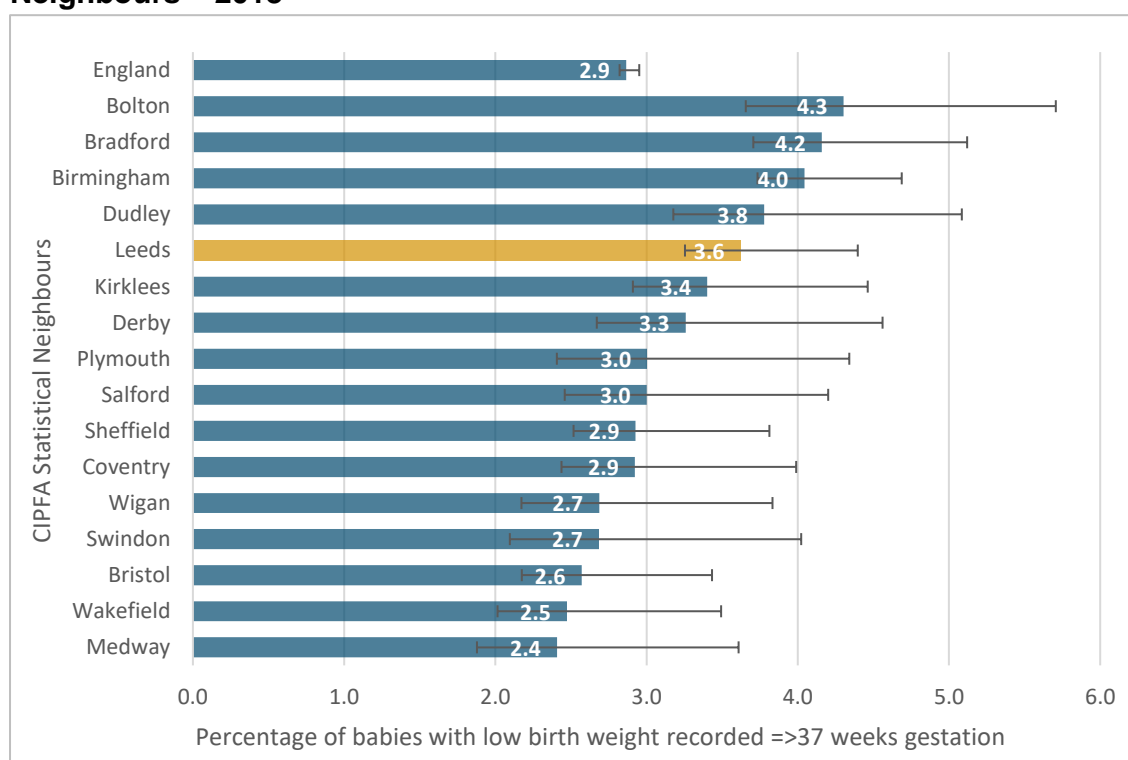
Source: ONS Births via Public Health England Fingertips

N.B. Data is based on mother's usual area of residence

When drawing comparisons with statistical neighbours, Leeds had the 5th highest rate for LBW of term babies in 2018 - Bolton had the highest rate with 4.3% of all term babies being low birth weight.

Figure 13: Low Birth Weight of Term Babies in England and Leeds - 2006 to 2018
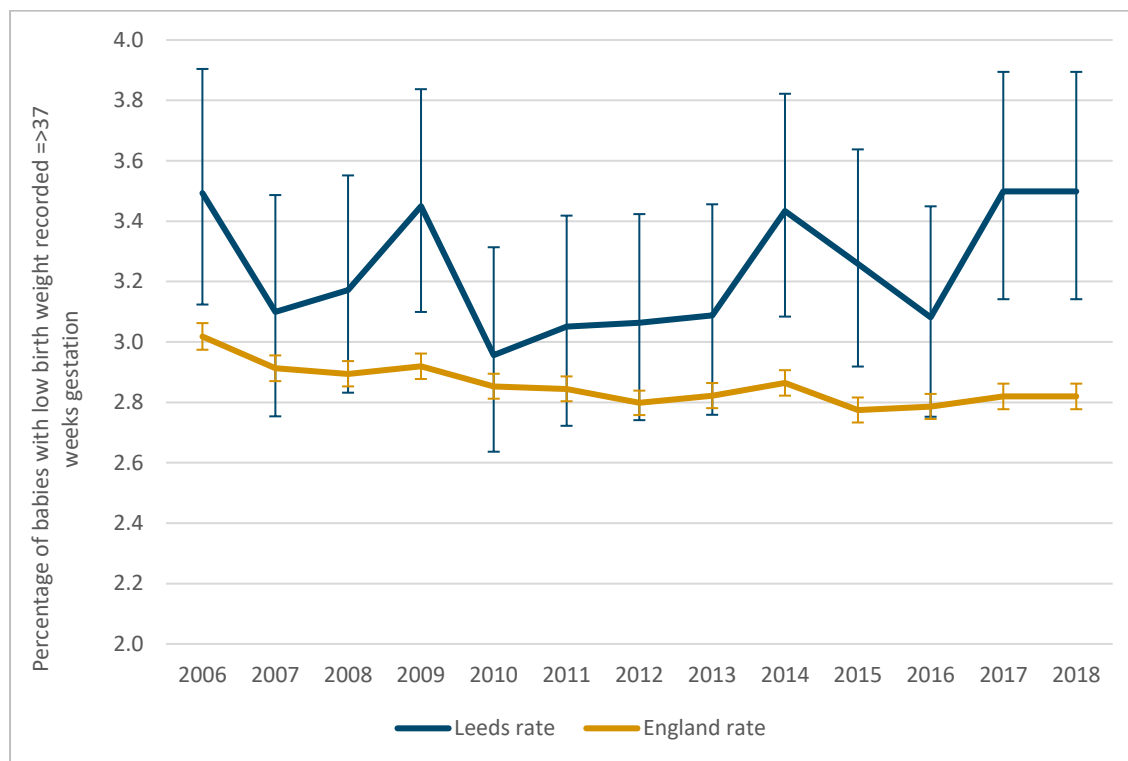
Source: ONS Births via Public Health England Fingertips

When looking at Figure 13 it can be seen that the percentage of LBW babies is slowly declining nationally. However, in Leeds the percentage of LBW babies is consistently above the national average. The lack of a stable rate presented over time here is due to the relatively now numbers in Leeds in comparison to a national level.

To get more of a sense of what this looks like across Leeds we have used the ONS births data in disaggregate form and combined the figures into a 3 year rate to look at ward level data.

Figure 14: Low Birth Weight of Term Babies in Leeds by Ward (2016-2018)
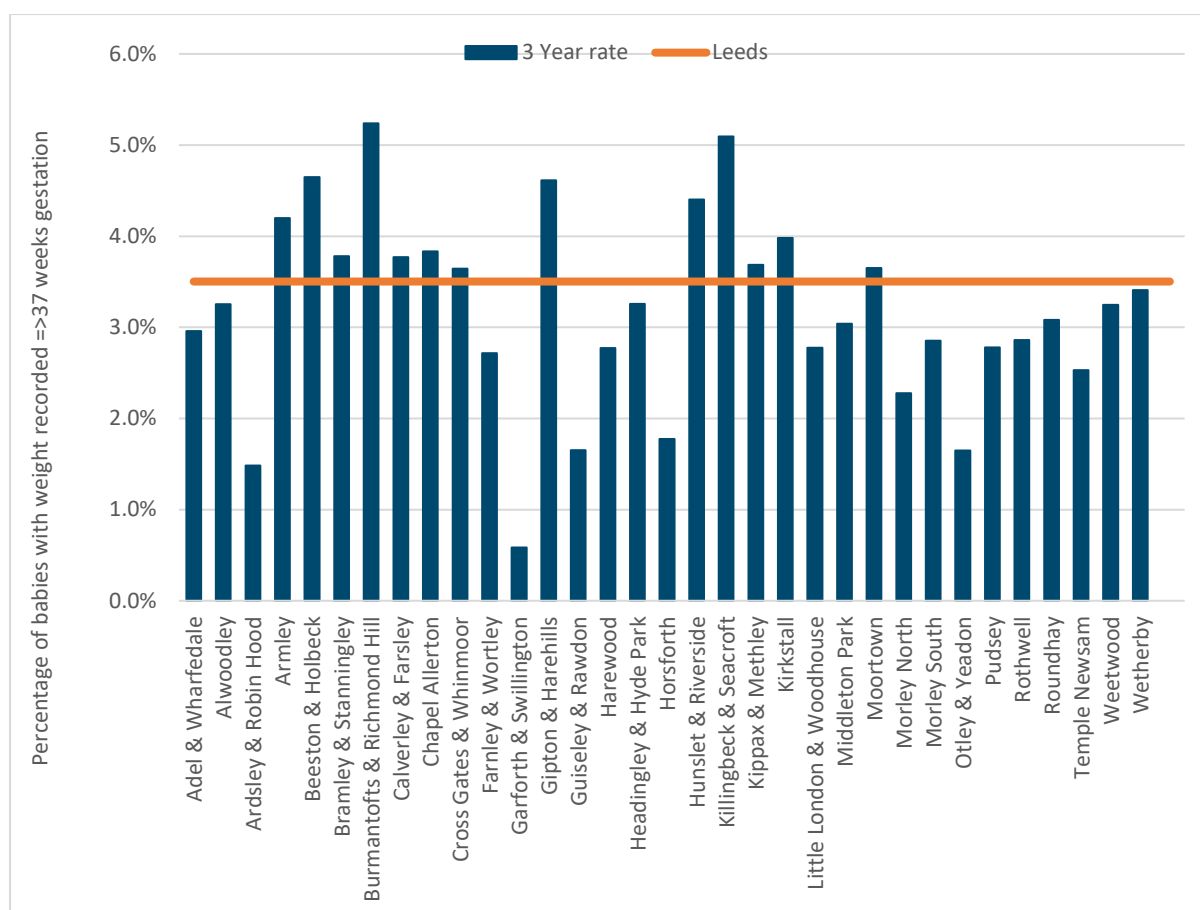
Source: ONS
Births via Civil Registration Data, NHS Digital

Figure 14 demonstrates that more deprived wards have significantly higher rates of LBW compared to Leeds overall: Burmantofts and Richmond Hill (5.24%), Killingbeck and Seacroft (5.10%), Gipton and Harehills (4.61%), Beeston and Holbeck (4.65%) and Hunslet and Riverside (4.40%).

Table 9: Low Birth Weight of Term Babies in Leeds by IMD Decile (2016-2018)

IMD	3 Year Rate %	3 Year Count
1	3.9%	403
2	3.4%	110
3	3.4%	84
4	2.7%	33
5	2.4%	55
6	1.8%	43
7	2.4%	74
8	1.7%	35
9	2.6%	50
10	3.1%	48
Leeds	3.1%	935

Source: ONS Births via Civil Registration Data, NHS Digital

For the period 2016-2018, 403 LBW term babies were born in the most deprived decile in Leeds – this is 43% of the total LBW term babies in Leeds. This is in line with the higher birth rate for this population, however this is also the highest rate and statistically significantly higher than all other decile populations and Leeds overall. Through deciles 1 through to 6, the relationship between deprivation and the rate of LBW babies is linear - decile 7 shows an unexpected rise, likewise there

is a surprising increase from decile 8 to 10. The HNA carried out in 2014 highlighted that the difference in the rate of LBW between deprived and non-deprived Leeds was widening and sadly this looks to still be the case. This strengthens the case for the need for co-ordinated efforts to address the issues that can result in LBW – including smoking in pregnancy and poor nutrition.

Data are not available at the Leeds level to look at LBW rates in relation to ethnicity or maternal age. However, there is evidence to indicate that in the UK, LBW is more common in babies born to parents who are of Indian, Pakistani, Bangladeshi, African-Caribbean or black African origin, than babies who are born to white European parents (Kelly et al 2009). As noted earlier, all of these ethnic groups, with the exception of Indian, are more likely to reside in deprived Leeds – suggesting a possible confounding effect of deprivation. Mother's age is also important, with younger (under 20) and older (usually over 40) mothers at greater risk of complications with pregnancy and childbirth. Indeed babies born to women aged under 20 have around a 20% higher risk of low birthweight (Office for National Statistics) which can be partly explained by higher smoking rates in pregnancy in this age group than the national average.

Summary

- Population data based on GP registrations in Leeds (2015-2017) indicates that the population of females aged 15-44 is 187,255 – an increase since 2014 when the population was 182,753.
- Births in Leeds continue to be circa 10,000 - with a third of these to women residing in deprived Leeds.
- In 2009, 65% of bookings in Leeds were to women recorded as White British, whereas in 2017 this figure was 60% - suggesting an increase in the proportion of maternity bookings to BAME women.
- The majority of ethnic minority groups are over-represented in deprived Leeds – with almost 80% of Bangladeshi babies and approximately 70% of African babies born in deprived Leeds.
- In 2017 there were 142 maternity bookings in Leeds for mothers aged under 18 years old and 90 (63%) of these were for mothers living in deprived Leeds.
- Under 18 Conception rate in Leeds (27.3/1000) is significantly higher than the national (17.8/1000) and regional averages (20.6/1000).
- The GFR in Leeds using GP registration data from 2015-2017 is 53.8 live births/1,000 women aged 15-44.
- Wards with fertility rates significantly higher than the Leeds average are Burmantofts and Richmond Hill (85.2), Gipton and Harehills (78.1) and Middleton Park (74.1). Furthermore, when looking at deprivation deciles, the highest fertility rate is in the most deprived decile (77.2).
- Births to Non-British born mothers in Leeds between 2007 and 2017 were largely recorded for women born in Africa or South Asia. There has also been a notable increase in the number of births to women born in Eastern Europe – rising to 675 in 2017.
- The infant mortality rate in Leeds for 2015-2017 was 4.2, which is slightly higher than the national rate of 3.9 and the regional rate of 4.1; and inequalities exist between rates in deprived and non-deprived Leeds (5.4 and 3.7 respectively).
- The overall perinatal mortality rate in Leeds has declined from a high of 9.7 in 2005-2007, to 6.4 in 2015-2017; yet the inequality gap has widened – with a rate of 9.7 in 2015-2017 in deprived Leeds compared with 4.8 for IMD deciles 2-10 in Leeds.
- In Leeds, the neonatal mortality rate for 2016-18 was 2.56/100 live births compared with 2.69 regionally and 2.83 nationally.

- The stillbirth rate in 2015-17 for both Leeds and England was 4.3/1000 births.
- The reduction in the rate of stillbirths since 2000/02 has been less marked in deprived Leeds and there is a widening inequalities gap - with the stillbirth rate being higher in deprived Leeds for the last two time periods (6.4 in deprived Leeds in 2015/17 compared with 4.3 in Leeds overall).
- When looking at the ethnicity and age breakdown of mothers whose babies die within the first 28 days, young women and those of Non-White ethnic origin are relatively over-represented.
- In Leeds in 2018 3.60% of term babies were low birth weight, which is statistically worse than the national rate (2.86%) and regional rate (3.14% in Yorkshire and Humber). For the period 2016-2018, 403 LBW term babies were born in the most deprived decile in Leeds – this is 43% of the total LBW term babies in Leeds.

What's Changed and Key Issues

- The rate of maternity bookings for women aged under 18 years has been falling, but this trend has started to reverse in Leeds, with a widening of the inequalities gap.
- There has been a rise in the infant mortality rate in Leeds since the time of the last HNA – 3.6 in 2012-14 and 4.2 in 2015-17; with a persistent gap between deprived Leeds and Leeds overall.
- The Maternity HNA carried out in 2014 identified a significant gap in perinatal mortality rates between deprived and non-deprived Leeds and unfortunately this gap has widened even further.
- The stillbirth rate for Leeds and deprived Leeds has declined since 2000/02. However, there has been slight upward trend since 2013/15, as well a widening inequalities gap - with the stillbirth rate being significantly higher in deprived Leeds for the last two time periods (6.4 in deprived Leeds in 2015/17 compared with 4.3 in Leeds overall).
- The 2014 Maternity HNA highlighted that the difference in the rate of LBW between deprived and non-deprived Leeds was widening and sadly this looks to still be the case – with 43% of LBW babies born in deprived Leeds for the period 2016-2018.
- Problems persist with the recording of ethnicity at booking.
- The large number of births taking place in deprived Leeds and the associated poor outcomes has significant resource implications and demonstrates a real need for joint working between agencies to meet demand and ameliorate the observed health inequalities.
- There appears to be an increase in the proportion of maternity bookings to BAME women in Leeds and the majority of ethnic minority groups are over-represented in deprived Leeds. Again this presents resource implications (i.e. interpreters, specialist knowledge and expertise); and in areas which already have a greater than average demand. It is also crucial that services are culturally competent and women and families are aware of the relevant services they are entitled to.

N.B. Deprived Leeds here is used to refer to IMD1

Factors Impacting Birth and Lifelong Outcomes

Smoking in Pregnancy

Background and National Picture

Smoking in pregnancy has well known detrimental effects on the growth and development of the baby and health of the mother. On average, smokers have more complications during pregnancy and labour and an increased risk of miscarriage, premature birth, stillbirth, low birth-weight and sudden unexpected death in infancy (PHE, 2019c).

The Tobacco Control Plan contains a national ambition to reduce the rate of smoking throughout pregnancy to 6% or less by the end of 2022 (measured at time of giving birth) (Department of Health and Social Care, 2017). Notably the national target at the time of the previous Maternity HNA in Leeds was to reduce smoking during pregnancy to 11% or less by the end of 2015, so this represents another significant drop.

National Institute for Health and Care Excellence (NICE) guidance was published in 2010 which covers support to help women stop smoking during pregnancy and in the first year after childbirth. It includes identifying women who need help to quit, referring them to stop smoking services and providing intensive and ongoing support to help them stop. The guideline also advises how to tailor services for women from disadvantaged groups in which smoking rates are high (NICE, 2010).
https://www.nice.org.uk/guidance/ph26

Local Situation

Figure 15: Smoking Status at Time of Delivery in England and Leeds – 2010/11 to 2018/19
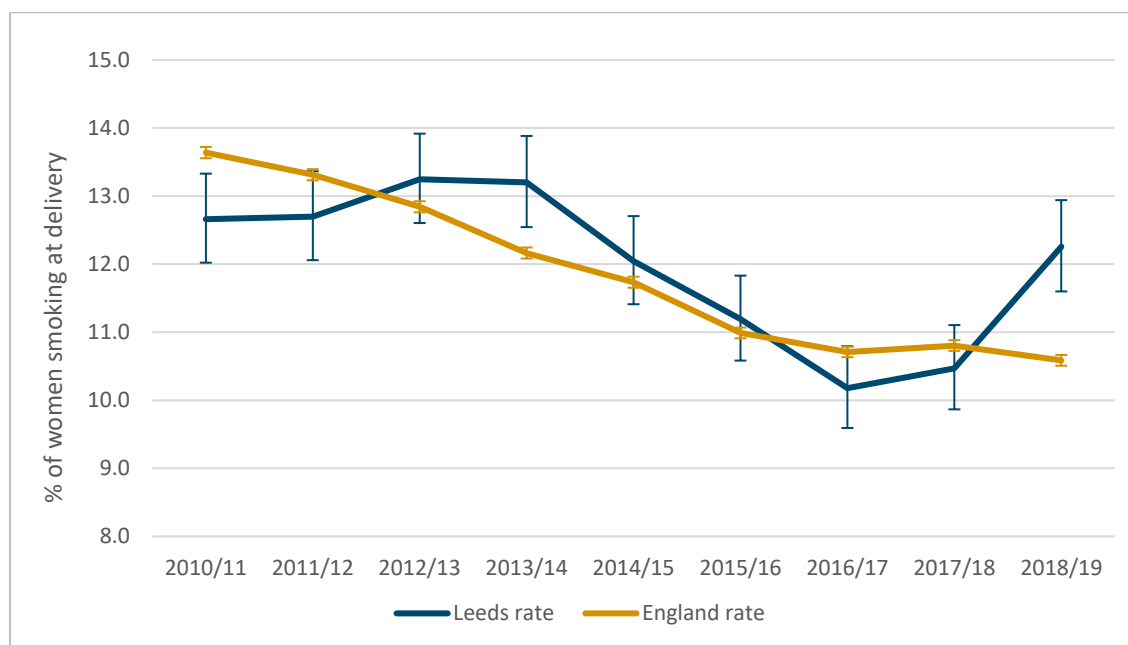
Source: Maternity Data via Public Health England Fingertips

Figure 15 represents the trend in smoking status at time of delivery in England and Leeds since 2010/11 and a reduction in rates over this period of time can be seen. However, it is important to note that rates in Leeds prior to 2016/17 were likely artificially low due to the fact they were based on self-report data. Carbon monoxide (CO) validation has since been implemented in Leeds at 36 weeks to act as a proxy for time of delivery and this may have resulted in the apparent increase in

rates of smoking. The latest data for 2018/19 indicate that smoking status at time of delivery in Leeds is 12.3%, which is worse than the national rate of 10.6%; although better than the Yorkshire and Humber rate which is 14.4% (PHE, 2019d).

