

Brain injury occurring during or soon after birth: National data by socioeconomic decile and reported ethnicity and regional data by Sustainability and Transformation Partnerships and Local Maternity System, 2020 and Neonatal Network, 2019 and 2020.

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1 Context

In November 2015, the Secretary of State for Health announced a national ambition to halve the annual rates of stillbirth, neonatal death, maternal death and brain injuries occurring during or soon after birth in England.

The Department of Health commissioned work to define *brain injury occurring during or soon after birth*, and using the National Neonatal Research Database (NNRD), established a baseline for 2010 and calculated annual rates up to 2019 including rates by geographical region. These data have been previously published^{1 2 3 4}. For 2018 and 2019 onward the Department for Health and Social Care in England also requested that rates of *brain injury occurring during or soon after birth* also be reported by index of multiple deprivation and reported ethnicity⁵.

In this follow-up report we provide the following rates for 2020 in England:

- (a) Annual rates of *brain injuries occurring during or soon after birth* by index of multiple deprivation decile of mother**
- (b) Annual rates of *brain injuries occurring during or soon after birth* by reported maternal ethnicity**

¹ Brain injury occurring during or soon after birth: a report for the national maternity ambition commissioned by the Department of Health

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/662974/Report_on_brain_injury_occurring_during_or_soon_after_birth.pdf

² Gale C, Statnikov Y, Jawad S On behalf of the Brain Injuries expert working group, et al., Neonatal brain injuries in England: population-based incidence derived from routinely recorded clinical data held in the National Neonatal Research Database. *Archives of Disease in Childhood - Fetal and Neonatal Edition*

<https://fn.bmj.com/content/early/2017/10/22/archdischild-2017-313707>

³ Gale C, Jeyakumaran D, Ougham K, Jawad S, Uthaya S, Modi N. Correction to: Brain injury occurring during or soon after birth: annual incidence and rates of brain injuries to monitor progress against the national maternity ambition. 2016 and 2017 data <https://www.imperial.ac.uk/media/imperial-college/medicine/dept-medicine/infectious-diseases/neonatology/CORRECTION-Brain-injury-occurring-during-or-soon-after-birth-2016-and-2017-280121.pdf>

⁴ Gale C, Ougham K, Jawad S, Uthaya S, Modi N. Brain injury occurring during or soon after birth: annual incidence and rates of brain injuries to monitor progress against the national maternity ambition 2018 and 2019 national data

<https://www.imperial.ac.uk/media/imperial-college/medicine/dept-medicine/infectious-diseases/neonatology/2018-2019-Brain-injury-occurring-during-or-soon-after-birth-NATIONAL-DATA-280121.pdf>

⁵ Gale C, Ougham K, Jawad S, Uthaya S, Modi N. Brain injury occurring during or soon after birth: National data by socioeconomic decile and reported ethnicity and regional data by Sustainability and Transformation Partnerships and Local Maternity System, 2018-2019; by Neonatal Network, 2017-2018.

We also provide the following annual regional rates at the level of maternity and neonatal providers:

- (c) Annual rates of *brain injuries occurring during or soon after birth* by Sustainability and Transformation Partnerships (STP) with cases attributed by *mother's postcode of residence at birth* for 2020.**
- (d) Annual rates of *brain injuries occurring during or soon after birth* by Neonatal Operational Delivery Network (ODN) with cases attributed by *place of birth* for 2019 and 2020.**

2 Methods

2.1 Defining brain injuries occurring during or soon after birth

The definition for *brain injuries occurring during or soon after birth* for the national maternity ambition was agreed by an expert group as previously described⁶. This definition is as follows:

- **Population: *all babies admitted to a neonatal unit in England***
- **Time period after birth: *all brain injuries that are detected during the neonatal unit stay***
- **Conditions to be included:**
 - a. *Infants with a diagnosis consistent with **hypoxic ischaemic encephalopathy**: term and near-term infants only*
 - b. *Infants with a diagnosis of **intracranial haemorrhage, perinatal stroke, hypoxic ischaemic encephalopathy (HIE), central nervous system infection, and kernicterus (bilirubin encephalopathy)**: all infants*
 - c. ***preterm white matter disease (periventricular leukomalacia)**: preterm infants only*
 - d. *Infants with a recorded **seizure**: all infants*
- **Denominator: *all live births in England***

2.2 Defining index of multiple deprivation and maternal ethnicity

For infants with *brain injuries occurring during or soon after birth* the following data were used:

Index of multiple deprivation: *The first part of maternal postcode as recorded in the NNRD was used to assign Lower Super Output Area (LSOA)⁷ which was then used to assign Index of Multiple Deprivation Decile⁸*

Maternal ethnicity: *Maternal ethnicity as recorded in the NNRD was used to attribute ethnicity. Infant ethnicity is not recorded in the NNRD.*

Further descriptive information and the NNRD data fields used to determine *brain injuries occurring during or soon after birth* and *maternal ethnicity* are shown in Appendix 1.

⁶ Brain injury occurring during or soon after birth: a report for the national maternity ambition commissioned by the Department of Health
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/662974/Report_on_brain_injury_occurring_during_or_soon_after_birth.pdf

⁷ Postcode to Output Area to Lower Layer Super Output Area to Middle Layer Super Output Area to Local Authority District (August 2019) Lookup in the UK
<https://geoportal.statistics.gov.uk/datasets/06938ffe68de49de98709b0c2ea7c21a/about>

⁸ English indices of deprivation 2019 <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

2.3 Numerator data source: National Neonatal Research Database

The Department of Health and Social Care commissioned the National Neonatal Research Database (NNRD) as the numerator source for the calculation of rates of *brain injuries occurring during or soon after birth* for the national maternity ambition.

The NNRD is formed from summary electronic patient data entered on all admissions to National Health Service (NHS) neonatal units in England, Scotland, and Wales. Data in the NNRD have undergone processing to identify duplicates, out of range values, internal inconsistencies, and other potentially erroneous entries. In addition to these internal processes, feedback and quality assurance checks are undertaken with clinicians for key items. Data in the NNRD are merged across multiple patient episodes, if necessary for the purposes of an analysis.