There is an acknowledgment that smoking rates are associated with deprivation and the Office for National Statistics highlights that people living in England's most deprived areas are four times more likely to smoke than in the least deprived (ONS, 2018). Indeed, in the 2014 Maternity HNA higher smoking rates were noted in the Leeds South and East CCG area - which has a high proportion of wards that fall within the bottom 20% super output areas as measured by IMD. Leeds now operates under one CCG and unfortunately data are not available at a local level to explore the association between deprivation and smoking rates. Plans are however in place to collect and report on data in relation to smoking rates and deprivation going forward. Similarly, there are no data available at a local level with regards to ethnicity and smoking rates, but this will be collected and reported on going forward.

Figure 16: Smoking Status at Time of Delivery in England and Leeds for All Ages and Under 18 Years – 2014/15 to 2018/19

	2014/15	2015/16	2016/17	2017/18	2018/19
LTHT Under 18	27.1%	31.9%	27.7%	27.9%	
LTHT All Ages	12.4%	11.2%	10.1%	10.4%	
Fingertips All Ages (Leeds)	12.0%	11.2%	10.2%	10.5%	12.30%
Fingertips All Ages (England)	11.70%	11.00%	10.70%	10.80%	10.60%
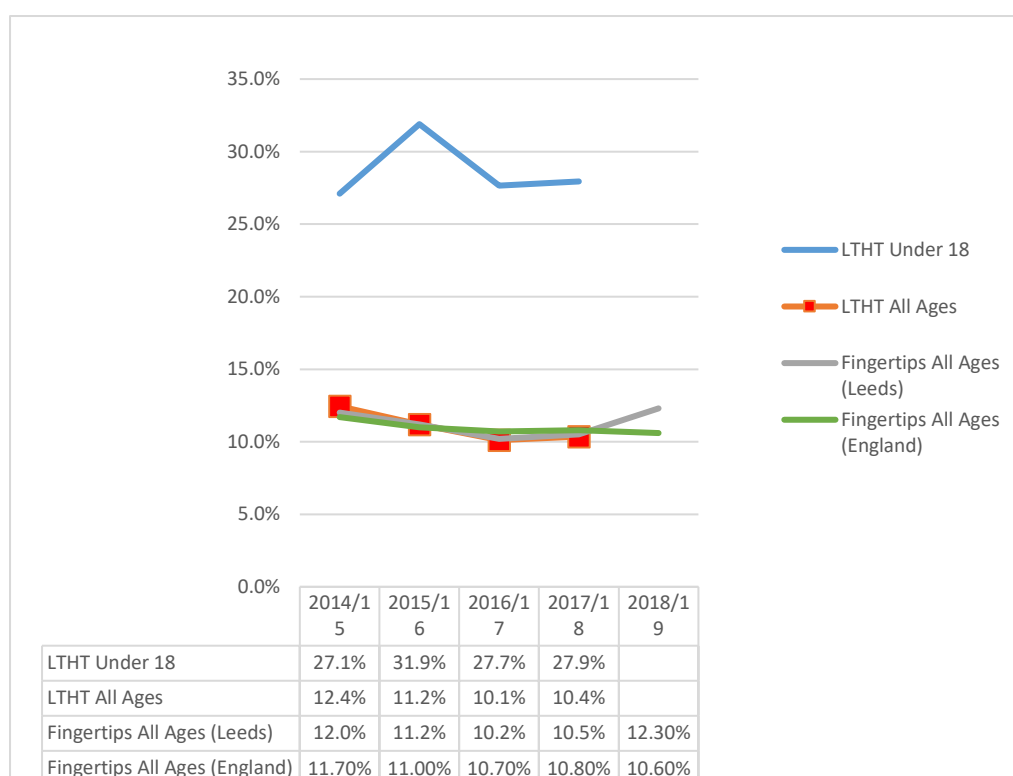
Source: LTHT Maternity Data Set and Public Health England Fingertips

Figure 16 demonstrates the burden of smoking during pregnancy amongst women who are under 18 years old at time of delivery – with rates of smoking significantly higher than the Leeds and England rates for all ages. For example, in 2017/18, rates for all ages were circa 10%, whereas the rate of smoking amongst under 18 year olds in Leeds was 27.9% - the rate has also been notably static over the time period, with no improvement observed.

It is important to note that there are still issues with the data for smoking at time of delivery, as despite CO monitoring being introduced this is not consistently taking place. LTHT data from 2019 Q2 indicate that smoking status at time of delivery was CO validated for 79% of the recordings – and in 17% of cases where this did not happen this was due to equipment issues.

What is happening?

- A Smoking in Pregnancy Steering Group has been in place in Leeds since 2016 and NICE guidance has been used to inform the development of a local action plan.
- Online smoking in pregnancy training is now a mandatory requirement for all midwifes; and all community midwives have attended an additional face-to-face BabyClear smoking in pregnancy training. Midwife trainers are to roll out training to the wider maternity workforce throughout 2020.
- All community midwives carry out CO validation at booking appointment and then throughout pregnancy for women with a reading higher than 4. An 'opt-out' referral to smoking cessation support is made at every booking appointment for women who smoke and is then offered throughout the pregnancy. All women who do not opt-out are referred to One You Leeds (healthy living and smoking cessation service) by midwives. Bi-monthly feedback of referrals is established and reviewed at the Smoking in Pregnancy Steering Group to establish points in the pathway that require improvement. Information about One You Leeds is included in maternity hand held notes.
- CO validated electronic data on smoking status at booking and at delivery (measured at 36 week appointment) is routinely recorded on the K2 maternity system and shared at the Smoking in Pregnancy Steering Group.

Gaps and Future Developments

- Early Start pathways have been reviewed to incorporate One You Leeds services and promotional work has been undertaken to raise practitioner's awareness of the service.
- A network of trainers (including Early Start practitioners) are to provide regular face to face BabyClear smoking in pregnancy training to the wider workforce. This will be delivered alongside the breastfeeding training for children centre staff and 0-19 PHINS.
- There is a target in place that more than 90% of women (at booking and at delivery) will have a smoking status recorded electronically which is validated by a CO reading, by March 2020.
- There is a need to explore further opportunities to increase the engagement of pregnant women referred to One You Leeds for smoking cessation. From January 2020 women who opt out from the service will be sent a letter encouraging them to engage.
- There is a real need for targeted work to drive down smoking rates amongst young mums and those living in deprived Leeds where we know rates to be higher.
- At the time of writing a bid has recently been successful to run a pilot project with two midwifery teams in Leeds to increase the proportion of pregnant smokers (in the associated localities) who engage with a structured smoking cessation programme – increasing engagement from 15% to 30% of all women identified as smokers who do not opt out.

Maternal Healthy Weight

Background and National Picture

Obesity in pregnancy is defined as a maternal BMI of 30 or more, usually at the time of the first antenatal consultation. Obesity in pregnancy carries significant additional risks for both mother and baby. Compared to women with a healthy BMI, women with obesity are at an increased risk of miscarriage, gestational diabetes, pre-eclampsia, venous thromboembolism, induced labour, dysfunctional labour, caesarean section, anaesthetic complications, postpartum haemorrhage and wound infections; and they are less likely to initiate or maintain breastfeeding. Babies of mothers

with obesity are at increased risk too - these risks include stillbirth, congenital anomalies, prematurity, macrosomia and neonatal death. Intrauterine exposure to maternal obesity is also associated with an increased risk of the infant developing obesity and metabolic disorders in childhood (CMACE, 2010).

At a national level, data on maternal obesity are not routinely collected, but a Public Health England paper in 2015 suggested that half of all women of childbearing age (16-44) are overweight or obese (PHE, 2015). Notably, in women of childbearing age, obesity is associated with subfertility and fertility treatment is less successful among women with obesity compared to women with a healthy BMI. Moreover, difficulties in conceiving may contribute to older age at first pregnancy, which may further increase the risk of complications and adverse outcomes (CMACE, 2010).

The Public Health England report also highlighted that the incidence and severity of maternal obesity is likely to increase with factors such as age, social disadvantage and parity. A study based in maternity units across the UK showed that a maternally obese woman was twice as likely to be from an area of deprivation as a pregnant woman with a healthy BMI. There was also shown to be a higher prevalence of maternal obesity amongst Black and Pakistani populations (PHE, 2015).

Local Situation

Figure 17: Percentage of Maternity Bookings by IMD Decile and Leeds Overall where Mothers have a BMI>30 – 2010/11 to 2017/18
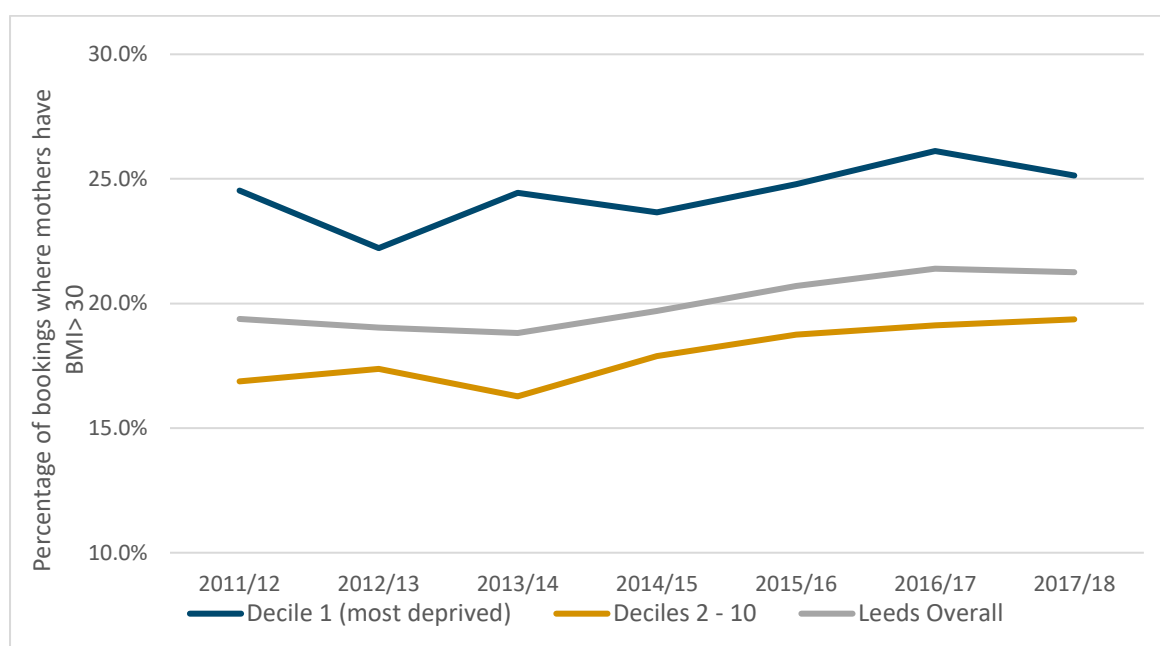
Source: Maternity Booking Data, LTHT

The percentage of mothers classified as obese in Leeds has been steadily rising year on year and in 2017/2018 was reported to be 21.3%, with a greater percentage of mothers residing in deprived Leeds having a BMI>30 (25.1%) compared with IMD deciles 2-10 (19.4%) – in accordance with the national picture.

Figure 18: Percentage of Maternity Bookings by IMD Decile and Leeds Overall where Mothers have a BMI<18.5 – 2011/12 to 2017/18

The percentage of mothers classified as underweight in Leeds has been falling since 2012/13 and stood at 2.9% in 2017/18. As with obesity, a greater percentage of mothers residing in deprived Leeds have a BMI<18.5, further demonstrating the connection between poverty and poor nutrition.

The Leeds Maternal and Child Nutrition HNA (Moores, 2016) highlights that women of childbearing age who are an unhealthy weight (both underweight and overweight) are at risk of having below recommended intakes of dietary fibre, oily fish, fruit and vegetables and low level supplement use of folic acid and Vitamin D – all of which impact on the health of the women and any future infant.

Figure 19: BMI at Maternity Booking Appointment by Ward in Leeds 2013/14 to 2017/18
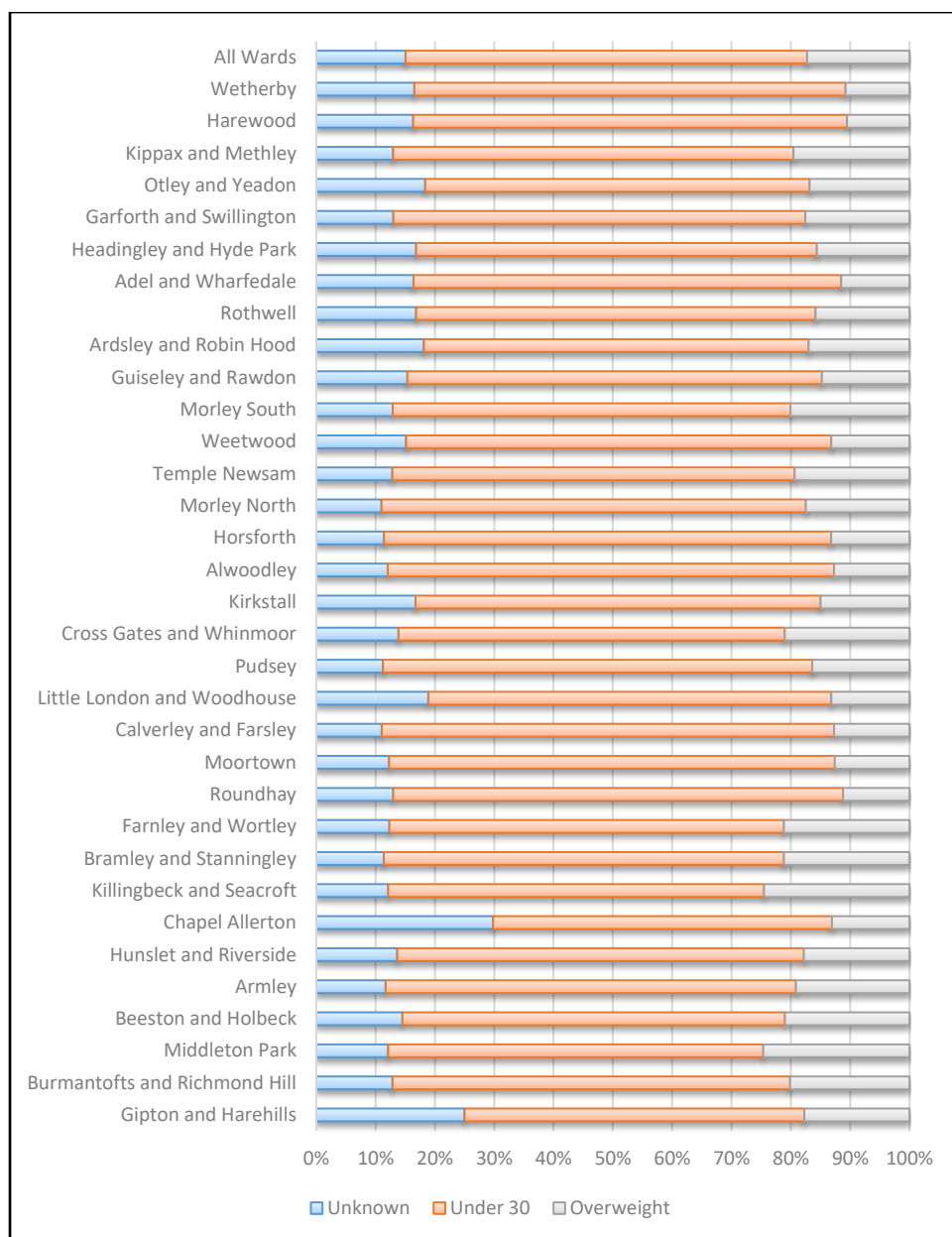
Source: Maternity Booking Data, LTHT

Figure 19 demonstrates the wards where there are particularly high numbers of women with BMI not recorded at booking, for example Chapel Allerton (29.8%) and Gipton and Harehills (25%). Data completeness needs to be improved for better monitoring, but also crucially to ensure women are offered and accessing appropriate care and support during pregnancy. Bearing in mind issues with data collection a couple of wards still stand out as having rates of maternal obesity higher than the Leeds average, namely Middleton Park (24.6%) and Killingbeck and Seacroft (24.5%) – both notably deprived areas with a large White British population.

Figure 20: Percentage of Women by BMI Category and Ethnicity at Maternity Booking Appointment in Leeds - 2013/14 to 2017/18
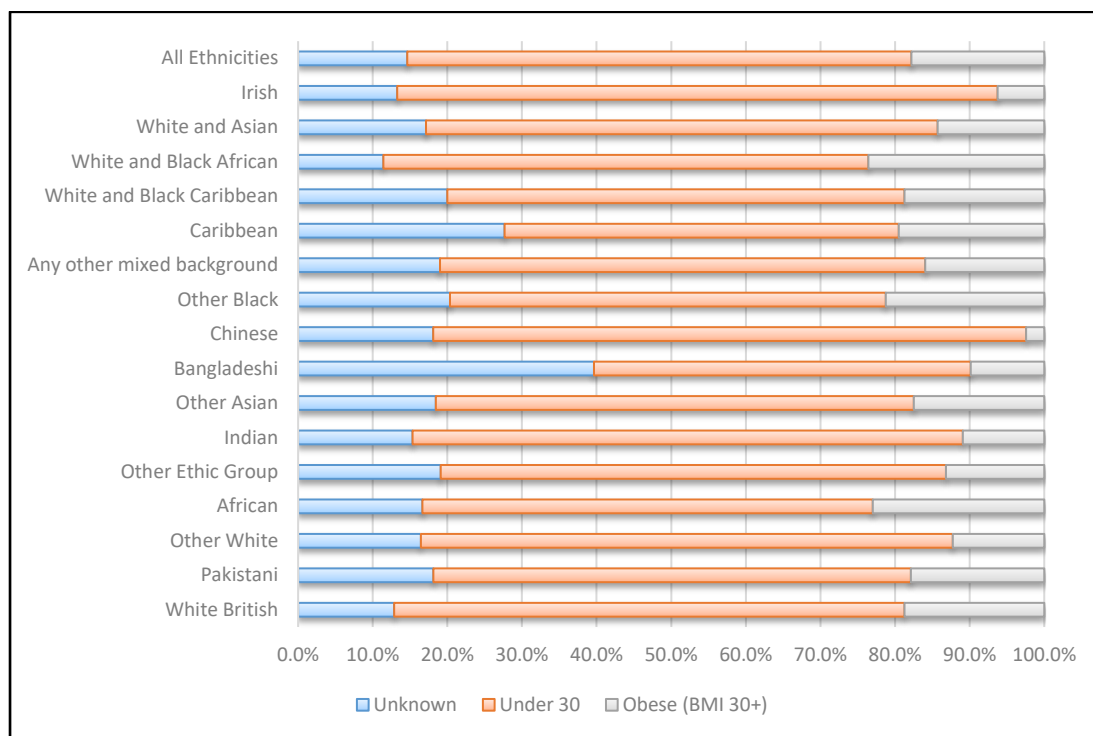
Source: Maternity Booking Data, LTHT

Figure 20 compares BMI recordings at maternity booking appointment by ethnic group. Unfortunately there are a large number of unknown recordings, making interpretation of data difficult – for example BMI was not recorded for almost 40% of Bangladeshi and 28% of Caribbean mothers over the time period. Nevertheless, above average rates of maternal obesity can be seen for some ethnic groups, namely White and Black African (23.6) and African (23%).

However, when considering the absolute numbers of obese mothers booking with maternity services over the last 5 years, White British are the largest group by far, making up over 67% of the total. Detail is shown in the table below.

Table 10: Percentage of Women by BMI Category and Ethnicity at Maternity Booking Appointment in Leeds – 2013/14 to 2017/18

	Unknown	BMI< 30	BMI >30	Bookings
White British	12.9%	68.4%	18.7%	30662
Pakistani	18.1%	64.0%	17.9%	2747
Other White	16.5%	71.3%	12.3%	2619
African	16.7%	60.4%	23.0%	2437
Other Ethic Group	19.1%	67.7%	13.2%	2004
Indian	15.3%	73.7%	10.9%	1219
Other Asian	18.5%	64.1%	17.5%	1127
Bangladeshi	39.7%	50.5%	9.9%	406
Chinese	18.1%	79.5%	2.4%	370
Other Black	20.4%	58.4%	21.2%	339
Any other mixed background	19.0%	65.0%	16.0%	326
Caribbean	27.7%	52.8%	19.5%	318
White and Black Caribbean	20.0%	61.3%	18.7%	315
White and Black African	11.4%	65.0%	23.6%	140
White and Asian	17.1%	68.6%	14.3%	140
Irish	13.3%	80.5%	6.3%	128
All Ethnicities	14.6%	67.6%	17.8%	45297

Source: Maternity Booking Data, LTHT

Figure 21: BMI at Maternity Booking Appointment by Age in Leeds - 2013/14 to 2017/18

	under 18	18 to 25	26 to 30	31 to 40	40+	All Ages
45+	0.4%	0.8%	0.9%	0.9%	1.0%	0.9%
40<45	0.7%	2.1%	2.1%	1.6%	2.3%	1.9%
35<40	2.2%	5.5%	5.0%	4.6%	7.1%	5.0%
30<35	5.7%	11.5%	12.3%	12.8%	18.7%	12.3%
Under 30	90.9%	80.2%	79.6%	80.2%	70.8%	80.0%

Age Group
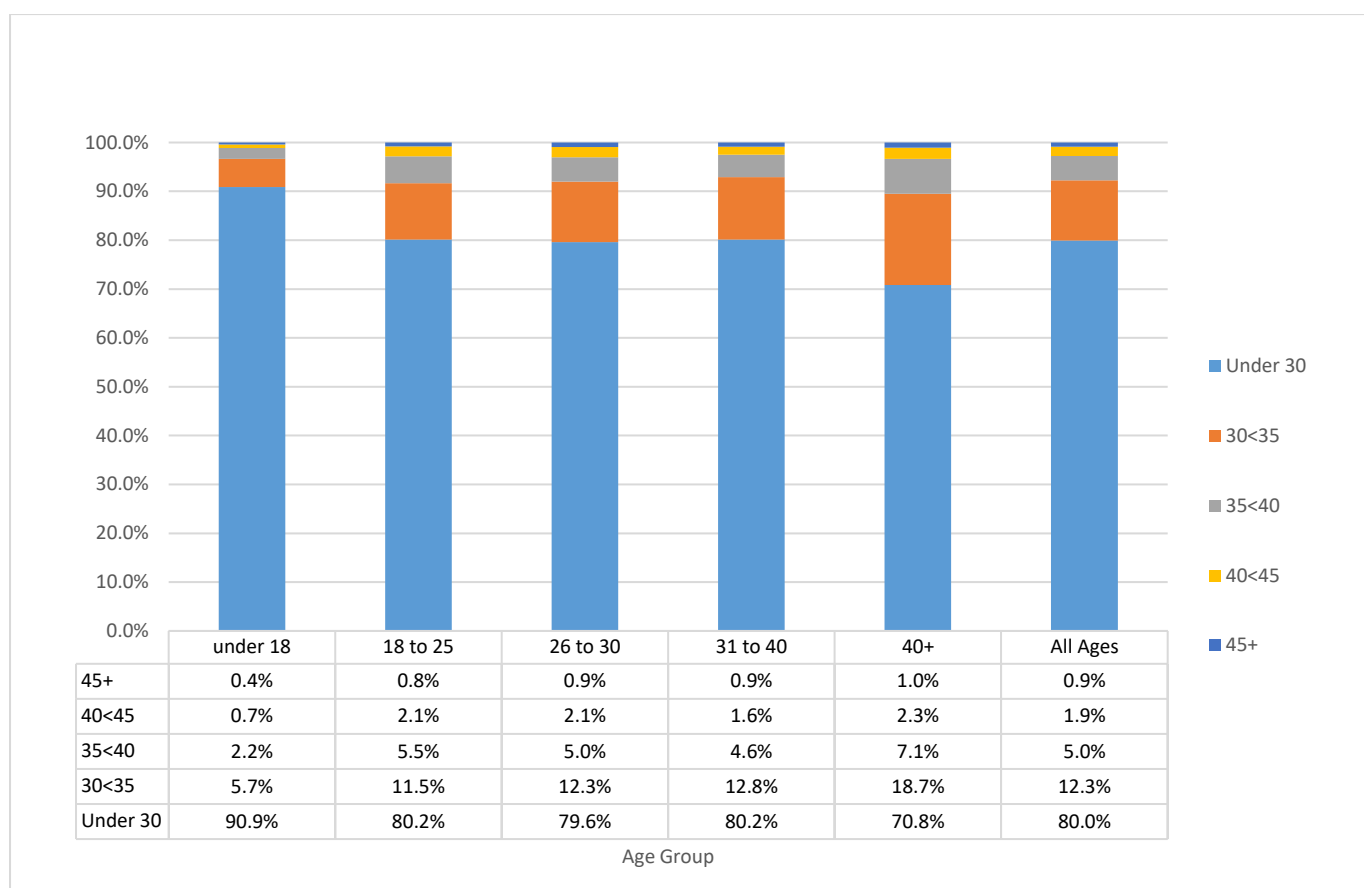
Source: Maternity Booking Data, LTHT

A greater proportion of mothers aged 40 years and over have a BMI>30 which is in agreement with the literature.

Qualitative Data

Considering the higher rates of maternal obesity amongst some ethnic groups, Public Health are in the process of carrying out some insight with women from Asian and Black African and Black Caribbean backgrounds.

Some initial findings indicate that many women feel they would benefit from more in depth information on food and activity in pregnancy and the support of interpreters where necessary:

'Need an open surgery to find out all the info – we didn't get that'

'It was mentally very difficult but it would have been helpful to know about the negative side of foods and the benefits of exercise'.

Language was often felt to be a barrier and some felt that 'someone needed to explain it in detail – extra time'. The group discussed the need for interpreters and that many women were much more receptive to verbal information. The group also felt there was more support if you had gestational diabetes.

A maternal obesity workshop held in Leeds in 2018 also highlighted the real stigma that is associated with maternal obesity and the need to support women using an empathetic strengths based approach.

Guidance

There is guidance from NICE (2010) with regards to weight management before, during and after pregnancy; although notably this same guidance was in place at the time of the last HNA in 2014 and has been due to be updated since a review in 2017. This guideline does not cover women who are underweight (that is, those who have a BMI less than 18.5) or food safety advice.

https://www.nice.org.uk/guidance/ph27

What is happening?

- A multi-agency Maternal Healthy Weight Steering Group was established in 2017 to drive this agenda forward; and an action plan developed looking at what can be done before, during and after pregnancy.
- The LTHT Maternal Obesity Pathway for women with a BMI>40 has been updated to ensure the correct information is provided and to encourage more person-centred management.
- The information provided to women with a BMI>25 has been reviewed and updated to ensure women are aware of the risks of being overweight in pregnancy and have the necessary food and activity guidance.
- A number of social media campaigns have run in deprived wards to promote planning for pregnancy and to dispel the myth of eating for two in pregnancy – providing alongside this supporting information on Tommy's website and the Baby Buddy app.
- Training has been developed by Public Health to enable practitioners (i.e. Midwives) to run a group session with pregnant women and families looking at food and activity for a healthy pregnancy.
- One You Leeds, the healthy living provider in Leeds, have been accepting pregnant women onto the eatwell group programme. Moreover, the service are looking to develop a guide for food and activity in pregnancy which would enhance the one to one support delivered by practitioners and could lead to a more bespoke group offer for pregnant women.
- Leeds Girls Can have developed a pregnancy and post-natal section on their website – linking to up to date physical activity guidance and activities in Leeds, for example Bumps and Babes (physical activity sessions delivered by Midwives often in the more deprived areas of the city).

Gaps and Future Developments

- There needs to be a greater emphasis on preconception health to reduce the numbers of women entering their first pregnancy and any subsequent pregnancies overweight or obese.
- Targeted work needs to take place in those areas with higher levels of maternal obesity and with those women at greater risk of having maternal obesity, in particular women living in deprived Leeds and certain ethnic groups (i.e. White and Black African).
- The Continuity of Care agenda within Maternity Services and the accompanying group antenatal sessions provide a great opportunity to provide support around food and activity in pregnancy. Providing this support in a universal manner could help to alleviate the stigma which is associated with maternal obesity and the group setting helps to foster peer support.
- HENRY is an award winning programme that supports practitioners to have solution focussed conversations with parents about their own weight and that of their children. Training midwives in this approach would further enhance the delivery of evidence based care and develop the maternal obesity pathway and delivery of group antenatal sessions.

Breastfeeding

Background and national picture

Breast milk provides the ideal nutrition for infants in the first stages of life and current national and international guidance recommends exclusive breastfeeding from birth and for the first six months of life - with ongoing breastfeeding for two years and beyond (WHO 2001).

There is substantial evidence to suggest that breastfeeding provides protection against a number of childhood illnesses and longer term health conditions. These include:

- Gastro-intestinal infection
- Respiratory infections
- Necrotising enterocolitis and late onset sepsis in preterm babies
- Urinary tract infections
- Ear infections
- Allergic disease (eczema, asthma and wheezing)
- Type 1 and type 2 diabetes
- Obesity
- Childhood leukaemia
- Sudden Unexplained Infant Death

In addition, women who breastfed are at lower risk of:

- Breast cancer
- Ovarian cancer
- Hip fractures and reduced bone density

- Women who do not breastfeed may also find it more difficult to return to their pre-pregnancy weight (NICE, 2008)

Local Situation

Table 11: Breastfeeding Initiation in Deprived Leeds (IMD Decile 1) and Leeds Overall – 2013/14 to 2018/19: PHE Fingertips and LCH Local Data

		2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
PHI	Leeds Overall	71.8%	70.7%	70.9%	73.8%	73.0%	73.7%
	Deprived Leeds	62.5%	62.0%	61.7%	66.9%	65.5%	67.5%
PHE Fingertips	England	74%	74.30%	74%	74.50%		
	England Deprived				68.80%		

Source: Breastfeeding Data, LCH and Public Health England Fingertips

Table 12: Breastfeeding Continuation at 6-8 weeks in Deprived Leeds (IMD Decile 1) and Leeds Overall – 2013/14 to 2018/19: PHE Fingertips and LCH Local Data

		2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
PHI	Leeds Overall	51.3%	49.3%	47.8%	49.1%	48.4%	48.7%
	Deprived Leeds	44.6%	43.3%	41.2%	45.3%	44.0%	43.3%
PHE Fingertips	England	47.20%	45.80%	43.80%	44.40%	42.70%	46.2%
	England Deprived			40.50%	40.60%	40.20%	

Source: Breastfeeding Data, LCH and Public Health England Fingertips

Data from LCH indicate breastfeeding initiation rates in Leeds overall have increased since the time of the last Maternity HNA from 71.8% to 73.7%; though rates still slightly lag behind England for data collected in 2016/17. The rates for continuation of breastfeeding at 6-8 weeks are better in Leeds compared with national rates, although have dropped a little since 2013/14 – from 51.3% to 48.7%.

Figure 22: Breastfeeding Initiation Rates in Leeds Overall and Deprived Leeds (Decile 1) - 2013/14 to 2018/19
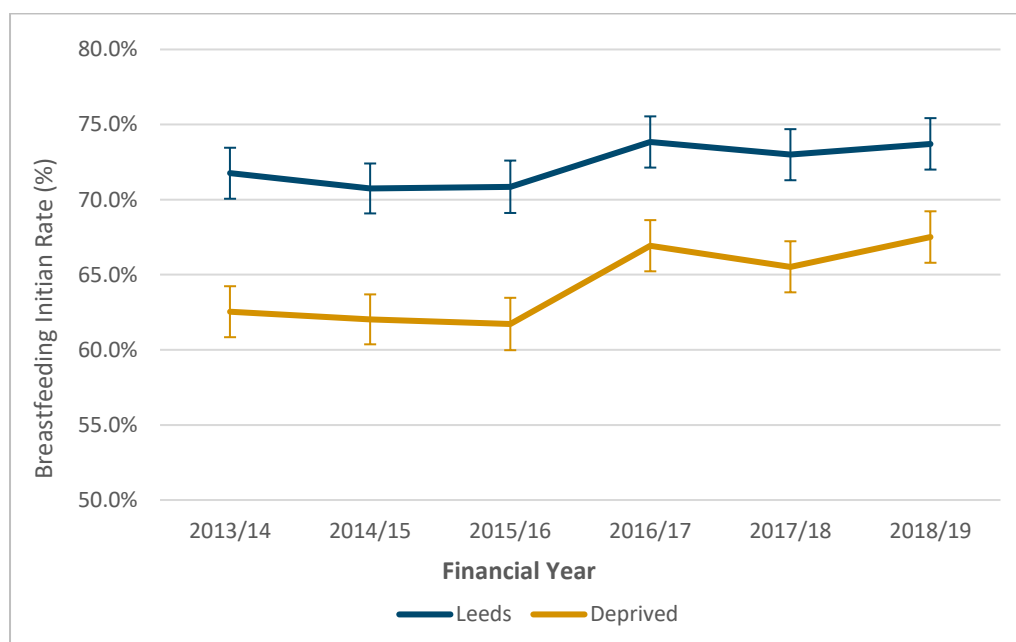
Source: Breastfeeding Data, LCH and Public Health England Fingertips

Breastfeeding initiation rates in deprived Leeds have improved over the time period – rising from 62.5% in 2013/14 to 67.5% in 2018/19; yet rates remain significantly lower than Leeds overall.

Figure 23: Breastfeeding Continuation Rates in Leeds Overall and Deprived Leeds (Decile 1) - 2013/14 to 2018/19
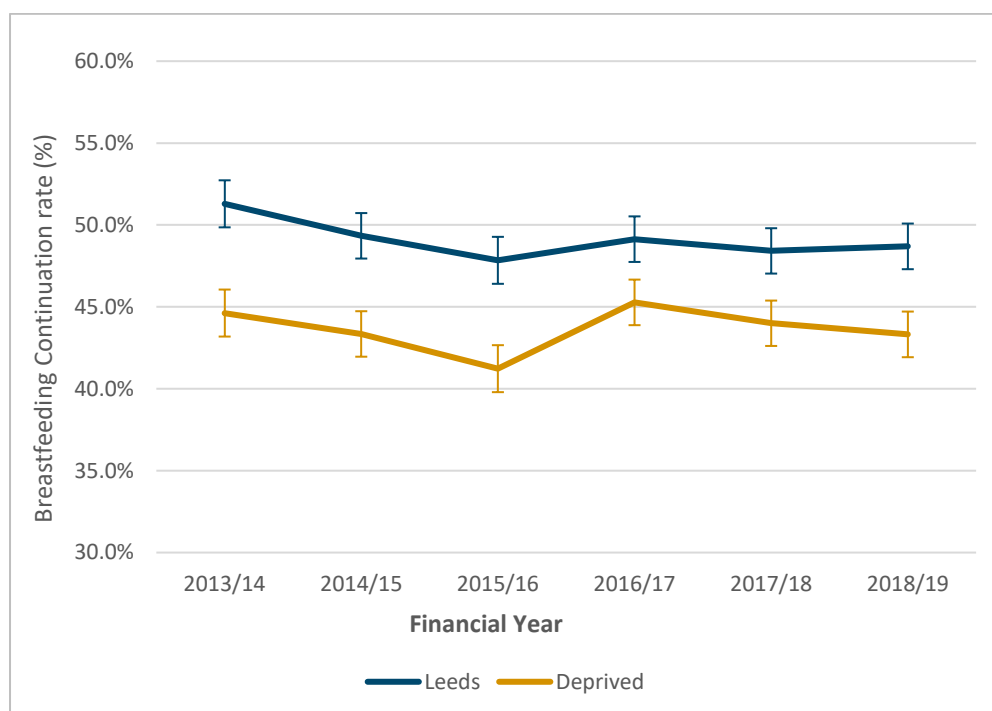
Source: Breastfeeding Data, LCH and Public Health England Fingertips

Breastfeeding continuation rates have changed little in deprived Leeds since 2013/14 and in 2018/19 are significantly lower than Leeds overall – 43.3% compared with 48.7%.

Looking at Table 13 (below) some key wards can be seen to have significantly lower rates of breastfeeding initiation and continuation compared with Leeds overall. Two examples are Middleton Park with an initiation rate of 56.8% and a continuation rate of 32.8%; and Killingbeck and Seacroft with an initiation rate of 55.6% and a continuation rate of just 29.4% at 6-8 weeks. Both of these wards are notably deprived wards with high numbers of White British residents (Appendix 4). This is in contrast to Gipton and Harehills which is also a very deprived, but a more multicultural ward, and has rates of breastfeeding initiation (76.9%) and continuation (52.1%) above the Leeds overall rates.