All neonatal units (currently 100% of NHS neonatal units in England), that contribute data to the NNRD form the UK Neonatal Collaborative, UKNC. Approximately 450 predefined data items, the Neonatal Data Set⁹, are extracted quarterly from these electronic patient records to form the NNRD. The Neonatal Data Set is an approved NHS Information Standard (DAPBB1595) and the NNRD is a national Information Asset.

National counts of *brain injuries occurring during or soon after birth* are calculated using a cohort of infants who receive at least one episode of care in an NHS neonatal unit in England. As part of the NNRD data cleaning process, babies with missing gestational age or missing birth year are excluded from the analysis data set.

⁹https://www.datadictionary.nhs.uk/data_sets/clinical_data_sets/national_neonatal_data_set/national_neonatal_data_set_-_episodic_and_daily_care.html

2.3.1 National counts of brain injuries

National counts of *brain injuries occurring during or soon after birth* are calculated using a cohort of infants who receive at least one episode of care in an NHS neonatal unit in England. As part of the NNRD data cleaning process, babies with missing gestational age or missing birth year are excluded from the analysis data set. To extract counts for term and preterm babies, gestational ages of ≥ 37 weeks and < 37 weeks respectively were applied.

2.3.2 Regional counts of brain injuries by Sustainability and Transformation Partnerships and Local Maternity Systems

The NNRD holds data on mother's Lower Super Output Area (LSOA) at time of birth, which were used to assign cases to the STP/LMS associated with each LSOA. LSOAs were mapped to STP/LMS using data provided by the Department of Health and Social Care (Appendix 3) using the ONS Geoportal¹⁰. A number of babies with a definition of *brain injury occurring during or soon after birth* had missing information for mother's LSOA at time of birth in the NNRD and these babies could not be mapped to a STP/LMS.

2.3.3 Regional counts of brain injuries by Neonatal Operational Delivery Networks

The NNRD holds data on neonatal unit of birth or of first admission, which were used to attribute cases to the appropriate Neonatal Operational Delivery Network (ODN) using data from MBRRACE-UK¹¹ which maps NHS Trust to ODN (appendix 2). Babies born in transit, at home or with missing information for place of birth were assigned to the NHS Trust and appropriate Neonatal ODN by their first provider of neonatal care (neonatal unit of first admission).

For inclusion in the national counts of brain injuries, babies were required to have at least one episode of care in an English NHS neonatal unit. For inclusion in the regional counts by Neonatal ODN babies were required to be born in or have a first admission to an English NHS unit. As a result, babies born in Scotland or Wales who were not first admitted to an English neonatal unit were listed as unknown in the regional counts of brain injuries by Neonatal ODN, but have been included in the national analysis. In

¹⁰ ONS Geoportal. <https://geoportal.statistics.gov.uk/datasets/ons::lsoa-2011-to-clinical-commissioning-groups-to-sustainability-and-transformation-partnerships-april-2021-lookup-in-england-1/explore>

¹¹ Draper ES, Gallimore ID, Smith LK, Matthews RJ, Fenton AC, Kurinczuk JJ, Smith PW, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2020. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2022.

addition, babies born at The Portland Hospital for Women and Children and RAF Lakenheath (48th Medical Group) are excluded from the Neonatal ODN level analysis as these hospitals are not part of a Neonatal ODN unless first admission was to an English neonatal unit, however they are included in the analysis at the national level. The sum of brain injuries across the Neonatal ODN is therefore lower than the total counts of brain injuries from the national analysis.

To ensure consistency with national surveillance undertaken by MBRRACE-UK we mapped neonatal units to Neonatal ODNs using the same unit to network attribution used in the previous report ¹² (appendix 2). St Richard's Hospital and Worthing Hospital are both within the same NHS Trust (Western Sussex Hospitals NHS Foundation Trust) but are within different Neonatal ODN: St Richard's Hospital is within the Thames Valley & Wessex ODN and Worthing Hospital is within the South East Coast ODN. In order to align attribution of cases with denominator data, cases at St Richards Hospital were assigned to the South East Coast Neonatal ODN (rather than the Thames Valley & Wessex Neonatal ODN). Frimley Park Hospital is included in Thames Valley & Wessex Neonatal ODN for 2020 reports. There was reorganisation of the attribution of neonatal units to the following Neonatal ODNs in 2018: Southern West Midlands; Staffordshire, Shropshire & Black Country; Trent Perinatal & Central Neonatal. To ensure consistency with previous reports these reorganisations have not been reflected in the data presented in this report, see Appendix 2 for more details.

¹² Gale C, Ougham K, Jawad S, Uthaya S, Modi N. Brain injury occurring during or soon after birth: National data by socioeconomic decile and reported ethnicity and regional data by Sustainability and Transformation Partnerships and Local Maternity System, 2018-2019; by Neonatal Network, 2017-2018.

2.4 Denominator data sources

2.4.1 National live births

To calculate rates by index of multiple deprivation and ethnicity for 2020, denominator data from the Office for National Statistics (ONS)¹³ describing live births by gestational age in weeks, Index of Multiple Deprivation, and ethnicity of the baby in England, were used. For the 2020 birth cohort we have more detailed ethnicity data from the ONS allowing us to present maternal ethnicity in eleven different categories, rather than the eight than previously. To aid comparison over time we present both the more detailed 2020 breakdown, and the figures grouped according to the previous eight ethnicity categories.

There is a small discrepancy in the total number of live births for 2020 due to the data extraction process undertaken by the ONS. Ethnicity is not recorded on the birth registration and so is linked from birth notification data: a small number of records could not be linked. This meant that while the total number of livebirths in England for 2020 was 595,195, the total number of livebirths for which a linked birth notification was available was 584,509.

2.4.2 Regional live births by Sustainability and Transformation Partnerships and Local Maternity Systems

Total numbers of live births per LSOA for years 2020 were obtained from the ONS NOMIS system¹⁴. These births were then mapped to their respective STP using the mapping data provided by the Department of Health and Social Care (Appendix 3).

2.4.3 Regional live births by Neonatal ODN

Neonatal ODN of birth could not be derived from ONS data for all births (e.g. home births or births in transit). Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK (MBRRACE-UK) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) to undertake the Maternal, Newborn and Infant Clinical Outcome Review Programme on behalf of NHS England, the Welsh Government, the Scottish Government Health and Social Care Directorate, the Northern Ireland Department of Health, the States of Guernsey, the States of Jersey, and the Isle of Man Government. The MBBRACE-UK Perinatal Mortality

¹³ Office for National Statistics, 2021. Live births occurring in 2020 by week of gestation, England. Available at: <https://www.ons.gov.uk/>

¹⁴ Office for National Statistics, Official Labour Market Statistics. Accessed via: <https://www.nomisweb.co.uk/>

Surveillance Reports provide birth data in England where births, including home births and births in transit, can be attributed to their respective Neonatal ODN. The 2019 and 2020 reports^{15 16} provide both the total number of births and crude stillbirth rates in 2019 and 2020 by Neonatal Network in England, permitting the calculation of total live births per Neonatal ODN. Total live births per Neonatal ODN are reported using the organisational structure of neonatal services reported in the MBRRACE-UK Perinatal Mortality Surveillance Reports for 2019 and 2020 (see mapping tool in Appendix 2) and are used as the denominator for calculation of the rates of *brain injuries occurring during or soon after birth* by Neonatal ODN.

Figures for total live births per Neonatal ODN were calculated from the MBRRACE-UK data and do not include births from The Portland Hospital for Women and Children (HCA Healthcare UK) or RAF Lakenheath (48th Medical Group) as neither of these sites are part of a Neonatal ODN. Home births were allocated to the Trust responsible and then included in the appropriate Neonatal ODN for that Trust. Total live births in England from MBRRACE-UK do not align perfectly with estimates from ONS data.

To maintain consistency we present data describing rates of *brain injuries occurring during or soon after birth* by Neonatal ODN to align with the mapping of Trust to Neonatal ODN used by MBRRACE-UK (i.e. St Richard's Hospital is mapped to South East Coast Neonatal ODN; Frimley Park is mapped to Thames Valley & Wessex Neonatal ODN; neonatal units in Southern West Midlands; Staffordshire, Shropshire & Black Country; Trent Perinatal & Central Neonatal are mapped as described in Appendix 2).

¹⁵ Draper ES, Gallimore ID, Smith LK, Fenton AC, Kurinczuk JJ, Smith PW, Boby T, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2019. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2021.

¹⁶ Draper ES, Gallimore ID, Smith LK, Matthews RJ, Fenton AC, Kurinczuk JJ, Smith PW, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2020. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2022.

2.5 Statistical methods

We present rates of brain injuries per 1,000 live births unless otherwise stated.

Confidence intervals (CI) for rates have been calculated using the following method:

- 1) Calculate error factor (EF):

$$EF = e^{(1.96/\sqrt{D})}$$

where D = number of brain injuries

- 2) Calculate lower and upper CI:

$$\text{Lower CI} = \text{Rate} \div EF$$

$$\text{Upper CI} = \text{Rate} \times EF$$

3 Results

3.1 Brain injuries by index of multiple deprivation decile

Numerator:	Infants who received at least one episode of care within a neonatal unit in England with a <i>brain injury occurring during or soon after birth</i> , by index of multiple deprivation decile, obtained from the NNRD.
Denominator:	Annual number of live births in England by index of multiple deprivation decile, obtained from ONS ¹⁷ .

Table 1 presents the incidence and crude rates of brain injuries per 1,000 live births, by index of multiple deprivation decile for 2020.

Figure 1 presents rates of brain injuries and their 95% confidence intervals by deprivation centile in 2020.

Table 2 presents the incidence and crude rates of brain injuries per 1,000 live births, by index of multiple deprivation decile from 2018 to 2020.

¹⁷Office for National Statistics,
<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/adhocs/13291livebirthsbygestationalageatbirthindexofmultipledeprivationandethnicityengland2018and2019>

Table 1: Infants in England (all gestational ages) in 2020 with a diagnosis of *brain injury occurring during or soon after birth* by deciles of socioeconomic deprivation. Decile 1 represents the most deprived and decile 10 the least deprived.

2020				
Socioeconomic Deprivation Deciles	Number of Live Births	Number of brain injuries	Rate of brain injuries per 1000 live births	95% CI
1	77,931	381	4.89	(4.42, 5.41)
2	71,481	312	4.36	(3.91, 4.88)
3	68,146	264	3.87	(3.43, 4.37)
4	62,442	263	4.21	(3.73, 4.75)
5	57,889	232	4.01	(3.52, 4.56)
6	55,802	189	3.39	(2.94, 3.91)
7	51,301	209	4.07	(3.56, 4.67)
8	49,591	176	3.55	(3.06, 4.11)
9	47,334	174	3.68	(3.17, 4.26)
10	41,978	144	3.43	(2.91, 4.04)
<i>Missing</i>		88		
TOTAL	583,895	2,432	4.17	(4.00, 4.33)

Abbreviations: CI: confidence interval

Figure 1: Rate of brain injuries and their 95% confidence intervals by deprivation decile in 2020. Decile 1 represents the most deprived and decile 10 the least deprived.