Table 13: Breastfeeding Initiation and Continuation Rates in Leeds by Ward - 2018/19

	Initiation		Continuation	
	Rate	Relative to Leeds	Relative to Leeds	Rate
Adel & Wharfedale	83.7%	9.9%	10.9%	59.6%
Alwoodley	84.4%	10.6%	15.4%	64.1%
Ardsley & Robin Hood	69.2%	-4.5%	-12.5%	36.2%
Armley	65.9%	-7.9%	-8.6%	40.1%
Beeston & Holbeck	69.7%	-4.0%	-5.7%	43.0%
Bramley & Stanningley	60.8%	-12.9%	-15.2%	33.4%
Burmantofts & Richmond Hill	70.8%	-2.9%	0.8%	49.5%
Calverley & Farsley	82.9%	9.1%	10.0%	58.7%
Chapel Allerton	84.1%	10.3%	18.5%	67.2%
Cross Gates & Whinmoor	58.7%	-15.0%	-15.8%	32.9%
Farnley & Wortley	62.2%	-11.5%	-16.1%	32.6%
Garforth & Swillington	77.4%	3.7%	-7.5%	41.2%
Gipton & Harehills	76.9%	3.2%	3.4%	52.1%
Guiseley & Rawdon	82.6%	8.9%	9.0%	57.7%
Harewood	91.2%	17.4%	13.9%	62.6%
Headingley & Hyde Park	83.6%	9.9%	14.2%	62.9%
Horsforth	88.3%	14.6%	14.7%	63.4%
Hunslet & Riverside	72.3%	-1.4%	0.9%	49.6%
Killingbeck & Seacroft	55.6%	-18.1%	-19.3%	29.4%
Kippax & Methley	63.4%	-10.4%	-13.1%	35.6%
Kirkstall	72.8%	-0.9%	4.8%	53.5%
Little London & Woodhouse	88.0%	14.3%	18.7%	67.4%
Middleton Park	56.8%	-17.0%	-15.8%	32.8%
Moortown	86.5%	12.8%	19.0%	67.7%
Morley North	70.5%	-3.2%	-7.0%	41.7%
Morley South	71.0%	-2.7%	-3.3%	45.4%
Otley & Yeadon	82.5%	8.8%	0.2%	48.9%
Pudsey	73.3%	-0.4%	-4.7%	44.0%
Rothwell	70.9%	-2.8%	-3.3%	45.4%
Roundhay	83.7%	10.0%	17.0%	65.7%
Temple Newsam	66.4%	-7.3%	-8.0%	40.7%
Weetwood	87.1%	13.4%	13.5%	62.2%
Wetherby	86.6%	12.8%	9.9%	58.6%
Leeds	**73.7%**			**48.7%**

Source: Breast Feeding Data, LCH

Figure 24: Breastfeeding Initiation and Continuation (6-8 weeks) Rates by Ethnicity in Leeds - 2018/19
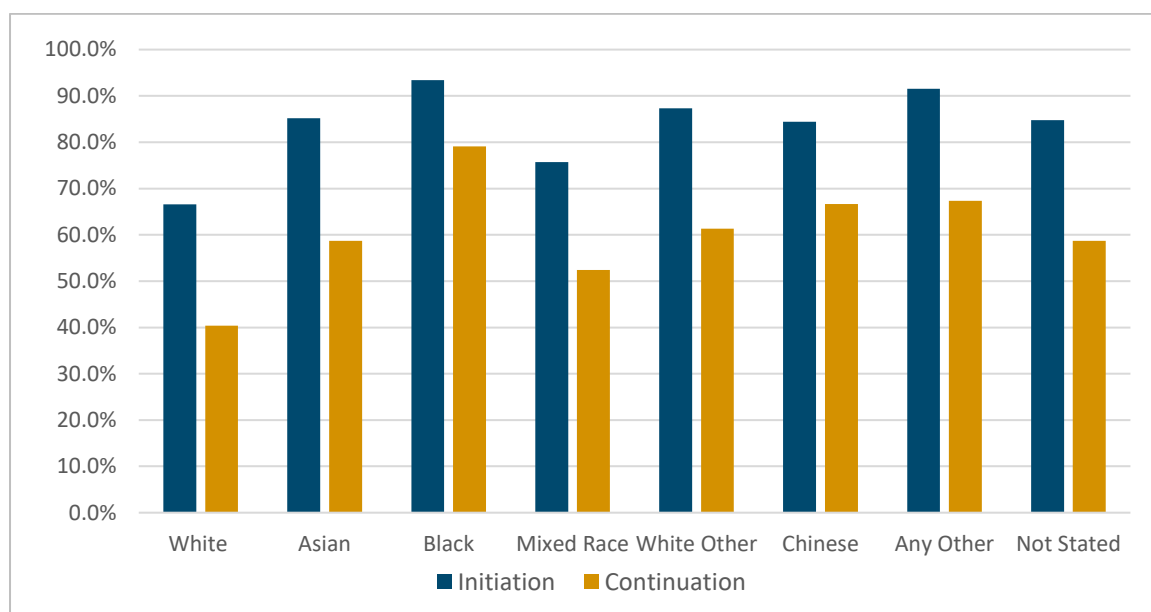
Source: Breastfeeding data, LTHT

Figure 24 demonstrates the relationship between breastfeeding initiation and continuation rates and ethnicity. As alluded to previously, it can be seen that the White population has the lowest initiation and continuation rates of all ethnicities – initiation rate 66.58% and continuation just 40.39%. The highest initiation and continuation rates can be seen for Black women – 93.42% and 79.11% respectively.

Table 14: Drop off in Breast Feeding between Initiation and the 6 to 8 Week Check, LTHT Data 2018/19

Ethnicity	Initiation	Continuation
British	66.5%	40.4%
Irish	85.0%	50.0%
Any other White background	87.3%	61.3%
White and Black Caribbean	67.7%	41.8%
White and Black African	79.5%	65.0%
White and Asian	75.0%	52.3%
Any other mixed background	80.9%	54.8%
Indian	93.6%	69.0%
Pakistani	78.4%	48.7%
Bangladeshi	90.2%	65.9%
Any other Asian background	92.5%	71.5%
Caribbean	86.4%	59.3%
African	94.8%	83.4%
Any other Black background	88.9%	64.2%
Chinese	84.4%	66.7%
Any other ethnic group	91.5%	67.3%
Not stated	84.8%	58.7%
All Ethnicities	73.7%	48.7%

Source: LTHT Data

The drop-off in breastfeeding between initiation and the 6 to 8 weeks check (continuation) can be looked at for the Leeds population as a whole and then conclusions drawn about the performance for each ethnic group. Table 14 highlights again the poor initiation and continuation rates for White British women, but also indicates below average rates for White and Black Caribbean women. Furthermore, a significant drop off between initiation and continuation rates (around 30%) can be observed for Irish, Pakistani and Bangladeshi women – indicating a possible need for enhanced support for these women to continue breastfeeding. In accordance with this, insight work carried out by Public Health in Leeds with Bangladeshi women highlighted that this group of women could benefit from breastfeeding support which takes into consideration specific challenges such as living with extended families (Goldsborough, 2019).

Figure 25: Breastfeeding Initiation Rates by Age in Leeds (2017)
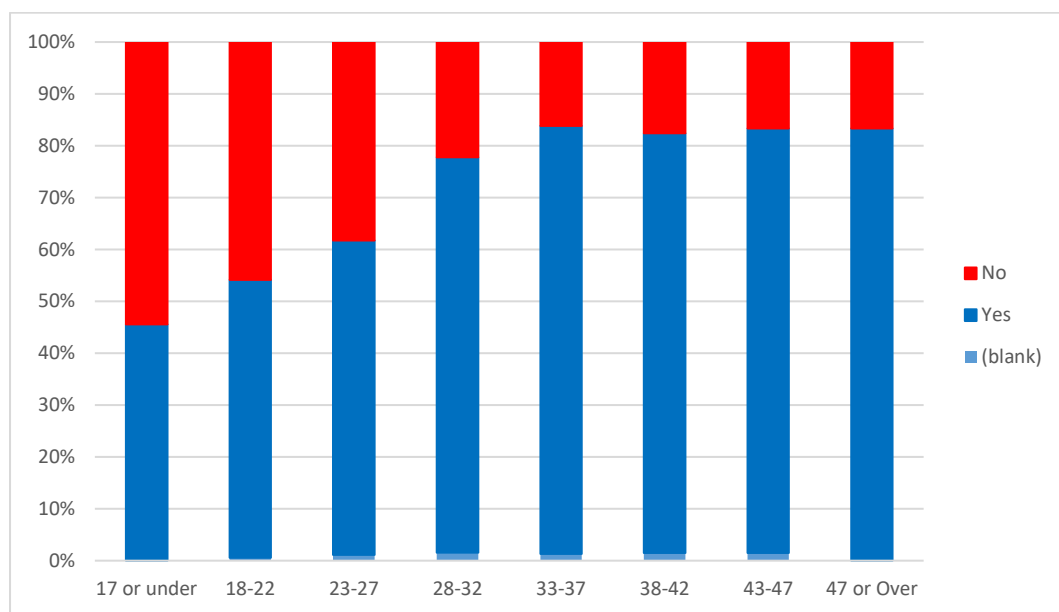
Source: LTHT Data

Breastfeeding initiation data from LTHT for 2017 demonstrate the association between age and breastfeeding, with young mothers much less likely to initiate breastfeeding – only 46% of under 17 year olds in comparison with 83% of 33-37 year olds.

What is happening?

- Leeds Teaching Hospital Trust (LTHT) & Leeds Community Healthcare (LCH) health visiting service have achieved UNICEF Baby Friendly Initiative (BFI) re-accreditation; LCH have also achieved and maintained Gold accreditation.
- The Infant Feeding Policy is well-established in LTHT, LCH and Leeds City Council (LCC).
- Leeds Breastfeeding Plan (2016-21) is being delivered using a partnership approach. An action plan has been developed and is regularly reviewed by the partnership board.
- 17 Breastfeeding support groups are now available in Leeds - 10 facilitated by Early Start Teams (EST) and 7 by the Peer Support Service (who also attend and support the EST run groups). Peer Supporters attend the Preparation for Birth and Beyond (PBB) courses to promote breast feeding and answer parent's questions.

Gaps and Future Developments

- Continue to increase breastfeeding initiation and continuation rates, including narrowing the gap and through focussed work with young parents and in targeted areas of the city.

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- Increase the number of venues signed up to be Breastfeeding Friendly across the city through continued promotion by peer supporters and practitioners in areas of deprivation in the city (Best Start Zones) to develop Leeds as an environment that supports breastfeeding.
- Maternity Services (LTHT) to maintain full BFI accreditation. Health visiting services will maintain Gold accreditation and Children's Centres (LCC) will have achieved full BFI accreditation by 2020/21.
- New national resource to be used in schools (developed by Association for Breastfeeding Mothers) to normalise breastfeeding and encourage discussion. A full suite of resources, including slides (Early Years Foundation Stage to Key Stage 3), lesson plans and activities are available. This will be shared on the Leeds Healthy Schools Platform, and support offered for staff to facilitate.

Factors Impacting Birth and Lifelong Outcomes - Summary

- Data for 2018/19 indicate that smoking status at time of delivery in Leeds is 12.3%, which is worse than the national rate of 10.6%; although better than the Yorkshire and Humber rate which is 14.4%.
- Rates of smoking during pregnancy are significantly higher amongst women who are under 18 years old at time of delivery. In 2017/18, rates for all ages were circa 10% (at a local and national level), whereas the rate of smoking amongst under 18 year olds in Leeds was 27.9%.
- The percentage of mothers classified as obese in Leeds has been steadily rising year on year and in 2017/2018 was reported to be 21.3%, with a greater percentage of mothers residing in deprived Leeds having a BMI>30 (25.1%) compared with non-deprived Leeds (19.4%).
- The percentage of mothers classified as underweight in Leeds has been falling since 2012/13 and stood at 2.9% in 2017/18. As with obesity, a greater percentage of mothers residing in deprived Leeds have a BMI<18.5.
- Despite issues with data collection a couple of wards still stand out as having rates of maternal obesity higher than the Leeds average, in particular Middleton Park (24.6%) and Killingbeck and Seacroft (24.5%) – both deprived areas with a large White British population.
- Above average rates of maternal obesity can be seen for some ethnic groups, namely White and Black African (23.6) and African (23%).
- Breastfeeding initiation rates in Leeds have increased since the time of the last Maternity HNA from 71.8% to 73.7%; though rates still slightly lag behind England for data collected in 2016/17. The rates for continuation of breastfeeding at 6-8 weeks are better in Leeds compared with national rates, although have dropped a little since 2013/14 – from 51.3% to 48.7%.
- Breastfeeding initiation rates in deprived Leeds have improved over the time period – rising from 62.5% in 2013/14 to 67.5% in 2018/19; yet rates remain significantly lower than Leeds overall.
- Breastfeeding continuation rates have changed little in deprived Leeds since 2013/14 and in 2018/19 are significantly lower than Leeds overall – 43.3% compared with 48.7%.
- Some key wards have significantly lower rates of breastfeeding initiation and continuation compared with Leeds overall. Two examples are Middleton Park, with an initiation rate of 56.8% and a continuation rate of 32.8%; and Killingbeck and Seacroft with an initiation rate of 55.6% and a continuation rate of just 29.4% at 6-8 weeks.

- The White population in Leeds has the lowest initiation and continuation rates of all ethnicities – initiation rate 66.58% and continuation just 40.39%. The highest initiation and continuation rates can be seen for Black women – 93.42% and 79.11% respectively.
- Young mothers are much less likely to initiate breastfeeding – only 46% of under 17 year olds in comparison with 83% of 33-37 year olds.

What's Changed and Key Issues

- When considering the observed increase in smoking rates in Leeds, it is important to remember this is likely due to the introduction of CO validation. In the future, as CO monitoring and data collection becomes more robust across the city we should be able to get a better sense of true trends over time.
- In order to monitor and review smoking rates in relation to deprivation and ethnicity going forward, the improved collection and reporting of data will be beneficial to determine the impact of any new initiatives; and help to identify where further support is required.
- There has been no improvement in smoking rates amongst under 18 year olds in Leeds since the time of the last HNA, indicating a real need for more targeted support for this group of pregnant women.
- Data completeness for BMI at booking needs to be improved for better monitoring, but also crucially to ensure women are offered and accessing appropriate care and support during pregnancy. Wards where there are particularly high numbers of women with BMI not recorded at booking include Chapel Allerton (29.8%) and Gipton and Harehills (25%).
- Some initial findings from insight carried out by Public Health indicate that many women from Asian and Black African and Caribbean backgrounds feel they would benefit from more in depth information on food and activity in pregnancy, and the support of interpreters where necessary.
- There needs to be a greater emphasis on preconception health to reduce the numbers of women entering their first pregnancy and any subsequent pregnancies overweight or obese.
- Targeted work needs to take place in those areas with higher levels of maternal obesity and with those women at greater risk of having maternal obesity i.e. women living in deprived Leeds and certain ethnic groups (i.e. White and Black African).
- Breastfeeding initiation rates in Leeds are lower than national rate (2016-17), but have increased since the time of the last Maternity HNA from 71.8% to 73.7%; and improvements have been observed in deprived Leeds rising from 62.5% in 2013/14 to 67.5% in 2018/19.
- Breastfeeding continuation rates (6-8 weeks) are better in Leeds compared with national rates, although have dropped a little since 2013/14 – from 51.3% to 48.7%; and no improvement in rates in deprived Leeds have been observed, indicating a real need for more targeted work in these areas to support women to continue breastfeeding.

Maternity Services

Background and National Picture

Antenatal care is a recognised part of pregnancy within the UK - ensuring optimum health of the mother and the safe delivery of a healthy infant. The Royal College of Obstetricians and Gynaecologists (RCOG) recommended in 2008 that women should access antenatal care by the end of the 12th completed week of pregnancy, with the 2016 update stating that ideally, care should have commenced by the 10th week (RCOG, 2016). NICE have produced a number of guidelines covering many aspects of pregnancy in England and Wales, including standards of care for uncomplicated pregnancy. The guidelines recommend that screening for haematological conditions should occur prior to 10 weeks gestation, genetic disorder screening to occur between 11 and 13 weeks and that folic acid should be taken for the first 12 weeks (NICE, 2016). It follows then, that late booking for antenatal care is problematic and several studies have investigated both characteristics of women who book late i.e. after the 12th completed week of pregnancy, or not at all, and the outcomes associated with late booking. For example, in 2010, Tucker et al found that un-booked mothers had six times the odds of having a preterm delivery and three times increased odds of having a low-birth weight baby, although there was no difference in APGAR (Appearance, Pulse, Grimace, Activity, and Respiration) scores, stillbirth, or post-partum haemorrhage (Tucker et.al., 2010).

Local Situation

A Maternity Access Health Equity Audit was carried out in 2017 in Leeds and the following recommendations were made:

1. Antenatal services should concentrate on reducing late booking in specific subgroups of women in Leeds: women under 20, those from deprived Leeds (especially White British women), and those of African and Bangladeshi ethnicity.

2. LTHT should improve the accuracy of its data collection, particularly around ethnicity of women booking for antenatal care.

 (Kelly, 2017)

Figure 26: Ethnicity Coding Completeness – LTHT Maternity Booking Data 2008/09 to 2018/19
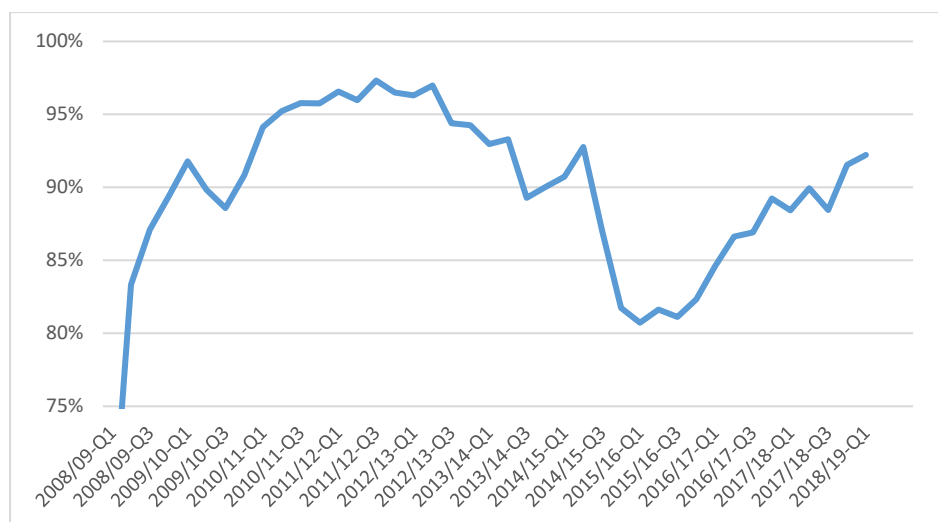
Source: LTHT Maternity Booking Data

Figure 26 demonstrates there has been an upturn in the coding of ethnicity since 2016, although it still remains below 95%.