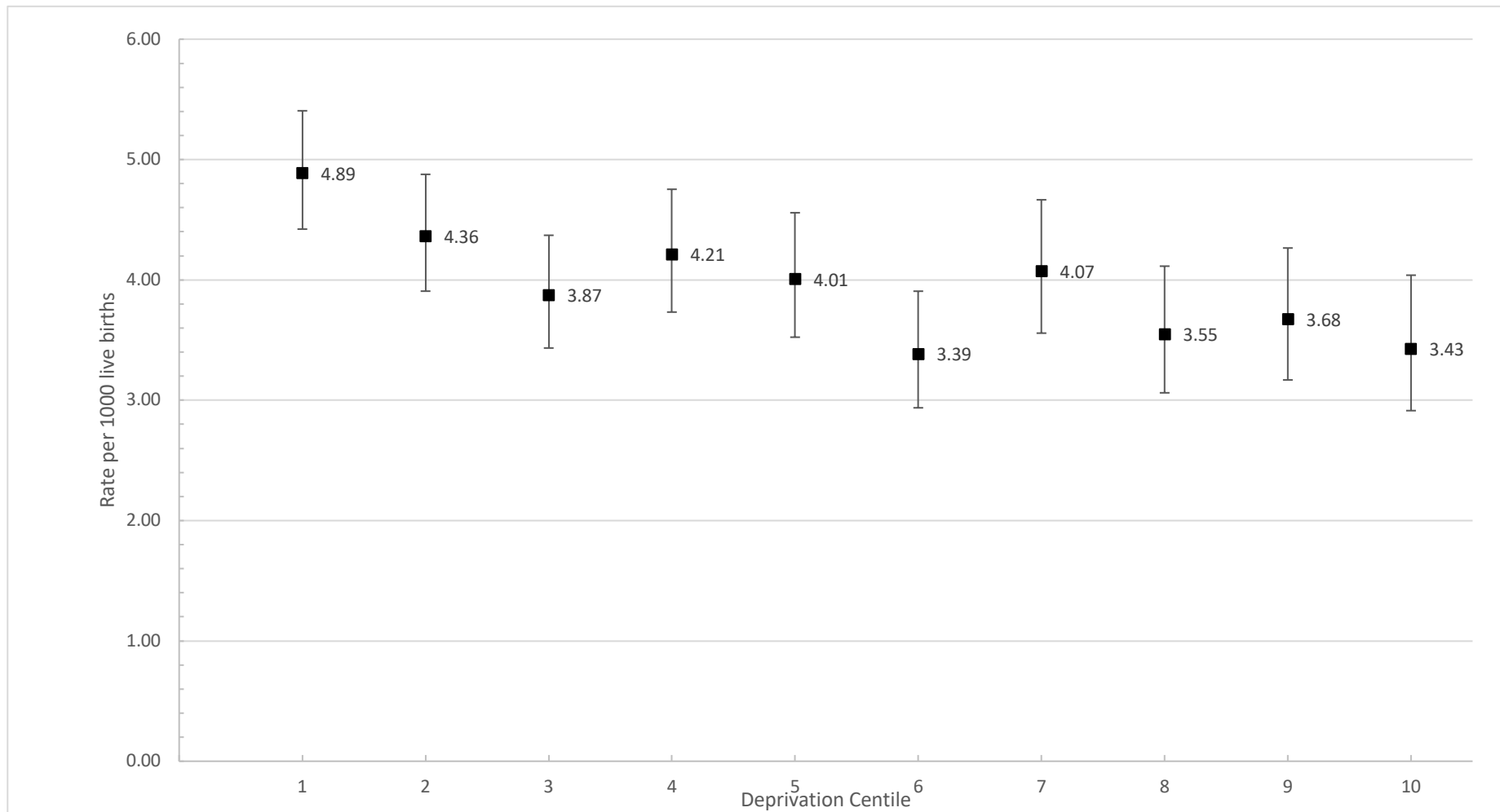


Table 2: Infants in England (all gestational ages) with a diagnosis of brain injury occurring during or soon after birth by deciles of socioeconomic deprivation from 2018 to 2020. Decile 1 represents the most deprived and decile 10 the least deprived.

Socioeconomic Deprivation Deciles	2018		2019		2020	
	Number of brain injuries	Rate of brain injuries per 1000 live births (95%CI)	Number of brain injuries	Rate of brain injuries per 1000 live births (95%CI)	Number of brain injuries	Rate of brain injuries per 1000 live births (95%CI)
1	451	5.32 (4.85, 5.83)	404	4.87 (4.41, 5.37)	381	4.89 (4.42, 5.41)
2	394	5.13 (4.65, 5.66)	322	4.30 (3.86, 4.81)	312	4.36 (3.91, 4.88)
3	360	4.90 (4.42, 5.44)	297	4.16 (3.71, 4.66)	264	3.87 (3.43, 4.37)
4	314	4.69 (4.20, 5.24)	293	4.51 (4.02, 5.06)	263	4.21 (3.73, 4.75)
5	264	4.29 (3.80, 4.84)	254	4.16 (3.68, 4.71)	232	4.01 (3.52, 4.56)
6	252	4.21 (3.72, 4.76)	254	4.38 (3.87, 4.95)	189	3.39 (2.94, 3.91)
7	210	3.82 (3.33, 4.37)	182	3.42 (2.96, 3.96)	209	4.07 (3.56, 4.67)
8	191	3.65 (3.17, 4.21)	182	3.52 (3.04, 4.07)	176	3.55 (3.06, 4.11)
9	186	3.72 (3.22, 4.29)	176	3.59 (3.10, 4.16)	174	3.68 (3.17, 4.26)
10	173	3.88 (3.34, 4.50)	146	3.38 (2.88, 3.90)	144	3.43 (2.91, 4.04)
<i>Missing</i>	77		81		88	
TOTAL	2,872	4.59 (4.43, 4.76)	2,591	4.25 (4.09, 4.41)	2,432	4.17 (4.00, 4.33)

3.2 Brain injuries by maternal ethnicity

Numerator:	Infants who received at least one episode of care within a neonatal unit in England with a <i>brain injury occurring during or soon after birth</i> , by maternal ethnicity, obtained from the NNRD.
Denominator:	Annual number of live births in England by infant ethnicity obtained from ONS ¹⁸ .

Table 3 presents the incidence and crude rates of brain injuries per 1,000 live births, by ethnicity for 2020.

¹⁸ ¹⁸Office for National Statistics, <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/adhocs/13291livebirthsbygestationalageatbirthindexofmultipledeprivationandethnicityengland2018and2019>

Table 3: Infants in England (all gestational ages) in 2020 with a diagnosis of *brain injury occurring during or soon after birth* by maternal ethnicity

Ethnicity Group	2020			
	Number of Live Births	Number of brain injuries	Rate of brain injuries per 1000 live births	95% CI
Asian Other	15,891	42	2.64	(1.95, 3.58)
Bangladeshi	9,445	38	4.02	(2.93, 5.53)
Black African	20,785	84	4.04	(3.26,5.01)
Black Caribbean	5,031	32	6.36	(4.50,8.99)
Black Other	3,637	21	5.77	(3.76, 8.86)
Indian	21,278	80	3.76	(3.02,4.68)
Mixed	39,942	36	0.90	(0.65, 1.25)
Other	13,965	62	4.44	(3.46, 5.69)
Pakistani	27,145	107	3.94	(3.26, 4.76)
White British	341,262	1,075	3.15	(2.97, 3.34)
White Other	71,215	189	2.65	(2.30, 3.06)
Not Stated	14,299			
Missing		666		
TOTAL	583,895	2,432	4.17	(4.00, 4.33)