Figure 27: Percentage of Maternity Bookings within 10 Completed Weeks of Conception by IMD Decile and for Leeds Overall – 2012/13 to 2018/19

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Gap	7.1%	4.7%	7.4%	8.0%	9.3%	8.2%	10.9%
Not Deprived	78.7%	75.4%	80.1%	77.8%	78.2%	80.5%	83.8%
Deprived	67.9%	68.5%	69.1%	65.9%	64.2%	68.2%	67.5%
Leeds	74.9%	73.2%	76.5%	73.9%	73.5%	76.4%	78.4%
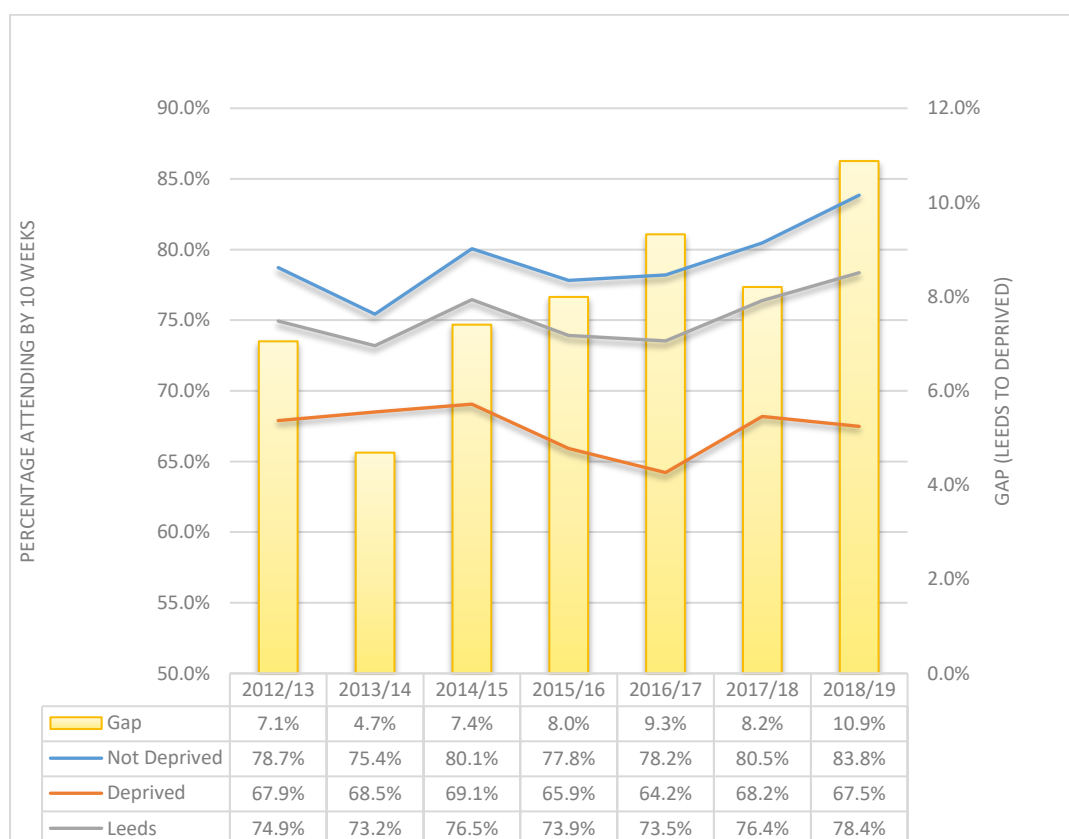
Source: LTHT Maternity Booking Data
N.B. Deprived – IMD 1; Non-Deprived – IMD2-10

The percentage of mothers attending their booking appointment before 10 weeks gestation has increased in Leeds overall since 2012/2013 – rising from 74.9% to 78.4%. However, it can been seen in Figure 27 that this is accounted for by those mothers living in IMD deciles 2-10 and the percentage of mothers from deprived Leeds attending before 10 weeks has in fact slightly dropped.

As a consequence, the inequalities gap has widened further since the maternity access audit carried out in 2017, from 9.3% to 10.9%.

Table 15: Percentage of Maternity Bookings within 11 Completed Weeks of Conception in Leeds by Ethnic Group and Ward - 2008/09 to 2017/18

Percentage of bookings under 11 weeks by ethnic group and ward -2008/09 to2017/18 (Ten years)																	
Row Labels	African	Bangladeshi	Caribbean	Chinese	Indian	Irish	Pakistani	White and Asian	White British	ANY OTHER WHITE BACKGROUND	Any other mixed background	ANY OTHER ETHNIC GROUP	White and Black Caribbean	White and Black African	ANY OTHER ASIAN BACKGROUND	ANY OTHER BLACK BACKGROUND	Not Known	Grand Total
Adel and Wharfedale	75%			79%	76%		74%	50%	80%	80%	73%	71%			71%	60%	73%	78%
Alwoodley	68%	67%	96%	67%	76%	89%	71%	88%	81%	71%	78%	73%	95%	80%	76%	81%	66%	77%
Ardsley and Robin Hood	64%			50%	67%		67%	67%	77%	50%		75%	78%				60%	74%
Armley	56%		67%	62%	61%	78%	73%	90%	76%	68%	70%	69%	78%	60%	67%	70%	66%	73%
Beeston and Holbeck	58%	64%	50%	44%	71%	75%	67%	86%	70%	64%	76%	61%	69%	70%	67%	71%	64%	67%
Bramley and Stanningley	61%			75%	85%	88%	76%	78%	79%	65%	63%	81%	65%	86%	59%	67%	71%	77%
Burmantofts and Richmond Hill	56%	60%	69%	61%	77%	56%	71%	76%	70%	63%	69%	64%	64%	66%	70%	58%	58%	65%
Calverley and Farsley	53%		100%	70%	83%	100%	78%		85%	82%	100%	67%			81%		76%	84%
Chapel Allerton	55%	59%	62%	59%	77%	83%	70%	75%	77%	59%	66%	48%	68%	75%	64%	57%	64%	69%
Cross Gates and Whinmoor	61%			71%	76%	71%	79%		79%	70%		82%	73%		86%	67%	71%	78%
Farnley and Wortley	64%		64%	87%	81%	73%	79%		78%	71%	94%	79%	75%	69%	70%	75%	74%	77%
Garforth and Swillington	50%		83%	60%	62%	63%			81%	80%		86%			86%		67%	79%
Gipton and Harehills	54%	59%	73%	60%	66%	55%	66%	50%	66%	47%	53%	42%	62%	60%	59%	58%	50%	59%
Guiseley and Rawdon			88%	60%	90%	50%			80%	78%	71%	85%			86%		76%	80%
Harewood					75%	69%	70%		78%	53%		88%			83%		65%	76%
Headingley and Hyde Park	56%	43%	65%	48%	79%		63%		70%	58%	56%	59%	57%	89%	78%	67%	65%	65%
Horsforth	100%		83%	71%	75%	75%	69%	71%	85%	86%	57%	90%			79%		80%	84%
Hunslet and Riverside	56%	59%	59%	69%	75%	33%	61%	71%	70%	64%	59%	52%	68%	57%	60%	74%	58%	64%
Killingbeck and Seacroft	65%	83%	70%	67%	73%	86%	87%	50%	74%	64%	80%	78%	66%	57%	76%	77%	60%	73%
Kippax and Methley	50%			86%					79%	57%							70%	78%
Kirkstall	65%		71%	71%	78%	80%	79%	75%	79%	73%	71%	65%	74%	83%	66%	73%	73%	76%
Little London and Woodhouse	56%	33%	66%	68%	69%		64%	74%	74%	72%	60%	61%	63%	67%	66%	50%	66%	66%
Middleton Park	63%		75%	74%	74%	36%	81%	80%	73%	75%	67%	64%	56%	50%	83%	63%	65%	72%
Moortown	79%	82%	72%	80%	78%	93%	72%	64%	83%	72%	86%	69%	90%	78%	77%	65%	71%	80%
Morley North	68%			83%	80%	64%	68%	67%	81%	77%	75%	88%	83%		76%		74%	80%
Morley South	59%		78%	94%	90%	73%	73%	67%	79%	61%	50%	69%	100%		57%		69%	77%
Otley and Yeadon				67%	90%				78%	81%		75%					72%	77%
Pudsey	64%		80%	73%	77%		81%		81%	70%	75%	81%	56%		67%		78%	80%
Rothwell	10%		90%	100%	88%		78%	57%	80%	82%		63%	50%				74%	79%
Roundhay	62%	64%	78%	71%	74%	100%	71%	50%	83%	71%	72%	71%	79%	78%	52%	63%	69%	77%
Temple Newsam	60%		44%	75%	75%		83%	83%	78%	86%	90%	71%	78%	57%	94%	71%	68%	76%
Weetwood	65%		75%	70%	76%		79%		81%	76%	83%	70%	88%	67%	73%	64%	70%	78%
Wetherby									72%	81%							41%	60%
Leeds	58%	60%	69%	67%	75%	73%	69%	72%	78%	66%	69%	62%	69%	68%	68%	62%	66%	73%

Source: LTHT Maternity Booking Data

The Leeds average for the percentage of maternity bookings within 11 completed weeks of conception for all ethnicities is 73% (bottom right figure). The highest rate is for the White British group with 78% attending before 11 weeks.

All minority groups other than Indian show below average attendance rates before 11 weeks. The lowest rate is for African women with just 58% attending within the specified period and the second lowest is for Bangladeshi women (60%) – this is in accordance with the audit carried out in 2017 (Kelly, 2017).

Given the results above, not unexpectedly, the wards with the lowest under 11 week attendance rates are generally the ones with higher BAME populations and also the more deprived wards (Wetherby is an exception here). Gipton and Harehills is the worst performing ward, with only 59% of women attending their booking appointment before 11 weeks. In the wards where fewer women are booking in the recommended time, the White British population also notably show poorer than average performance which indicates that deprivation is indeed a partial confounder in the relationship between ethnicity, location and under 11 week attendance rates.

Some notable low rates on the cross-tab table are for African women in Rothwell ward (10%) with an all ethnicities rate of 79%; Bangladeshi women in Little London and Woodhouse (33%) with an all ethnicities rate of 66%; and Irish women in Hunslet and Riverside (33%) and Middleton Park (36%) with all ethnicities rates of 64% and 72% respectively.

Table 16: Number of Maternity Bookings after 11 Completed Weeks of Conception in Leeds by Ethnic Group and ward – 2008/09 to 2017/18

Row Labels	African	Bangladeshi	Caribbean	Chinese	Indian	Irish	Pakistani	White and Asian	White British	ANY OTHER WHITE BACKGROUND	Any other mixed background	ANY OTHER ETHNIC GROUP	White and Black Caribbean	White and Black African	ANY OTHER ASIAN BACKGROUND	ANY OTHER BLACK BACKGROUND	Not Known	Grand Total
Adel and Wharfedale	3	0	2	3	14	1	8	3	236	9	4	16	1	0	18	4	56	378
Alwoodley	32	4	1	18	72	2	52	2	306	41	4	28	1	2	24	3	92	684
Ardsley and Robin Hood	5	0	0	6	7	0	6	2	394	13	1	4	2	0	1	1	116	558
Armley	92	2	5	14	18	2	58	1	661	173	9	30	6	4	27	6	157	1265
Beeston and Holbeck	161	29	15	22	38	2	137	1	658	169	4	54	9	9	32	10	162	1512
Bramley and Stanningley	40	0	3	4	3	1	6	2	801	66	3	7	7	1	7	2	68	1021
Burmantofts and Richmond Hill	512	14	21	26	13	7	32	4	771	154	11	78	29	11	100	33	211	2027
Calverley and Farsley	8	1	0	3	22	0	32	1	440	12	0	7	1	1	5	1	55	589
Chapel Allerton	180	56	80	20	33	4	129	6	411	105	18	75	36	8	34	27	192	1414
Cross Gates and Whinmoor	12	0	0	4	9	2	10	0	546	23	2	3	6	1	3	2	53	676
Farnley and Wortley	23	0	5	2	10	3	7	0	662	55	1	7	3	4	6	2	65	855
Garforth and Swillington	3	0	1	6	5	3	1	0	300	5	0	1	0	0	1	1	45	372
Gipton and Harehills	322	151	34	36	59	9	557	19	572	369	24	208	33	8	116	48	409	2974
Guiseley and Rawdon	0	0	1	4	1	3	0	0	316	5	2	2	0	0	1	0	57	392
Harewood	0	0	1	1	8	4	3	0	233	8	1	1	1	0	1	1	49	312
Headingley and Hyde Park	78	4	11	17	16	4	116	0	195	42	11	52	16	1	20	7	109	699
Horsforth	0	0	2	4	7	2	4	2	310	10	6	2	2	0	4	3	59	417
Hunslet and Riverside	175	82	11	17	62	4	230	4	507	159	7	77	6	12	55	9	222	1639
Killingbeck and Seacroft	46	1	6	4	19	1	7	3	794	41	3	10	17	3	8	3	133	1099
Kippax and Methley	5	0	2	1	1	1	0	2	320	12	2	1	1	0	0	0	47	395
Kirkstall	32	0	7	7	11	2	37	3	398	38	7	38	6	1	32	3	99	721
Little London and Woodhouse	213	12	23	38	45	2	97	5	181	57	14	113	15	5	115	20	192	1147
Middleton Park	102	2	6	8	10	7	4	3	990	72	3	25	8	7	5	6	138	1396
Moortown	12	2	7	9	62	1	73	5	331	36	3	22	3	2	20	6	104	698
Morley North	6	1	2	2	16	5	7	2	436	14	2	3	1	1	5	1	84	588
Morley South	7	1	2	1	6	3	4	3	410	34	3	8	0	2	6	0	104	594
Otley and Yeadon	0	0	1	3	1	1	1	0	270	5	1	3	1	0	2	0	67	356
Pudsey	4	0	2	3	9	0	7	1	561	25	2	4	4	0	5	0	57	684
Rothwell	9	0	1	0	2	0	2	3	354	8	0	3	3	1	1	0	46	433
Roundhay	29	20	9	10	50	0	141	3	317	53	5	22	6	2	34	15	101	817
Temple Newsam	55	1	5	3	3	3	5	1	506	11	1	8	5	3	1	2	69	682
Weetwood	13	1	4	9	17	0	23	1	327	22	3	24	2	2	23	4	80	555
Wetherby	0	0	0	1	3	0	1	1	135	3	2	2	2	1	1	0	182	334
Leeds	2179	384	270	306	652	79	1797	83	14649	1849	159	938	233	92	713	220	3680	28283

Despite the higher rates of late attendance by most BAME groups, White British women still constitute around a half of all late bookings (14649 of the 28283 total).

Figure 28: Percentage of Maternity Bookings within 11 Completed Weeks of Conception in Leeds by Mothers Age at Booking - 2008/09 to 2017/18
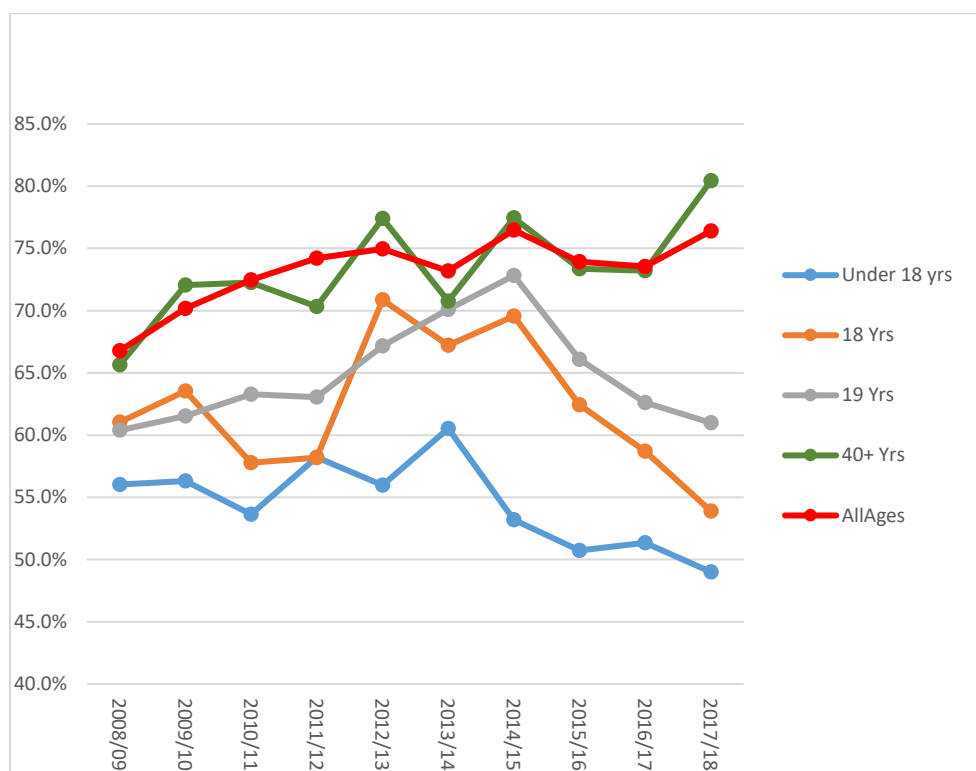
Source: LTHT Maternity Booking Data

Figure 28 demonstrates the increase in rates of attendance under 11 weeks across all ages since 2008/09. However, rates of attendance for mums aged 19, 18 and Under 18 have declined since the time of the last Maternity HNA in 2014 (Ersinke, 2014) and further still since the Maternity Access Audit in 2017 (Kelly, 2017). Mothers aged over 40 years at booking have shown improvement over the last 10 years in attendance rates and are at the highest rate in 2017/18.

An 'ASAP – As Soon as You're Pregnant' campaign was due to take place in Leeds to reduce late booking rates amongst target groups (women under 20, those from deprived Leeds, and those of African and Bangladeshi ethnicity) and the latest data indicate the real need for such a campaign.
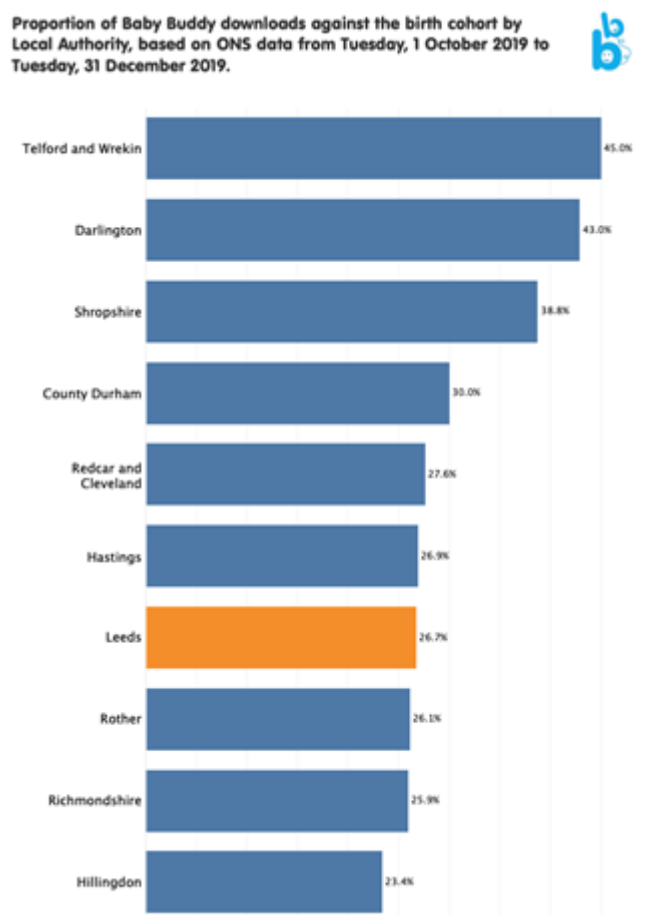
Antenatal Education

Research has shown that participation in antenatal education improves outcomes for families - these include: greater satisfaction with the birth experience; adoption of healthy behaviours (including reduced alcohol consumption and smoking during pregnancy and increased breastfeeding rates); reduced maternal anxiety and depression, and improved couple relationships (Schrader-McMillan et. al., 2009).

There is a broad antenatal education offer in Leeds, delivered by a wide range of services and organisations including Leeds City Council (LCC), Leeds Community Healthcare NHS (LCH), Leeds Teaching Hospital Trust (LTHT), third sector organisations and private providers. The Baby Buddy app which provides information and support during pregnancy and up to 6 months is also embedded across the city and all women are directed to this at their first booking appointment.