Abbreviations: CI: confidence interval

Table 4: Infants in England (all gestational ages) with a diagnosis of brain injury occurring during or soon after birth by maternal ethnicity from 2018 to 2020. Ethnicity grouped according to categories used in previous reports

Ethnicity Group	2018		2019		2020	
	Number of brain injuries	Rate of brain injuries per 1000 live births (95%CI)	Number of brain injuries	Rate of brain injuries per 1000 live births (95%CI)	Number of brain injuries	Rate of brain injuries per 1000 live births (95%CI)
Bangladeshi	46	4.83 (3.62, 6.45)	47	5.04 (3.79, 6.71)	38	4.02 (2.93, 5.53)
Black African	107	4.96 (4.10, 5.99)	83	3.90 (3.14, 4.83)	84	4.04 (3.26, 5.01)
Black Caribbean	32	5.80 (4.10, 8.21)	41	7.51 (5.53, 10.20)	32	6.36 (4.50, 8.99)
Indian	81	4.06 (3.26, 5.04)	69	3.37 (2.66, 4.26)	80	3.76 (3.02, 4.68)
Pakistani	138	5.15 (4.36, 6.09)	100	3.66 (3.01, 4.45)	107	3.94 (3.26, 4.76)
White British	1,388	3.73 (3.54, 3.94)	1,262	3.54 (3.35, 3.74)	1,075	3.15 (2.97, 3.34)
White Other	237	3.08 (2.72, 3.50)	205	2.65 (2.31, 3.04)	189	2.65 (2.30, 3.06)
Other	183	2.42 (2.10, 2.80)	155	2.04 (1.75, 2.39)	161	2.19 (1.88, 2.56)
Not Stated	2		3		0	
Missing	658		626		666	
TOTAL	2,872	4.59 (4.43, 4.76)	2,591	4.25 (4.09, 4.41)	2,432	4.17 (4.00, 4.33)

3.3 Regional rates of brain injuries by Sustainability and Transformation Partnerships and Local Maternity System

Numerator:	Annual number of infants with <i>brain injuries occurring during or soon after birth</i> , without exclusions, attributed by LSOA of mother’s residence in England at time of birth. Obtained from the NNRD and mapped to STP/LMS using data in Appendix 3.
Denominator:	Annual number of live births in England obtained from ONS NOMIS ¹⁹ and mapped to STP/LMS using data in Appendix 3.

Table 5 presents the rates of *brain injuries occurring during or soon after birth* per 1,000 live births across the 42 STP/LMS associated with mother’s residence at time of birth in England in 2020.

¹⁹ Office for National Statistics, Official Labour Market Statistics. Accessed via: <https://www.nomisweb.co.uk/>

Table 5: Infants (all gestational ages) in 2020 with a diagnosis of *brain injuries occurring during or soon after birth*, without exclusions, by Sustainability and Transformation Partnership (STP), attributed by Lower Super Output Area (LSOA) of the mother's residence in England at the time of delivery

Sustainability & Transformation Partnership (STP)	2020			
	Number of live births	Number of brain injuries	Rate of brain injuries per 1,000 live births	95% CI
Bath and North East Somerset, Swindon and Wiltshire	8,791	46	5.23	(3.92, 6.99)
Bedfordshire, Luton and Milton Keynes	11,832	44	3.72	(2.77, 5.00)
Birmingham and Solihull	14,523	67	4.61	(3.63, 5.86)
Bristol, North Somerset and South Gloucestershire	10,182	55	5.40	(4.15, 7.04)
Buckinghamshire, Oxfordshire and Berkshire West	17,597	89	5.06	(4.11, 6.23)
Cambridgeshire and Peterborough	9,438	46	4.87	(3.65, 6.50)
Cheshire and Merseyside	24,093	93	3.86	(3.15, 4.73)
Cornwall and the Isles of Scilly Health and Social Care Partnership	4,729	29	6.13	(4.26, 8.82)
Coventry and Warwickshire	9,792	41	4.19	(3.08, 5.69)
Cumbria and North East	27,676	81	2.92	(2.35, 3.64)
Devon	9,891	47	4.75	(3.57, 6.32)
Dorset	6,259	18	2.88	(1.81, 4.56)
East London Health and Care Partnership	28,777	117	4.07	(3.39, 4.87)
Frimley Health and Care ICS	8,292	23	2.77	(1.84, 4.17)
Gloucestershire	5,800	23	3.97	(2.64, 5.97)
Greater Manchester Health and Social Care Partnership	33,265	157	4.72	(4.04, 5.52)
Hampshire and the Isle of Wight	17,013	57	3.35	(2.58, 4.34)
Healthier Lancashire and South Cumbria	16,562	68	4.11	(3.24, 5.20)
Herefordshire and Worcestershire	6,883	30	4.36	(3.05, 6.23)
Hertfordshire and West Essex	16,224	46	2.84	(2.12, 3.79)
Humber, Coast and Vale	15,028	44	2.93	(2.18, 3.93)
Joined Up Care Derbyshire	9,607	23	2.39	(1.59, 3.60)

Table 5 continued: Infants (all gestational ages) in 2020 with a diagnosis of *brain injuries occurring during or soon after birth*, without exclusions, by Sustainability and Transformation Partnership (STP), attributed by Lower Super Output Area (LSOA) of the mother's residence in England at the time of delivery