Despite work to embed Baby Buddy across the city, downloads have unfortunately been declining. Figure 29 demonstrates that for Quarter 3 in 2019, 26.7% of the birth cohort downloaded Baby Buddy, compared with 45% in Telford and Wrekin, which had the highest level of downloads of all Baby Buddy adopters. This is also in comparison to around 50% of the birth cohort in Leeds

downloading the app at its peak. A concerted effort from all partners to promote the Baby Buddy app and increase awareness of its various features and benefits could help to increase downloads in Leeds. Steps taken to date include the circulation of a short promotional video to practitioners and the dissemination of an updated training pack for service education leads. Public Health are also planning some further update training later in the year facilitated by Best Beginnings.

Figure 29: Proportion of Baby Buddy Downloads against the Birth Cohort by Local Authority, based on ONS Data from October 2019 to December 2019

Proportion of Baby Buddy downloads against the birth cohort by Local Authority, based on ONS data from Tuesday, 1 October 2019 to Tuesday, 31 December 2019.

Local Authority	Proportion
Telford and Wrekin	45.0%
Darlington	43.0%
Shropshire	38.8%
County Durham	30.0%
Redcar and Cleveland	27.6%
Hastings	26.9%
Leeds	26.7%
Rother	26.1%
Richmondshire	25.9%
Hillingdon	23.4%

Preparation for Birth and Beyond (PBB) is an antenatal education programme which explores six key themes with mothers and fathers-to-be: developing baby; changes for parents; health and wellbeing; giving birth and meeting baby; caring for baby; and support available. In Leeds the PBB programme is led by the 0-19 PHINS (LCH) and delivered in collaboration with children's centre staff (LCC); and midwives (LTHT) for the birth session. PBB is a universal service, but without the capacity to deliver to all families in Leeds the programme operates using a proportionate universalism approach – delivering more programmes in areas of higher need.

Table 17: Number of Mothers Enrolling on and Attending PBB in 2018/19

	Q1	Q2	Q3	Q4
Number of mothers enrolling on PBB	136	130	78	148
Number of mothers attending 4 of 6 PBB sessions prior to birth of baby	41	42	51	32

Table 17 indicates that a total of 492 women enrolled to attend PBB in 2018/19 and 166 completed at least 4 of the 6 sessions. LCH are contracted to deliver a minimum of 90 groups per annum. Capacity to deliver more PBB programmes is to be increased for 2020/2021 and a coordinated approach between maternity services, 0-19 PHINS and children's services will be essential to ensure that as many women in Leeds can benefit from the programme as possible.

Baby Steps is an evidence based perinatal education programme for families with additional needs. The National Society for the Prevention of Cruelty to Children (NSPCC) developed the programme in partnership with Dr Angela Underdown. It incorporates the latest findings from research into infant mental health, strengthening relationships and improving outcomes for babies. The overall aim of Baby Steps is to optimise parents' and babies' health and wellbeing and promote protective factors including sensitive parenting and secure attachment. In Leeds, Baby Steps is delivered by a multidisciplinary team comprising Health Visitors (LCH), Midwives (LTHT) and Family Support Practitioners and Social Workers (LCC). The Baby Steps Team also received extra funding from what was Leeds South and East CCG to deliver a bespoke PBB Plus offer to build capacity within the team – this extra funding ceased in September 2019.

Referral criteria for the Baby Steps programme are broad and reasons for referral include mental health issues, domestic violence, substance misuse, teenage pregnancy, or living in poverty. In 2018/19, 29 groups were delivered by the Baby Steps Team (including PBB Plus); 156 parents attended at least one session and 92 mums and 22 dads completed at least 6 sessions. Notably the service received 323 referrals during this time, but due the complexities of the families referred these do not always translate into attendance and a lot of work is often required by the team to support parents to attend. Considering the fact that approximately a third (circa 3300) of births are taking place in IMD1 and health inequalities are sadly widening, many more women could benefit from the enhanced support offered by such a programme.

Our Birth classes are antenatal classes run from the two hospitals in Leeds (LTHT) and involve discussion and sharing of information about the journey of labour and birth, including keeping active and birthing in water. No data was available at the time of writing regarding the numbers of women attending and demographics.

NSPCC Pregnancy in Mind is another antenatal service in the city which provides evidence based mental health support (via facilitated drop-in groups) from 28 weeks of pregnancy and peer support up to 12 months postnatally. No data was available at the time of writing regarding outputs and outcomes.

There is a need to look at the antenatal education offer as a whole in Leeds to help determine where the gaps are in terms of our reach and impact. An initial report carried out in 2018 to explore the reach and impact of PBB and Baby Steps indicated possible gaps were young parents and those living in the more deprived areas of Leeds (Goldsborough, 2019). However, there were issues with

data reporting and in order to get a true sense of reach we need to look at the antenatal education offer as a whole (including the LTHT and NSPCC provision for example); but in order to do this there needs to be much more robust data collection (i.e. ward, ethnicity, age of participants) and data sharing.

Place of birth

In the Maternity Strategy for Leeds 2015-2020 one of the aims was to ensure choice was provided to women with regards to place of birth - including home birth, midwifery led care, water birth and delivery suite. Better Births (NHS England, 2016) highlighted that midwifery style services can provide good care for low risk women having a second or subsequent baby. Planning a birth at home or in a midwifery unit results in fewer interventions, the chances of transfer are low, and there is no evidence that outcomes are worse. Moreover, trusts which supported more home births achieved better maternal outcomes compared with trusts which supported fewer home births. With this in mind, a particular hope was to increase the number of women receiving midwifery led care and homebirth in Leeds.

Table 18: Place of Birth in Leeds

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**10 Year** **2008 to 2017**
NHS Establishment	9732	9880	10201	9946	10357	9952	9917	9941	10029	9287	**96.5%**
Non NHS Establishment	0	2	0	0	2	1	1	3	3	2	**0.0%**
Home	278	254	246	247	245	239	231	261	257	189	**2.4%**
Elsewhere	12	24	13	22	14	16	20	16	18	10	**0.2%**
Not Known	129	151	129	112	106	101	93	92	63	24	**1.0%**
All Births	10151	10311	10589	10327	10724	10309	10262	10313	10370	9512	

Source: ONS data

Table 18 shows the number of home births have decreased with just 189 in 2017. Elsewhere can mean someone else's home or delivery en route to hospital.

Summary

- There has been an upturn in the coding of ethnicity since 2016, although it still remains below 95%.
- All minority groups other than Indian show below average attendance rates before 11 weeks. The lowest rate is for African women with just 58% attending within the specified period and the second lowest is for Bangladeshi women (60%).
- The wards with the lowest under 11 week attendance rates are generally the ones with higher BAME populations and also the more deprived wards (Wetherby is an exception here). Gipton and Harehills is the worst performing ward, with only 59% of women attending their booking appointment before 11 weeks.
- Despite the higher rates of late attendance by most BAME groups, White British women still constitute around a half of all late bookings (14649 of the 28283 total).

What's changed and Key Issues

- The percentage of mothers attending their booking appointment before 10 weeks gestation has increased in Leeds overall since 2012/2013 – rising from 74.9% to 78.4%. However, the percentage of mothers from deprived Leeds attending before 10 weeks has in fact slightly

dropped and thus the inequalities gap has widened further since the maternity access audit carried out in 2017, from 9.3% to 10.9%.

- Women from ethnic minorities continue to show below average attendance rates before 11 weeks.
- Rates of attendance for mums aged 19 and younger have declined since the time of the last Maternity HNA in 2014 and further still since the Maternity Access Audit in 2017.
- The number of home homebirths in Leeds has declined since the time of the last HNA in 2014.
- There is a need to look at the antenatal education offer as a whole in Leeds to help determine where the gaps are in terms of reach and impact. An initial report carried out in 2018 to explore the reach and impact of PBB and Baby Steps indicated possible gaps were young parents and those living in the more deprived areas of Leeds. However, in order to get a true sense of reach we need to look at the antenatal education offer as a whole, but in order to do this there needs to be much more robust data collection and data sharing.

Health Inequalities

Substance Use in Pregnancy

Background and National Picture

Use of alcohol, illicit drugs and other psychoactive substances during pregnancy can lead to multiple health and social problems for both mother and child, including miscarriage, stillbirth, low birthweight, prematurity, physical malformations and neurological damage. Dependence on alcohol and other drugs can also severely impair an individual's functioning as a parent, spouse or partner, and instigate and trigger gender-based and domestic violence, thus significantly affecting the physical, mental and emotional development of children (WHO, 2014).

The latest MBRRACE-UK (Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK) report also highlights that women at severe disadvantage appear to be over-represented amongst the women who die. Of the 549 women who died in the UK in 2015-17 during or up to one year after pregnancy, 35 (6%) were of women considered to be at severe and multiple disadvantage. The main elements of multiple disadvantage were a mental health diagnosis (either current or in the past), substance use and domestic abuse. However, this must be regarded as a minimum estimate, since these three factors are amongst the most poorly recorded (MBRRACE, 2019).

NICE guidance for substance use in pregnancy is included in 'Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors' Clinical Guideline [CG110] and highlights the need for sensitive and specialist care for women who misuse substances in pregnancy along with information about the effects of the drugs on the developing foetus.

https://www.nice.org.uk/guidance/CG110/chapter/1-Guidance#pregnant-women-who-misuse-substances-alcohol-andor-drugs

In 2016, the guidance from the Chief Medical Officer (CMO) with regards to alcohol and pregnancy was updated and states that if you are pregnant or planning a pregnancy, the safest approach is not to drink alcohol at all, to keep risks to your baby to a minimum – noting that drinking in pregnancy can lead to long-term harm to the baby, with the more you drink the greater the risk (CMO, 2016).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/489795/summary.pdf

Local Situation

NICE guidance for Women with Complex Social Factors is underpinned by a costing statement based on available research (NICE, 2010). Within this document, it is estimated that 4.5% of women use alcohol and/or drugs during pregnancy. It does not differentiate levels of usage and is therefore likely to be a conservative estimate. Using this figure of 4.5% equates to approximately 470 women within Leeds using drugs and alcohol during pregnancy.

Data extracted from the K2 Maternity Booking Data System indicate that in 2019 there were 10,184 maternity bookings in Leeds and of these 70 women were recorded to be a current user of substances (0.7%) and for 8 women a referral was noted to be required for alcohol misuse.

Considering the estimated figures above, this would appear to suggest an under-reporting of substance use during pregnancy.

Data from the substance misuse service in Leeds (Forward Leeds Drug and Alcohol Service) are presented in Table 19. The figures are snapshots taken each quarter (i.e. the total number of people who are pregnant at quarter end) and it can be see that just over 40 women access the service per quarter. However, it is important to note that some women would cross quarters, so unfortunately adding them together would not provide a cumulative total.

Table 19: Number of Pregnant Women Accessing Substance Misuse Services in Leeds 2018/2019 by Quarter

Quarter	Number of Pregnant Women Accessing Service
Q1	57
Q2	43
Q3	42
Q4	43

Source: Forward Leeds Drug and Alcohol Service

What is happening?

- Following the updated CMO guidance with regards to alcohol and pregnancy, insight was carried out by Leeds Public Health Team and a campaign was developed and rolled out to communicate the message to women and families. This campaign utilised traditional marketing techniques and social media to convey the message that the safest choice is not to drink any alcohol during pregnancy. 'No Thanks I'm Pregnant' resources are displayed in antenatal clinics and are included in antenatal packs provided to women at booking.

- Forward Leeds Drug and Alcohol Service provides specialist support to women during pregnancy. The service employs Psychiatrists, Psychologists, Nurse Specialists, Therapists, Specialist Midwives and a Specialist Health Visitor.
- The Early Start Teams in the city have developed a pathway for women who are using drugs and alcohol. This ensures that women receive support and referral best suited to their individual needs.
- In the 2014 Maternity HNA it was noted that there was a high threshold for referral into specialist services and engagement with women at the lower end of the spectrum, such as casual users, was limited. This is reportedly no longer the case and Forward Leeds see women across the continuum of substance use.
- Forward Leeds provide 'Substance Misuse in Pregnancy' training to midwives, midwife support workers (MSW's), obstetricians, student midwives, medical students, social care, and Leeds and York Partnership Foundation Trust (LYPFT) staff. This training in combination with the introduction of the K2 maternity data system has anecdotally improved disclosure rates since the time of the last HNA in 2014.
- Forward Leeds refer all women accessing the service to the Baby Steps programme.

Gaps and Future Developments

- The complexities of women accessing Forward Leeds are increasing; in terms of both physical health and social factors. Staff report a rise in the numbers of women homeless and sofa surfing - and thus often difficult to find.
- Forward Leeds report an increase in the numbers of women with anxiety and depression self-medicating with substances such as cannabis.

- Of those women accessing Forward Leeds services, the main substances used are reportedly heroin, cocaine and cannabis. The service is also starting to see women who are using spice (5 at time of writing) and this is proving challenging; particularly as the outcomes for children and how best to support them is still relatively unknown.

- At present, data are not routinely collected and reported regarding the women accessing Forward Leeds and the outcomes for mum and baby. Going forward data will be pulled from System 1*[1] on an annual basis (i.e. main substance; gestation at booking; birth weight; gestation at delivery; discharge destination from hospital).

- Many of the health behaviours and risk factors for poor birth outcomes (such as substance use) are established prior to pregnancy, often with limited potential to impact on these after conception. Furthermore, pregnancies are often not planned and many women will be using substances and unaware they are pregnant. With this in mind, there needs to be greater emphasis on the opportunities to promote preconception health across the reproductive years.

Recent Migrants, Asylum Seekers or Refugees

Background and National Picture

Physical and psychological trauma among asylum seekers is common; for pregnant women the added physical and emotional demands can add further complications. These women have often experienced sexual trauma, in addition to infectious diseases and underlying health conditions which predispose them to increased maternal mortality. Maternity care is therefore crucial to their health and wellbeing (NIHR, 2019).

Pregnant women who are recent migrants, asylum seekers or refugees, or who have difficulty reading or speaking English, may not make full use of antenatal care services. This may be because of unfamiliarity with the health service or because they find it hard to communicate with healthcare staff (NICE, 2010). Moreover, the 'hostile environment' government policy on immigration and NHS charging regulations have been cited to further deter women from accessing antenatal care (Maternity Action, 2019).

Also, whilst not specific to refugees and asylum seekers, the latest MBRRACE report highlights that there remains a five-fold difference in maternal mortality rates amongst women from Black ethnic backgrounds and an almost two-fold difference amongst women from Asian ethnic backgrounds compared to white women - emphasising the need for a continued focus on actions to address these disparities (MBRRACE, 2019).

Local Situation

Data extracted from the LTHT K2 Maternity Booking Data System indicate that in 2019 there were 10,184 maternity bookings in Leeds and of these 53 (0.5%) were recorded to be a refugee or asylum seeker.

The Haamla service provides essential support for pregnant women, and their families, from minority ethnic communities, including asylum seekers and refugees. The Haamla caseload at time of writing (March 2020) is approximately 70 women. This is in comparison to a caseload of 146 in 2013; although notably a Midwife is on maternity leave and it is estimated the caseload will increase to approximately 90 to 100 on her return. In 2013 around 50% of the caseload were women either seeking asylum or who had been denied asylum or were seeking appeal. Data are not currently

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[1] System 1 – Data system used by Children's Services

available with regards to the breakdown of the Haamla caseload or in relation to the outcomes for service users at the time of writing.

What is happening?

- The Haamla service aims to improve access within maternity services, empower and inform women of the choices available during their pregnancy and birth, thereby improving their health and wellbeing.
- The Haamla Midwifery Team provide enhanced antenatal and postnatal care to women seeking asylum and some other vulnerable women from minority ethnic groups. Care is provided at a location of the woman's choice and continuity of care is ensured for this transient group of women. The Haamla Midwifery Team provides teaching to Midwives, students and volunteers, contributes to the Haamla Groups and facilitates the planning of care of women who have been circumcised.
- Haamla Antenatal Groups - these antenatal classes are for women only and interpreters are provided for women who need language support. Information about pregnancy, birth and caring for baby is provided and shared in a relaxed setting.
- Haamla Volunteer Doula's are trained to offer one to one practical and emotional support to women during pregnancy, birth and for up to 6 weeks after the baby is born. The Volunteer Doulas offer their time to many women and families in Leeds - in particular women who are alone and need the emotional and physical support during pregnancy birth and labour.
- A Haamla Midwife runs a Natal Hypnotherapy session in Headingley and will deliver groups for migrant women at other venues across the city and on a one to one basis.
- PBB at Bankside is a 2 hour weekly group run jointly by LCC and the NCT (National Childbirth Trust) for any pregnant woman. It provides antenatal education along with a postnatal support group. Staff have specialist knowledge which helps them work with vulnerable populations and a high proportion of service users are asylum seekers and refugees. In 2019/20 the service engaged with 55 women, 89% were asylum seekers and refugees.
- Maternity Action have delivered training in Leeds to a range of health professionals, advisers, community workers and volunteers supporting vulnerable migrant women during pregnancy and their child's first year.

Gaps and Future Developments

Feedback from the Haamla service suggests that:
- The number of pregnant asylum seekers in the city has reportedly increased further since 2014.
- There has been a further increase in the number of victims of trafficking accessing the Haamla service – particularly from Vietnam.
- There has been an increase in the number of Eritrean women accessing the Haamla service. Eritrean women are one of the groups at particular risk of FGM in the UK.
- A large number of women accessing the Haamla service do not have suitable accommodation and are 'sofa surfing'.

- Robust data collection and sharing will be valuable to explore the reach and impact of the perinatal education offer in Leeds in relation to recent migrants, refugees and asylum seekers in the city.

Gypsy, Roma and Traveller Women

Background and National Picture

There are many distinct groups of people, both settled and nomadic, under the umbrella term of "Gypsies and Travellers". Their needs are not necessarily the same, but the lack of data and understanding about their experience is a common factor (Christmas, 2017). Cemlyn et al. (2009) identified multiple disadvantages, as well as extensive and wide-ranging inequalities experienced by these communities. These inequalities include; poor health, lack of access to healthcare, poor housing conditions, illiteracy, disparity in life expectancy, lack of understanding from healthcare staff, stigmatisation and prejudice and discrimination.

In 2011, the Office for National Statistics included Gypsy and Traveller as a category as part of the Census for the first time. Nationally, 57,680 Gypsies and Travellers volunteered their ethnicity in 2011; although this is believed to significantly underestimate the true size of the Gypsy and Traveller population.

For the purposes of this report, Roma are defined as the migrant population of Roma residents who have migrated from mainland Europe– and not the indigenous Gypsy and Traveller population of the UK and Ireland. Roma migrants have come to Leeds as asylum seekers and more recently since the accession of 2004, as EU migrants. There is a lack of data in relation to numbers of Roma resident in the UK and in Leeds. While the UK Census included Gypsy/Traveller as a top level ethnic category for the first time in 2011, it did not include Roma.

The NHS does not routinely collect data on Gypsy and Traveller health and service use or experience. Therefore, what information we do have comes from individual studies. Parry and colleagues conducted a study into the health of Gypsies and Travellers in England, using both questionnaires and interviews. The Gypsy and Traveller women in their study had more pregnancies and children than the socioeconomically and age matched comparator group. They reported similar experiences of pregnancy, but more Gypsy and Traveller women had experienced one or more miscarriages (29% vs 16%) and 8 of the Gypsy and Traveller women had experienced stillbirth or early neonatal death (vs none in the comparator group). Moreover, 17.6% had lost a child of any age (excluding miscarriage) compared to 0.9% in the comparator group (Parry et al., 2008), making Gypsy and Traveller women 20 times more likely to have experienced the death of a child than women of similar socioeconomic status but different ethnic background.

The Confidential Enquiries into Maternal Deaths in the United Kingdom report for 1997 – 1999 identified Gypsy and Traveller women as "grossly overrepresented when compared to the 'white' group of women as a whole" for maternal deaths and likely to have the highest maternal death rate among all ethnic groups.

Local Situation

Gypsy and Traveller Exchange (GATE) which is a member's organisation for Gypsies and Travellers in Leeds, estimated that in 2018 there were about 3,000 Gypsy and Traveller people in Leeds. We know that Roma communities have increased in Leeds over the past few years but once again, it is difficult for local authorities and service provider organisations to know the precise numbers and locations of these communities. Figures extracted from data on nationality of newly arrived, registrations to doctor practices, National Insurance registrations and data on Roma pupils from school census show that in 2017 there were estimated to be 5000 Roma in Leeds, a mixture of EU Roma and domestic Roma (Eurocities, 2017). We know that over the years, a significant number of these have settled in the Harehills area of Leeds with other smaller, but concentrated numbers of Roma families living in Armley and Beeston (Bailey, 2019). There are unfortunately no available

data with regards to the numbers of Gypsy, Roma and Traveller women accessing maternity services and giving birth in Leeds.

What is happening?

- Haamla provides a weekly drop-in clinic for pregnant women and women with young children living on the Cottingley Springs site. The service also provides midwifery care for women who live roadside in the city.
- Specialist maternity pathways exist for Gypsy and Traveller women.

Gaps and Future Developments

A Health Needs Assessment of Gypsies, Travellers and Roma Groups in Leeds (Bailey, 2019) looked at the needs of communities as a whole and two main findings were presented which are particularly pertinent to women and families before, during and after pregnancy:

1. Tackle the wider determinants of health - this includes poor, or insecure housing, improving health knowledge and literacy, alongside capacity to act. Improving wider literacy, reducing financial exclusion, addressing prejudice and discrimination, poor mental health, accommodating cultural differences and in the case of Roma groups, language needs.

2. Increase opportunities for healthy living - the evidence connecting physical inactivity, poor diet, obesity, alcohol use and smoking tobacco and other substances to a host of serious health conditions, poor quality of life and poor outcomes is strong. There is evidence to suggest that community development approaches that improve social inequalities, also improve health behaviours and by extension inequalities in health.

- There is a need to improve the level of data available with regards to the numbers of Gypsy, Roma and Traveller women accessing maternity services and the outcomes for both mum and baby to better determine levels of need.

Pregnant Women aged Under 20

Background and National Picture

Teenage mothers and their babies often experience significantly worse outcomes than older mothers – a 60% higher rate of infant mortality, low birth weight and poor emotional health – key factors in health inequalities and social exclusion. What is also clear is that pregnant teenagers' poor up take of maternity care contributes to these poor outcomes. Late booking and lack of sustained contact with antenatal services often mean that key issues such as maternal nutrition, smoking and preparation for breastfeeding fail to be addressed (Department for Children, Schools and Families, 2008).

Local Situation

It has been noted previously in this report that whilst the rate of maternity bookings for women aged under 18 years has been falling, this trend has started to reverse in Leeds - with a widening of the inequalities gap. Indeed, the Under 18 Conception rate in Leeds (27.3/1000) is significantly higher than the national (17.8/1000) and regional averages (20.6/1000); and the majority of the maternity bookings in Leeds for mothers aged under 18 years old are for mothers living in deprived Leeds. In accordance with the literature, teenage mums in Leeds are also much less likely to attend their first booking appointment under 10 weeks and there has been a worsening picture in Leeds since the time of the last HNA. Smoking rates amongst under 18 year olds booking onto maternity services in Leeds are also considerably higher than the Leeds and England rates for all ages – with no

improvement observed since the last HNA. Moreover, young mothers in Leeds are much less likely to initiate breastfeeding compared with other age groups.

What is happening?

- Following the findings of the previous HNA young parents (up to 25 years old) were a group identified for targeted support as part of the Maternity Strategy for Leeds 2015-2020. An LTHT Young Parents Pathway was developed in consultation with a broad range of stakeholders, including young parents.
- Young parents receive additional support through the specialist teenage midwifery team (which consists of Teenage Pregnancy Midwives, Maternity Support Workers and Obstetric consultants). The team coordinate care for women and their partners, minimising the number of hospital visits and providing care as close to home as possible, providing continuity of carer antenatal and postnatal. A midwife in the team has recently been trained to fit long acting reversible contraception (LARC).
- LCC 0-19 PHINS have developed a young parent's pathway following consultation with young parents.
- Young parents are a targeted group for Baby Steps groups and following a report from Action for Children and local insight the service has started to deliver groups specifically for young parents at a central location in Leeds.
- YUMs (Young Mums, Tots & Tums) is a fortnightly friendship, social and support group based in Middleton for young mums and mums to be 25 years and under living in LS10 and LS11. It is a space where women can come together and develop strong friendships and peer support networks. Key topics covered include breastfeeding, parenting, first aid, managing stress and staying healthy. The service currently supports approximately 40 women a year.
- Futures is a multidisciplinary team supporting those aged 25 years & under who have experienced the removal of a child.

Gaps and Future Developments

- The Baby Steps Team are to review the 2019-2020 data with regards to the attendance rates of young people to assess the effectiveness of the introduction of the young parent only group. The team will also explore running late afternoon/evening sessions for young parents.
- With a reversal in the downward trend of teenage conceptions in Leeds and a static picture with regards to smoking rates there is a need to provide more targeted support to improve outcomes for mums and babies.

Pregnant Women who Experience Domestic Abuse

Background and National Picture

Domestic violence and abuse (DVA) is defined as:

Any incident or pattern of incidents of controlling, coercive or threatening behaviour, violence or abuse between those aged 16 or over who are or have been intimate partners or family members regardless of gender or sexuality. (House of Commons, 2018)

In the year ending March 2018, an estimated 1.3 million women aged 16 to 59 years experienced domestic abuse in the last year (ONS, 2018). Furthermore, it is estimated that four to nine in every 100 pregnant women are abused during their pregnancy or soon after birth (Taft, 2002). Domestic violence during pregnancy puts a pregnant woman and her unborn child in danger. It increases the

risk of miscarriage, infection, premature birth, low birth weight, foetal injury and foetal death (Refuge, 2019). It is also increasingly recognised that women of severe multiple disadvantage (including those experiencing domestic abuse) are over-represented amongst the women who die and that domestic abuse is often poorly recorded (information missing for 53% of maternal deaths in 2015-17), so estimates are likely conservative (MBRRACE, 2019).

Local Situation

On the basis of the estimate above that four to nine in every 100 pregnant women are abused during their pregnancy or soon after birth, it would suggest that approximately 400 to 900 women in Leeds will experience domestic abuse during pregnancy or soon after birth each year.

Data extracted from the LTHT K2 Maternity Booking System indicate that of the 10,184 complete bookings in 2019, 195 women (1.9%) disclosed domestic abuse as a risk for current pregnancy. As noted previously though, under-reporting of domestic abuse during pregnancy is common.

Table 20: Number of Women and Pregnant Women Accessing Leeds Domestic Violence Service – 2017/18 and 2018/19

	Community Support (Admissions)		Refuge		Total	
	All Women	Pregnant Women	All Women	Pregnant Women	All Women	Pregnant Women
2017/18	1034	88	169	7	1203	95 (8%)
2018/19	1007	71	91	6	1098	77 (7%)

Data Source: Leeds Domestic Violence Service

Data from Leeds Domestic Violence Service indicate that 7% to 8% of their admissions for community support or refuge each year are for pregnant women. This represents approximately 40% of the women disclosing domestic violence as recorded on the K2 system.

What is happening?
- Leeds Domestic Violence Service (LDVS) operates on a consortium basis to provide a variety of support services in the city (e.g. 24 hour telephone helpline, groups, drop-ins, 1-1 specialist support, emergency accommodation). The consortium includes: Leeds Women's Aid, Behind Closed Doors and Women's Health Matters. LDVS is commissioned by Leeds City Council.
- Safer Leeds hold daily domestic violence meetings attended by a variety of agencies, including LDVS, housing, police, probation and various third sector partners. Details of high risk MARAC (Multi Agency Risk Assessment Conference) referrals and medium risk cases where a crime has been committed are shared and attendees agree clear action plans relating to victims, perpetrators and children - ensuring a whole family approach.
- The 3 Early Help Hubs (established late 2019) include a specialist domestic violence worker as part of their core team. The workers will upskill practitioners from the local areas around their approach to working with families experiencing domestic violence and abuse.
- Safer Leeds have developed a domestic violence and abuse website which hosts a range of useful information for people experiencing violence and abuse (including contact details for both local and national organisations which can provide support) and also for practitioners (e.g. lessons learned from Domestic Homicide Review www.leeds.gov.uk/domesticviolence.)
- Both LTHT Maternity Service and the Early Start Service have domestic violence and abuse pathways in place. These provide staff with comprehensive guidance on how best to support women experiencing domestic abuse.
- Safer Leeds DVA team are supporting GP practices across the city to achieve the GP Quality Mark. This involves delivering training to all practices on DVA awareness and supporting

practices to implement Routine Enquiry, ensuring early intervention and developing robust referral pathways for patients who disclose DVA.

- Domestic Violence training continues to be promoted and delivered by the DVA team across the health sector, including Leeds Community Healthcare (LCC), LYPFT, LTHT and GPs.
- Throughout 2019 the Safer Leeds DVA team delivered the mandatory midwifery training on DVA, with a particular focus on recognising and responding appropriately to coercive control, dealing with high risk cases and referring into MARAC.
- A pilot involving a specialist DVA worker supporting patients and staff with any DVA related issues is running in 8 identified practices (2 year funding).

Gaps and Future Developments
- Both nationally and locally, there is a need to improve disclosure rates and support for women, from all backgrounds, who are experiencing domestic abuse in pregnancy.
- Continue to raise awareness of the high incidence of DVA in pregnancy and following birth and the specific impact of DVA on the foetus and infant.
- Further encourage disclosure during this period by reducing the associated stigma and ensuring services are designed and delivered in a way that encourages women to disclose.
- Extend the opportunities available to families to access support during this life stage.
- Extend the support available to perpetrators of domestic violence and their families, including increasing the provision of support to babies and children.
- There are plans to develop connections between the LDVS and the Futures Team which provides post removal support to young people (25 years and below) in Leeds. Both services are keen to make sure there are clear referral pathways; and to work together to support clients where possible.
- There is opportunity to work with targeted communities in a collaborative way to address DVA via the Best Start Zones which operate in the most deprived areas of the city.

Women with Learning Disabilities

Background and National Picture

Parents with a learning disability (LD) are often affected by poverty, social isolation, stress, mental health problems, and low literacy and communication difficulties. The children of parents with a learning disability are more likely to be removed from their parents than children of any other group of parents; and around 40% of parents with a learning disability do not live with their children (Best Beginnings 2017a). Babies born to mothers with learning disabilities are at increased risk of poor birth outcomes, including premature birth and low birthweight (Best Beginnings 2017a). One third of pregnant woman with a learning disability report moderate to severe levels of stress, anxiety and depression (Best Beginnings 2017a).

Local Situation

Within the West Yorkshire and Harrogate Heath Needs Assessment carried out in 2017, reference was made to some of the key findings following local engagement and consultation about maternity services for women with learning disabilities:

- Women were often unaware that they were pregnant until quite late on in their pregnancy which led to delays in accessing services.
- Women tended to attend appointments alone as they were unaware that they could bring family / friend / support worker with them.
- When they attended their appointments they were not asked if they needed any additional support with communication / information needs. Many were unable to understand the information they were provided.

- Provision of support from voluntary and community sector organisations made a huge difference to those women that accessed these services.
- Staff should be trained to support women with learning disabilities, and be able to support them to make their own decisions and explain their options.
- Women should be offered ante-natal classes and parenting classes.

(WYHCP 2017)

Table 21: Women with Physical and Learning Disabilities Booking in 2016/17 by Trust

	Physical disabilities	Learning disabilities
Airedale NHS Foundation Trust	0	<5
Bradford Teaching Hospitals NHS Foundation Trust	34	38
Calderdale and Huddersfield NHS Foundation Trust	10	55
Harrogate and District NHS Foundation Trust	No data	<5
Leeds Teaching Hospitals NHS Trust	27	7
Mid Yorkshire Hospitals NHS Trust	146	<5

Data source: Trust maternity tariff data

Data collected for the LMS HNA show wide variation in recording of disabilities across trusts. Looking at Table 21 it would suggest 7 women with learning disabilities booked onto maternity services in Leeds in 2016/17; significantly less than in both Bradford (38) and Calderdale and Huddersfield (55). The author acknowledges that lack of data recording centrally does not necessarily mean that women are not being identified and receiving support on an individual basis (though it may indicate that); but it does mean that it is not currently possible to look at the needs and experiences of care for this vulnerable group of women and their babies across the LMS (Christmas, 2017).

Data extracted from the LTHT Maternity Booking System indicate that of the 10,184 maternity bookings in 2019, 150 (1.5%) were recorded to have a physical or learning disability – there is no breakdown available at the time of writing.

Following the previous Maternity HNA in Leeds in 2014 one of the first tasks of the Maternity Strategy for 2015/16 was the development of specific support for women with Learning Disabilities. A key priority was the identification of and support for the women early in their pregnancy and holistic case management of their health and social care needs (Maternity Strategy for Leeds, 2015).

What is happening?

- The Leeds Maternity Care Pathway for Women with Learning Disabilities was developed in 2016. All identified pregnant women with learning disabilities have a named midwife throughout their pregnancy. This midwife coordinates care and support for women with learning disabilities and their families - in order to navigate their personalised care.
- A Learning Disability awareness training package was delivered to maternity staff alongside the implementation of the new care pathway. In addition, staff who volunteered to become LD Champions received a 3 hour training package followed by quarterly support sessions delivered by the LTHT Lead Nurse for LD. These staff, who work across the maternity service provide support to colleagues and signpost them to appropriate services.

- Reasonable adjustments are made in the care provided by maternity services to ensure that women with LD receive equal standards, access and quality of care as other women do. Examples of reasonable adjustments include: easy read literature; larger format literature; additional time at appointments; support from family or support worker at appointments and referrals to additional agencies. These reasonable adjustments are made in collaboration with the family and should be agreed and documented.
- Women with learning disabilities are a group that are referred onto the NSPCC Baby Steps programme for intensive support in the antenatal and postnatal period.

Gaps and Future Developments

- Improve identification during pregnancy in order to improve support for women with learning disabilities.

Women with Physical Disabilities

Background and National Picture

There are around 1.7 million parents with disabilities in the UK (Best Beginnings 2017b). Women with disabilities face numerous issues during pregnancy including negative attitudes, physical access problems, lack of suitable equipment and being classed automatically as high risk, reducing [their] birth choices (Best Beginnings, 2017b). Mothers with physical disabilities are also more likely to be victims of abuse and domestic violence; during, before and after their pregnancies. This is a significant area of concern for this key vulnerable group (Mira et. al. 2012).

Local Situation

Table 21 indicates 27 women with physical disabilities booked onto maternity services in Leeds in 2016/17; this is in comparison with 146 women in the Mid Yorkshire NHS Trust area suggesting huge disparities in data collection.

LTHT Maternity Booking System data indicate that of the 10,184 maternity bookings in 2019, 150 (1.5%) were recorded to have a physical or learning disability – there is no breakdown available at the time of writing.

A summary of local engagement and consultation about maternity services for women with disabilities (including learning disabilities) highlighted the following themes:

- Limited choice for women to give birth if they have a disability and usually not at home - a wider choice would be preferred.
- That in particular for disabled women an "under staffed birth is really scary". There was also particular concern about staff being overtired and the risk this posed.
- Post-natal services need to be more advanced (patient centred) involving mothers/parents in decisions about what services they need and when they are no longer required.
- More support for women who experience post-natal depression or who have pre-existing mental illness.
- Limiting patient information sharing on a need to know basis and respecting confidentiality.

(WYHCP, 2017)

What is happening?

- Specialist multidisciplinary maternity clinics and pathways are available for women with some long term conditions and disabilities.

Gaps and Future Developments

- Improved data collection and reporting to ensure all women receive appropriate care.
- Utilising a collaborative approach with women with physical disabilities to develop service provision.

Perinatal Mental Health

Background and National Picture

During pregnancy and in the first year after birth, women can experience a range of mental health problems. Pregnancy and childbirth can also be a trigger for women experiencing or acknowledging wider psychological problems – perhaps for the first time. These problems are collectively termed 'perinatal mental illnesses', and are estimated to affect between 10 - 20% of all women in the perinatal period (Hogg, 2013).

The impact of perinatal mental illness on babies and infants can be significant and far-reaching. Children of mothers who experience mental illness are at increased risk of prematurity and low birth weight along with behavioural problems and academic difficulties later in life. Even relatively mild illnesses, if left untreated can inhibit a mothers' abilities to provide her baby with sensitive, responsive caregiving. Maternal suicide is the second largest cause of direct maternal deaths occurring during or within 42 days of the end of pregnancy and remains the leading cause of direct deaths occurring within a year after the end of pregnancy (MBRRACE, 2019). Most perinatal mental health issues go unrecognised, and are under detected and under reported.

Local Situation

Public Health England has produced the following estimates of numbers of women in Leeds who may experience different types of mental health disorders in the perinatal period, over the course of one year (Table 16). The analysis applies population estimates of mental health disorders to the local birth rate in Leeds. Women may have more than one illness, so may be counted twice.

Table 22: Public Health England Perinatal Mental Health Estimates: Leeds (2016)

Estimated number of women with postpartum psychosis	20
Estimated number of women with chronic SMI	20
Estimated number of women with severe depressive illness	290
Estimated number of women with mild-moderate depressive illness and anxiety (lower estimate)	955
Estimated number of women with mild-moderate depressive illness and anxiety (upper estimate)	1,430
Estimated number of women with PTSD	290
Estimated number of women with adjustment disorders and distress (lower estimate)	1,430
Estimated number of women with adjustment disorders and distress (upper estimate)	2,860

However, it is likely that these nationally derived estimates for perinatal mental ill health underestimate levels of need in Leeds as they are not adjusted for deprivation (Erskine 2017).

LTHT K2 Maternity Booking Data indicate that of the 10,184 women booking onto maternity services in Leeds in 2019, 285 (2.8%) were noted to require a mental health referral. Looking at the Public Health England estimates this would appear to represent women with more severe mental illness and not mild to moderate anxiety and depression or adjustment disorders.

What is happening?

- Since the Maternity HNA in 2014, the Leeds Perinatal Mental Health Pathway has been revised and updated. All women have a named midwife throughout pregnancy who coordinates care and supports the woman and family to navigate their personalised care. Various organisations provide both universal and targeted services to support a woman and family's perinatal mental health, including NHS and voluntary sector services (Leeds Perinatal Mental Health Pathway, 2016).

- As recommended by NICE (Antenatal and Postnatal mental health CG192) the Early Start service uses the 3 Woolley questions and GAD2 screen at key contacts with women in order to screen for low mood and anxiety. If women respond that they would like help with low mood or score above a threshold on the GAD2 then teams will go on to use the PHQ 9 & the GAD7. The service also provides up to four listening visits to support with mild/moderate mental health problems.

- Improving Access to Psychological Therapies (IAPT) - when identified as pregnant, an alert is put on women's caseload so that they can be prioritised on the waiting list. The service provides talking therapies for people with mental health difficulties. This is usually for people with mild to moderate mental health issues including; depression, anxiety and postnatal depression.