Sustainability & Transformation Partnership (STP)	2020			
	Number of live births	Number of brain injuries	Rate of brain injuries per 1,000 live births	95% CI
Kent and Medway	19,205	72	3.75	(2.98, 4.72)
Leicester, Leicestershire and Rutland	11,171	34	3.04	(2.17, 4.26)
Lincolnshire	6,600	39	5.91	(4.32, 8.00)
Mid and South Essex	12,549	42	3.35	(2.47, 4.53)
Norfolk and Waveney Health and Care Partnership	8,591	44	5.12	(3.81, 6.88)
North London Partners in Health and Care	17,058	44	2.58	(1.92, 3.00)
North West London Health and Care Partnership	25,738	92	3.57	(2.91, 4.38)
Northamptonshire	7,933	31	3.91	(2.75, 5.56)
Nottingham and Nottinghamshire Health and Care	10,134	64	6.32	(4.94, 8.07)
Our Healthier South East London	21,613	93	4.30	(3.51, 5.27)
Shropshire and Telford and Wrekin	4,581	18	3.93	(2.47, 6.23)
Somerset	4,908	11	2.24	(1.24, 4.05)
South West London Health and Care Partnership	18,502	89	4.81	(3.91, 5.92)
South Yorkshire and Bassetlaw	15,350	73	4.76	(3.78, 5.98)
Staffordshire and Stoke on Trent	11,054	37	3.35	(2.43, 4.62)
Suffolk and North East Essex	9,076	41	4.50	(3.33, 6.14)
Surrey Heartlands Health and Care Partnership	10,641	31	2.91	(2.05, 4.14)
Sussex and East Surrey Health and Care Partnership	14,753	65	4.41	(3.46, 5.62)
The Black Country and West Birmingham	16,915	70	4.14	(3.27, 5.23)
West Yorkshire and Harrogate (Health and Care Partnership)	26,569	98	3.69	(3.03, 4.50)
<i>Missing</i>		100		
TOTAL	585,195	2,432	4.15	(3.99, 4.32)

3.4 Regional rates of brain injuries by Neonatal Operational Delivery Network

Numerator:	Annual number of infants with <i>brain injuries occurring during or soon after birth</i> in England, without exclusions, attributed by Neonatal ODN of birth. Obtained from the NNRD and mapped to Neonatal ODN using data in Appendix 2.
Denominator:	Annual number of live births in England by Neonatal ODN calculated using total birth and crude stillbirth rate obtained from MBRRACE-UK ^{20 21} .

Table 6 presents the rates of *brain injuries occurring during or soon after birth* per 1,000 live births in 2019 across Neonatal ODN, where place of birth was in England.

Table 7 presents the rates of *brain injuries occurring during or soon after birth* per 1,000 live births in 2020 across Neonatal ODN, where place of birth was in England.

²⁰ Draper ES, Gallimore ID, Smith LK, Fenton AC, Kurinczuk JJ, Smith PW, Boby T, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2019. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2021.

²¹ Draper ES, Gallimore ID, Smith LK, Matthews RJ, Fenton AC, Kurinczuk JJ, Smith PW, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2020. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2022.

Table 6: Infants in England (all gestational ages) in 2019 with a diagnosis of brain injury, without exclusions, attributed by Neonatal ODN of place of birth

Neonatal ODN	2019					
	Total births	Crude stillbirth rate per 1,000 births	Estimated live births	Infants with brain injuries	Rate of brain injuries per 1,000 live births	95% CI
East of England	64,615	2.86	64,430	271	4.21	(3.73, 4.74)
London	122,201	3.78	121,739	514	4.22	(3.80, 4.60)
<i>North Central & East London</i>	51,118	4.15	50,906	198	3.89	(3.38, 4.47)
<i>North West London</i>	29,943	3.54	29,837	119	3.98	(3.33, 4.77)
<i>South London</i>	41,140	3.50	40,996	197	4.81	(4.18, 5.53)
North West	78,608	3.43	78,336	367	4.68	(4.23, 5.19)
Northern	29,556	3.48	29,453	89	3.02	(2.45, 3.72)
South East Coast	45,255	2.74	45,131	187	4.14	(3.59, 4.78)
South West	45,071	3.11	44,931	235	5.23	(4.60, 5.94)
Southern West Midlands	29,169	4.46	29,039	138	4.70	(4.02, 5.62)
Staffordshire, Shropshire, & Black County	23,516	3.40	23,436	96	4.10	(3.35, 5.00)
Thames Valley & Wessex	55,048	3.23	54,870	204	3.72	(3.24, 4.26)
Trent Perinatal & Central Neonatal	54,465	2.77	54,314	226	4.16	(3.65, 4.74)
Yorkshire & Humber	61,943	3.58	61,721	248	4.02	(3.55, 4.55)
TOTAL	610,153	3.35	608,105	2581	4.24	(4.08, 4.41)

Abbreviations: ODN: operational delivery network; CI: confidence interval

[†]15 infants with brain injuries were excluded from the ODN analysis as they were not born in English NHS units.

Table 7: Infants in England (all gestational ages) in 2020 with a diagnosis of brain injury, without exclusions, attributed by Neonatal ODN of place of birth

Neonatal ODN	2020					
	Total births	Crude stillbirth rate per 1,000 births	Estimated live births	Infants with brain injuries	Rate of brain injuries per 1,000 live births	95% CI
East of England	61,886	2.97	61,702	249	4.04	(3.56, 4.57)
London	115,449	3.71	115,020	490	4.26	(3.90, 4.65)
<i>North Central & East London</i>	48,403	3.86	48,216	193	4.00	(3.48, 4.61)
<i>North West London</i>	28,174	3.76	28,068	111	3.95	(3.28, 4.76)
<i>South London</i>	38,872	3.50	38,736	186	4.80	(4.16, 5.54)
North West	74,834	3.53	74,567	333	4.47	(4.01, 4.97)
Northern	28,666	3.10	28,574	85	2.97	(2.41, 3.68)
South East Coast	43,548	2.55	43,437	165	3.79	(3.26, 4.42)
South West	42,932	2.77	42,813	216	5.05	(4.42, 5.76)
Southern West Midlands	27,872	3.83	27,765	126	4.54	(3.81, 5.40)
Staffordshire, Shropshire, & Black Country	23,163	3.63	23,079	93	4.03	(3.29, 4.94)
Thames Valley & Wessex	53,624	2.98	53,464	221	4.13	(3.62, 4.72)
Trent Perinatal & Central Neonatal	52,468	3.55	52,282	216	4.13	(3.62, 4.72)
Yorkshire & Humber	59,473	3.36	59,270	231	3.90	(3.43, 4.43)
TOTAL	583,915	3.31	581,973	2,425	4.17	(4.00, 4.34)

Abbreviations: ODN: operational delivery network; CI: confidence interval

[†]7 infants with brain injuries were excluded from the ODN analysis as they were not born in English NHS units.