- Community Mental Health Teams (CMHTs) - women experiencing perinatal mental health (PMH) issues are referred to CMHTs by their GP. Women with prior experience of mental health issues or psychiatric diagnoses may already be in contact with their local CMHT. Women under the care of CMHTs can be provided with the following services: Assessment/ PMH assessment; support from a Psychiatrist; support from a Community Mental Health Nurse; psychological therapies (group or 1:1) via the Psychology and Psychotherapy Services (PPS); support from a Care Coordinator; support from a Community Practice Nurse (CPN); support from a specialist perinatal mental health professional.

- Infant Mental Health Service - supports mothers and babies who are struggling to develop healthy attachment relationships.

- Baby Steps – individuals with perinatal mental health issues are a key group referred into this service.

- NSPCC Pregnancy in Mind - service provides evidence based mental health support (via facilitated drop-in groups) from 28 weeks of pregnancy and peer support up to 12 months postnatally.

- Women's Counselling and Therapy Service for Perinatal Mental Health – a specialist service for women who are pregnant or have a baby under one year old. The therapy focuses on helping women to stabilise, manage and regulate their emotional and psychological well-being during the perinatal period, and to help women bond with their babies.

- Specialist Mental Health Midwifery service (LTHT midwifery service employs 1.5 FTE midwives to provide additional care to women with identified mental health needs). The

mental health midwives seek to provide specialist midwifery support to women who are being seen by the perinatal mental health service, or women, who for a variety of reasons need more support during their pregnancy.

- Leeds Psychology and Psychotherapy Service - takes referrals for women in the perinatal period that may have experienced or be experiencing a range of psychological conditions. These include: childhood sexual abuse, trauma related to birth, postnatal depression, OCD or having severe obsessional thoughts.

- Perinatal Mental Health Service - provides specialist psychiatric and psychological support to women with moderate to severe mental illnesses, in the community and on an in-patient basis.

- Mindwell - a mental health website that offers information on how to access mental health support services and organisations. It also provides online emotional and practical mental health support. There are links for women who experience PMH issues on Mindwell. Since the last Maternity HNA Public Health has worked closely with Mindwell to develop a campaign in collaboration with service users to reduce the stigma that often comes with perinatal metal health and encourage people to access support.

- NEST - a specialist PMH charity in Leeds which helps to support the mental wellbeing of new parents and parents to be. They support women (and men) who experience PMH issues.

Gaps and Future Developments

A Health Needs Assessment for Perinatal Mental Health in Leeds was carried out in 2017 and key gaps identified have been included below:

- The Pregnancy in Mind (NSPCC) and Women's Counselling and Therapy Service appear to be 'plugging a gap' in terms of mental health need that is above the threshold for IAPT (or for women who cannot access IAPT in a timely way), but does not meet the threshold for the perinatal mental health service. Local intelligence suggests that many women within these services may experience high levels of risk and ongoing psychological needs. Stakeholders report that these women are, across the city, a key group whose needs are not currently being met (Ersinke, 2017).

- The mental health needs of women in the perinatal period are met by a range of agencies and groups. There are currently significant gaps in the data and there are limitations in being able to link datasets. This makes it challenging to assess how well local perinatal mental health needs are being met (Ersinke, 2017).

- It is not possible to make firm statements regarding equity and whether existing services address inequalities. Both Midwifery and Early Start Teams take an approach of progressive universalism and have specialist teams/enhanced pathways in some geographic areas and for key groups. However, recording within adult mental health services (including IAPT) in particular, does not enable in-depth understanding of how services are accessed by different groups of women in the perinatal period (Ersinke, 2017).

- A Mindfulness pilot was delivered in Leeds in 2018 by an LTHT midwife and evaluated well. Running a mindfulness programme on a rolling basis as part of a universal offer could help to support those women who do not meet thresholds for existing support. It could also be of benefit to upskill practitioners delivering programmes such as PBB and Baby Steps in mindfulness techniques which could be brought into these programmes.

Lesbian, Gay, Bisexual and Transgender Parents

Background and National Picture

Approximately 5-7% of the UK population is estimated to be gay or lesbian (Stonewall), although other estimates have varied. Overall, gay, lesbian and bisexual people in England experience worse physical and mental health outcomes than heterosexual people (Elliot 2015); however there is little research to indicate whether maternity outcomes are different. Some research has indicated that lesbian mothers may be at a higher risk of perinatal mental health problems than heterosexual women, although the sample size was small (Ross 2007).

Local Situation

Local consultation and engagement has identified the following themes for LGBT parents:

- Fear of perceived homophobia in hospital for women who identified as lesbian.
- Negative experiences for some women.
- Training for staff is needed both for hospital and community midwives about LGBT families and their needs.

 (WYHCP 2017)

It is not currently recorded on the LTHT K2 Maternity Booking System whether people identify as LGBT.

Overall, the lack of reliable information about the needs of this population group means it is not possible to be clear about their health needs or health outcomes.

Gaps and Future Developments

- LTHT are in the early stages of developing a maternity pathway for LGBT people.

Summary

- K2 Maternity Booking System data indicate that in 2019, 70 women were recorded to be a current user of substances (0.7%) and for 8 women a referral was noted to be required for alcohol misuse. This would appear to align with those accessing Forward Leeds services, but is below the NICE estimate of approximately 470 women and would appear to suggest an under-reporting of substance use during pregnancy.
- K2 data indicate 0.5% (53) of maternity bookings in 2019 were for women recorded to be a refugee or asylum seeker.
- There is unfortunately no available data with regards to the numbers of Gypsy, Roma and Traveller women accessing maternity services and giving birth in Leeds.
- The majority of the maternity bookings in Leeds for mothers aged under 18 years old are for mothers living in deprived Leeds.
- K2 data indicate that of the 10,184 complete bookings in 2019, 195 women (1.9%) disclosed domestic abuse as a risk for current pregnancy. Under-reporting of domestic abuse during pregnancy is common however, and the estimate is more in the region of 400-900 women.
- Of the 10,184 maternity bookings in 2019, 150 women (1.5%) were recorded to have a physical or learning disability – there is no breakdown available at the time of writing.
- 285 (2.8%) of all maternity bookings in 2019 were noted to require a mental health referral. Looking at the Public Health England estimates this would appear to represent women with

more severe mental illness and not mild to moderate anxiety and depression or adjustment disorders.

What's changed and Key Issues

- The complexities of women accessing services in Leeds are increasing; in terms of both physical health and social factors. Staff report a rise in the numbers of women homeless and sofa surfing.
- Forward Leeds report an increase in the numbers of women with anxiety and depression self-medicating with substances such as cannabis.
- Forward Leeds are starting to see women who are using spice (5 at time of writing) and this is proving challenging; particularly as the outcomes for children and how best to support them is still relatively unknown.
- Many of the health behaviours and risk factors for poor birth outcomes (such as substance use) are established prior to pregnancy, often with limited potential to impact on these after conception. Furthermore, pregnancies are often not planned and many women will be using substances and unaware they are pregnant. With this in mind, there needs to be greater emphasis on the opportunities to promote preconception health across the reproductive years.
- There has been a further increase in the number of victims of trafficking accessing the Haamla service – particularly from Vietnam.
- There has been an increase in the number of Eritrean women accessing the Haamla service. Eritrean women are one of the groups at particular risk of FGM in the UK.
- With a reversal in the downward trend of teenage conceptions in Leeds and a static picture with regards to smoking rates amongst these women there is a need to provide more targeted support to improve outcomes for mums and babies.
- There is a need to improve disclosure rates and support for women, from all backgrounds, who are experiencing domestic abuse in pregnancy.
- There is opportunity to work with targeted communities in a collaborative way to address DVA via the Best Start Zones which operate in the most deprived areas of the city.
- The Pregnancy in Mind (NSPCC) and Women's Counselling and Therapy Service appear to be 'plugging a gap' in terms of mental health need that is above the threshold for IAPT (or for women who cannot access IAPT in a timely way), but does not meet the threshold for the perinatal mental health service. Local intelligence suggests that many women within these services may experience high levels of risk and ongoing psychological needs. Stakeholders report that these women are, across the city, a key group whose needs are not currently being met.
- Data collection, reporting and sharing needs to be much more robust with regards to women with complex needs – considering the numbers, the services they are accessing and the health outcomes for mum and baby. This information is crucial for us to determine gaps in service provision, ascertain whether needs are being met, share best practice and ultimately work to reduce health inequalities.

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Appendices

Appendix 1: GFR, Live Births and Count of Women Aged 15-44 years in Leeds – PHE Data and Local PHI data (2015-2017)

	Rate	Live births	Women 15-44
Fingertips	59.0	30399	515517
Local Data	53.8	30195	561764

Ward	1	2	3	4	5	6	7	8	9	10	Grand Total
Adel and Wharfedale		640	812				885	656	1973	5235	10201
Alwoodley	1643	852				732		946	3809	3595	11577
Ardsley and Robin Hood		677		1438	732	340	553	1422		888	6050
Armley	4668	2869	1607	619	702	835					11300
Beeston and Holbeck	4468	817	3946	2526							11757
Bramley and Stanningley	2967	2099	3368	2278			698				11410
Burmantofts and Richmond Hill	10224	668	632								11524
Calverley and Farsley			719	1327		2191	3558	588	774	896	10053
Chapel Allerton	5810	1542			1629		1270		686		10937
Cross Gates and Whinmoor	1723	1662	1982	756	1422	737	735	3236			12253
Farnley and Wortley	5585	790		784	4458	1411					13028
Garforth and Swillington				671	1638	708	1874	2785	1094	647	9417
Gipton and Harehills	15180	850									16030
Guiseley and Rawdon			806		690	691	874	2079	1418	4087	10645
Harewood							1975	1786	2675	2027	8463
Headingley and Hyde Park		362	794	1452	1370	2086	639	634			7337
Horsforth			841	811	791	723		736	2181	4372	10455
Hunslet and Riverside	8294	1169	471	810	1838						12582
Killingbeck and Seacroft	6894	2211	892		733	679					11409
Kippax and Methley			1563		698	2914	49		1135	554	6913
Kirkstall	719	1942	2638	729	370	735		556			7689
Little London and Woodhouse	2227	2841	2985	1669	502						10224
Middleton Park	9204	680		1416	1359	1342					14001
Moortown	820	634				1472	3744	891	2315	799	10675
Morley North			2087	653	919	1770	2336	1444	1402	586	11197
Morley South		1676	1872	2365		1283	1153	1263			9612
Otley and Yeadon		1388	726		766	1271	2974	1338	1399	772	10634
Pudsey		697	2949	1010	1000	2439	3122	885			12102
Rothwell		1980	690		667	819	2257	2371	595		9379
Roundhay	622			1517	864	1426	3321	1188	1976		10914
Temple Newsam	3299		797		1588	633	765	2252	1367		10701
Weetwood	845	925			1596		1109	3516	1826		9817
Wetherby				604		1586		1182	1291	3696	8359
Grand Total	85192	29971	33177	23435	26332	28823	33891	31754	27916	28154	348645

Appendix 3: Stillbirth Rate in Leeds by IMD Decile – 2000/02 to 2015/17

IMD	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005	2004 to 2006	2005 to 2007	2006 to 2008	2007 to 2009	2008 to 2010	2009 to 2011	2010 to 2012	2011 to 2013	2012 to 2014	2013 to 2015	2014 to 2016	2015 to 2017
1	8.9	9.3	8.3	8.1	6.7	7.5	7.1	7.1	6.5	7.3	7.3	7.3	5.9	5.9	6.3	6.4
2	3.7	4.4	3.9	5.6	5.9	6.5	8.3	7.2	7.0	4.6	4.2	4.1	3.8	3.9	4.4	6.5
3	9.5	5.3	5.9	5.6	7.7	8.5	7.7	5.3	3.8	4.9	5.6	5.8	4.8	3.6	3.2	2.4
4	5.5	4.2	5.2	6.2	6.0	3.8	4.6	5.2	6.0	5.8	4.1	5.6	5.6	6.4	4.0	2.6
5	5.4	4.3	3.0	3.5	4.3	4.2	3.6	3.0	4.3	5.1	6.4	6.8	5.9	4.4	3.0	3.1
6	4.8	3.6	7.1	5.3	5.6	7.1	8.0	8.7	5.5	5.0	4.5	4.5	4.5	2.8	2.4	1.6
7	5.2	6.4	4.6	4.9	5.0	5.5	4.2	3.1	2.3	4.0	4.2	4.6	2.6	2.0	2.3	2.0
8	5.3	4.2	6.9	5.7	7.0	5.3	3.3	2.8	1.9	5.2	5.7	7.0	4.1	4.2	3.3	3.4
9	4.6	7.0	6.3	6.5	4.7	6.1	6.5	4.4	3.4	2.5	3.4	2.5	2.0	1.6	4.7	4.3
10	3.0	2.3	3.1	2.3	2.8	2.8	5.5	6.2	5.4	3.4	3.4	2.8	2.0	0.7	0.0	2.0
Leeds	6.5	6.3	6.2	6.2	5.9	6.4	6.3	5.8	5.1	5.4	5.6	5.7	4.6	4.1	4.2	4.3

Source: ONS Births, ONS Deaths, via Civil Registrations Data NHS Digital

Appendix 4: IMD Score and National Deprivation Centile by Ward in Leeds (2010)

Wards	IMD 2010 Score	National Deprivation Centile
Adel and Wharfedale	10.4	77.5
Alwoodley	15.5	68.0
Ardsley and Robin Hood	17.8	53.7
Armley	39.8	17.4
Beeston and Holbeck	39.0	18.6
Bramley and Stanningley	33.6	25.8
Burmantofts and Richmond Hill	50.9	8.6
Calverley and Farsley	14.7	61.7
Chapel Allerton	41.2	25.2
City and Hunslet	40.4	20.9
Cross Gates and Whinmoor	25.8	39.5
Farnley and Wortley	32.5	28.4
Garforth and Swillington	12.6	66.1
Gipton and Harehills	53.5	6.6
Guiseley and Rawdon	9.9	76.7
Harewood	9.6	76.3
Headingley	16.0	55.1
Horsforth	10.0	76.7
Hyde Park and Woodhouse	28.2	31.3
Killingbeck and Seacroft	48.2	13.6
Kippax and Methley	18.5	50.4
Kirkstall	31.5	27.1
Middleton Park	45.3	13.9
Moortown	14.9	63.4
Morley North	16.6	56.4
Morley South	22.6	42.7
Otley and Yeadon	15.0	61.8
Pudsey	22.3	42.8
Rothwell	18.4	51.7
Roundhay	16.3	58.6
Temple Newsam	28.0	45.0
Weetwood	18.8	53.8
Wetherby	10.4	74.2
Leeds	**26.4**	**43.0**

Demographic Data and Birth Indicators – Summary Table for Workshop

Issue	Considerations	Evidence
Birth rates are highest in deprived Leeds.	Resource implications. Demonstrates a need for joint working between agencies to meet demand and ameliorate the observed health inequalities.	Table 2, Figure 3, p14
Increase in the proportion of maternity bookings to BAME women in Leeds and the majority of ethnic minority groups are over-represented in deprived Leeds.	Resource implications (i.e. interpreters, specialist knowledge and expertise); and in areas which already have a greater than average demand. Raising awareness of services and ensuring they are culturally competent.	Table 4, p15 Figure 4, p16
Under 18 conception rate is significantly higher than national and regional levels with a broadening inequalities gap.	Resource implications. Preventative agenda and specialised support.	Table 6, Figure 7, p20
Rise in the infant mortality rate in Leeds since the time of the last HNA; with a persistent gap between deprived Leeds and Leeds overall.	Socio economic disadvantage, maternal age, ethnicity and maternal lifestyle issues. Access to services.	Figure 8, p21
Widening inequalities gap for perinatal mortality rates and stillbirth.	Socio economic disadvantage, maternal age, ethnicity and maternal lifestyle issues. Access to services.	Figure 9, p22 Figure 11, p24
LBW rates higher than national and regional figures. Widening inequalities gap.	Socio economic disadvantage, maternal age, ethnicity and maternal lifestyle issues. Access to services.	Figure 12, p26 Figure 13, p27
Poor quality of recording of ethnicity at booking	Unable to align services and ensure they are culturally appropriate to best meet needs of BAME families	Table 4, p15

Factors Impacting Birth and Lifelong Outcomes – Summary Table for Workshop

Issue	Considerations	Evidence
Rates of smoking during pregnancy are significantly higher amongst women who are under 18 years old at time of delivery and there has been no improvement since the 2014 HNA.	Socioeconomic disadvantage. Targeting of resources and specialised support. Joint working across agencies. Development of services using a collaborative approach.	Figure 16, p32
The percentage of mothers classified as obese in Leeds has been rising, with a greater percentage of mothers residing in deprived Leeds having a BMI>30. Above average rates of maternal obesity can be seen for some ethnic groups - White and Black African and African.	Targeting of resources and specialised support. Development of services using a collaborative approach. Support before, during and after pregnancy. Joint working across agencies.	Figure 17, p34 Figure 20, p37
Breastfeeding initiation rates in deprived Leeds have improved; yet rates remain significantly lower than Leeds overall. Breastfeeding continuation rates have changed little in deprived Leeds since 2013/14 and are significantly lower than Leeds overall.	Targeting of resources and specialised support. Development of services using a collaborative approach	Figure 22, p42 Figure 23, p43
The White population in Leeds has the lowest breastfeeding initiation and continuation rates of all ethnicities. Young mothers are also much less likely to initiate breastfeeding.	Targeting of resources and specialised support. Development of services using a collaborative approach	Figure 24, p45 Figure 25, p46
Poor data quality for BMI at booking.	Needs to be improved for better monitoring, but also to ensure women are offered and accessing appropriate care and support during pregnancy	Figure 19, p36

Maternity Services – Summary Table for Workshop

Issue	Considerations	Evidence
The percentage of mothers attending their booking appointment before 10 weeks gestation has increased in Leeds overall since 2012/2013. However, the percentage of mothers from deprived Leeds attending before 10 weeks dropped and thus the inequalities gap has widened further.		Figure 27, p50
Women from ethnic minorities continue to show below average attendance rates before 11 weeks.		Table 15, p51 Table 16, p53
Rates of attendance for mums aged 19 and younger have declined since the time of the last Maternity HNA in 2014 and further still since the Maternity Access Audit in 2017.		Figure 28, p54
The number of home homebirths in Leeds has declined since the time of the last HNA in 2014.		Table 18, p57
Need for much more robust data collection and sharing to ascertain reach and impact of the antenatal education and support offer in Leeds.		

Health Inequalities – Summary Table for Workshop

Issue	Considerations	Evidence
The complexities of women accessing services in Leeds are increasing; in terms of both physical health and social factors.	Wider determinants of health. Need for joint working across agencies.	
Many of the health behaviours and risk factors for poor birth outcomes are established prior to pregnancy, often with limited potential to impact on these after conception. There needs to be greater emphasis on the opportunities to promote preconception health across the reproductive years.		
There is a need to improve disclosure rates and support for women, from all backgrounds, who are experiencing domestic abuse in pregnancy and/or using substances.	Perceived stigma, environmental constraints and limited understanding of impact on birth and infant lifelong outcomes are known factors that impair self-report.	
Data collection, reporting and sharing needs to be much more robust with regards to women with complex needs – considering the numbers, the services they are accessing and the health outcomes for mum and baby. This information is crucial for us to determine gaps in service provision, ascertain whether needs are being met, share best practice and ultimately work to reduce health inequalities.	Develop ability to link data sets to make it easier to assess how well needs are being met when a range of agencies are involved in providing care.	