Appendix 1

Brain injury definition: National Neonatal Research Database (NNRD) data fields

Scope

- All babies admitted to a NHS neonatal unit in England
- Injury detected during neonatal unit stay to discharge

Data source

- Data extracted from the National Neonatal Research Database (NNRD) at the Neonatal Data Analysis Unit at Imperial College London.
- The NNRD contains a predefined set of variables (the Neonatal Data Set, an authorised NHS Information Standard) extracted at regular intervals from the Electronic Patient Record of every admission to a NHS neonatal unit in England, Wales, and Scotland, cleaned and merged across multiple patient episodes, to create a single data file for each patient.

Condition	Data items
HIE	<p>Any of the following recorded in any <i>Diagnosis</i> field:</p> <ol style="list-style-type: none"> 1. Severe Hypoxic Ischaemic Encephalopathy (HIE) 2. Severe Neonatal Encephalopathy 3. Grade 3 Hypoxic Ischaemic Encephalopathy (HIE) 4. Moderate Hypoxic Ischaemic Encephalopathy (HIE) 5. Moderate Neonatal Encephalopathy 6. Grade 2 Hypoxic Ischaemic Encephalopathy (HIE) <p style="text-align: center;">OR</p> <p>The following recorded in <i>daily care neurology</i> field:</p> <ol style="list-style-type: none"> 1. Actively induced therapeutic hypothermia - for 2 or more consecutive days
Intracranial haemorrhage	<p>Any of the following recorded in any <i>Diagnosis</i> field:</p> <ol style="list-style-type: none"> 1. Subdural haemorrhage due to birth injury 2. Cerebral haemorrhage due to birth injury 3. Traumatic intraventricular haemorrhage 4. Subarachnoid haemorrhage due to birth injury 5. Subarachnoid haemorrhage 6. Tentorial tear due to birth injury 7. Intracranial laceration and haemorrhage due to birth injury 8. Large intraventricular haemorrhage (IVH Grade 3) 9. Intraventricular haemorrhage/parenchymal 10. Parenchymal haemorrhage 11. haemorrhage (IVH Grade 4) 12. Intracranial Haemorrhage (unknown or unspecified cause) 13. Intracerebral haemorrhage 14. Intracerebral haemorrhage (term infant) 15. Intraventricular haemorrhage (perinatal) 16. Post-haemorrhagic hydrocephalus <p style="text-align: center;">OR</p> <p>Any of the following recorded in any <i>cranial ultrasound findings</i> field:</p> <ol style="list-style-type: none"> 1. Large intraventricular haemorrhage (IVH Grade 3) 2. Intraventricular haemorrhage/parenchymal haemorrhage (IVH Grade 4) 3. Parenchymal haemorrhage <p style="text-align: center;">OR</p> <p>Any of the following recorded in any <i>procedure field</i>:</p> <ol style="list-style-type: none"> 1. Ventriculoperitoneal or other ventricular shunt 2. External ventricular drain 3. Ventricular drain with reservoir 4. Insertion of ventricular peritoneal shunt. 5. Insertion of Rickham reservoir 6. Insertion of ventriculo-atrial CSF shunt 7. Insertion of ventriculo-peritoneal CSF shunt 8. Creation of ventriculoperitoneal shunt

Preterm white matter injury	<p>Any of the following recorded in any <i>Diagnosis</i> field:</p> <ol style="list-style-type: none"> 1. Cystic periventricular leukomalacia <p style="text-align: center;">OR</p> <p>Any of the following recorded in any <i>cranial ultrasound findings</i> field:</p> <ol style="list-style-type: none"> 1. Cystic periventricular leucomalacia
Perinatal stroke	<p>Any of the following recorded in any <i>Diagnosis at discharge</i> field:</p> <ol style="list-style-type: none"> 1. Neonatal stroke 2. Infarction: Middle cerebral artery (stroke) 3. Cerebrovascular accident (stroke) 4. Cerebral venous thrombosis 5. Neonatal cerebral ischaemia
Central nervous system infection	<p>Any of the following diagnosis codes recorded in the <i>Diagnosis</i> field:</p> <ol style="list-style-type: none"> 1. Bacterial meningitis 2. Viral meningitis 3. Meningitis – streptococcal 4. Meningitis – bacterial (specific organism) 5. Meningitis – bacterial (unknown or unspecified organism) 6. Meningitis – Candida 7. Candida encephalitis 8. Congenital herpes infection <p>Any pathogen recorded in the <i>suspected infection data</i> field <i>Pathogen in CSF</i></p>
Kernicterus	<p>Any of the following diagnoses recorded in any <i>Diagnosis</i> field:</p> <ol style="list-style-type: none"> 1. Bilirubin encephalopathy (immune) 2. Kernicterus (unspecified or unknown cause) 3. Kernicterus
Seizures	<p>Any of the following recorded in any <i>daily care neurology</i> field:</p> <ol style="list-style-type: none"> 1. Seizure occurred

Ethnicity definition: National Neonatal Research Database (NNRD) data fields

Ethnicity	Data items
White British	Ethnic category (mother): 1. White – British (A)
White Other	1. White – Irish (B) 2. White – Any other White background (C)
Black African	1. Black or Black British – African (N)
Black Caribbean	1. Black or Black British – Caribbean (M)
Bangladeshi	1. Asian or Asian British – Bangladeshi (K)
Indian	1. Asian or Asian British – Indian (H)
Pakistani	1. Asian or Asian British – Pakistani (J)
Other	1. Mixed – White and Black Caribbean (D) 2. Mixed – White and Black African (E) 3. Mixed – White and Asian (F) 4. Mixed – Any other mixed background (G) 5. Asian or Asian British – Any other Asian background (L) 6. Black or Black British – Any other Black background (P) 7. Other Ethnic Groups – Chinese (R) 8. Other Ethnic Groups – Any other ethnic group (S)
Not stated	1. Not stated (Z)

Appendix 2: Mapping hospital of birth to Neonatal ODN, 2017. Mapping from MBRRACE-UK²².

Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
AIREDALE GENERAL HOSPITAL	Airedale NHS Foundation Trust	Yorkshire & Humber
ALEXANDRA HOSPITAL	Worcestershire Acute Hospitals NHS Trust	Southern West Midlands
ANTRIM HOSPITAL	Northern Health & Social Care Trust	Northern Ireland
ARROWE PARK HOSPITAL	Wirral University Teaching Hospital NHS Foundation Trust	North West (Cheshire and Merseyside)
BARNET HOSPITAL	Royal Free London NHS Foundation Trust	North Central & East London
BARNESLEY DISTRICT GENERAL HOSPITAL	Barnsley Hospital NHS Foundation Trust	Yorkshire & Humber
BARTS HEALTH NHS TRUST	Barts Health NHS Trust	North Central & East London
BASILDON HOSPITAL	Basildon and Thurrock University Hospitals NHS Foundation Trust	East of England
BASINGSTOKE & NORTH HAMPSHIRE HOSPITAL	Hampshire Hospitals NHS Foundation Trust	Thames Valley and Wessex
BASSETLAW DISTRICT GENERAL HOSPITAL	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	Yorkshire & Humber
BEDFORD HOSPITAL	Bedford Hospital NHS Trust	East of England
BIRMINGHAM HEARTLANDS HOSPITAL	Heart of England NHS Foundation Trust	Southern West Midlands
BIRMINGHAM WOMEN'S HOSPITAL	Birmingham Women's and Children's NHS Foundation Trust	Southern West Midlands
BRADFORD ROYAL INFIRMARY	Bradford Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
BRIDGNORTH HOSPITAL	The Shrewsbury and Telford Hospital NHS Trust	Staffordshire, Shropshire and Black Country
BRISTOL CHILDREN'S HOSPITAL	University Hospitals Bristol NHS Foundation Trust	South West
BRISTOL ROYAL HOSPITAL FOR CHILDREN	University Hospitals Bristol NHS Foundation Trust	South West
BROOMFIELD HOSPITAL	Mid Essex Hospital Services NHS Trust	East of England
Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust

²² Draper ES, Gallimore ID, Smith LK, Matthews RJ, Fenton AC, Kurinczuk JJ, Smith PW, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2020. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2022.



CALDERDALE ROYAL HOSPITAL	Calderdale & Huddersfield NHS Foundation Trust	Yorkshire & Humber
CANNOCK CHASE HOSPITAL	The Royal Wolverhampton NHS Trust	Staffordshire, Shropshire and Black Country
CHASE FARM HOSPITAL	Royal Free London NHS Foundation Trust	North Central & East London
CHELSEA & WESTMINSTER HOSPITAL	Chelsea and Westminster Hospital NHS Foundation Trust	North West London
CHELTENHAM GENERAL HOSPITAL	Gloucestershire Hospitals NHS Foundation Trust	South West
CHESTERFIELD & NORTH DERBYSHIRE ROYAL HOSPITAL	Chesterfield Royal Hospital NHS Foundation Trust	Yorkshire & Humber
CITY HOSPITAL, BIRMINGHAM	Sandwell and West Birmingham Hospitals NHS Trust	Southern West Midlands
COLCHESTER GENERAL HOSPITAL	Colchester Hospital University NHS Foundation Trust	East of England
CONQUEST HOSPITAL	East Sussex Healthcare NHS Trust	South East Coast
COTSWOLD BIRTH CENTRE	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
COUNTESS OF CHESTER HOSPITAL	Countess of Chester Hospital NHS Foundation Trust	North West (Cheshire and Merseyside)
COUNTY HOSPITAL, STAFFORD	University Hospitals of North Midlands NHS Trust	Staffordshire, Shropshire and Black Country
CROWBOROUGH BIRTHING CENTRE	Maidstone and Tunbridge Wells NHS Trust	South East Coast
CROYDON UNIVERSITY HOSPITAL	Croydon Health Services NHS Trust	South London
CUMBERLAND INFIRMARY	North Cumbria University Hospitals NHS Trust	Northern
DARENT VALLEY HOSPITAL	Dartford and Gravesham NHS Trust	South East Coast
DARLINGTON MEMORIAL HOSPITAL	County Durham and Darlington NHS Foundation Trust	Northern
DERRIFORD HOSPITAL	Plymouth Hospitals NHS Trust	South West
DEWSBURY & DISTRICT HOSPITAL	The Mid Yorkshire Hospitals NHS Trust	Yorkshire & Humber
DIANA PRINCESS OF WALES HOSPITAL	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	Yorkshire & Humber
DONCASTER AND BASSETLAW HOSPITALS NHS FOUNDATION TRUST	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	Yorkshire & Humber
DONCASTER ROYAL INFIRMARY	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	Yorkshire & Humber
DORSET COUNTY HOSPITAL	Dorset County Hospital NHS Foundation Trust	Thames Valley and Wessex
EALING HOSPITAL	London North West University Healthcare NHS Trust	North West London
EAST SURREY HOSPITAL	Surrey and Sussex Healthcare NHS Trust	South East Coast
Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust



EASTBOURNE DISTRICT GENERAL HOSPITAL	East Sussex Healthcare NHS Trust	South East Coast
EPSOM GENERAL HOSPITAL	Epsom and St Helier University Hospitals NHS Trust	South London
FAIRFIELD GENERAL HOSPITAL	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
FREEMAN HOSPITAL	The Newcastle upon Tyne Hospitals NHS Foundation Trust	Northern
FRIMLEY PARK HOSPITAL	Frimley Health NHS Foundation Trust	Thames Valley and Wessex
FURNESS GENERAL HOSPITAL	University Hospitals of Morecambe Bay NHS Foundation Trust	North West (Lancashire and South Cumbria)
GEORGE ELIOT HOSPITAL	George Eliot Hospital NHS Trust	Central
GLENFIELD HOSPITAL	University Hospitals of Leicester NHS Trust	Central
GLOUCESTERSHIRE ROYAL HOSPITAL	Gloucestershire Hospitals NHS Foundation Trust	South West
GOOD HOPE HOSPITAL	Heart of England NHS Foundation Trust	Southern West Midlands
GREAT WESTERN HOSPITAL	Great Western Hospitals NHS Foundation Trust	South West
GUY'S & ST THOMAS' HOSPITAL	Guy's and St Thomas' NHS Foundation Trust	South London
HAMMERSMITH HOSPITAL	Imperial College Healthcare NHS Trust	North West London
HARROGATE DISTRICT HOSPITAL	Harrogate and District NHS Foundation Trust	Yorkshire & Humber
HELSTON HOSPITAL	Royal Cornwall Hospitals NHS Trust	South West
HEREFORD COUNTY HOSPITAL	Wye Valley NHS Trust	Southern West Midlands
HERTS & ESSEX HOSPITAL	The Princess Alexandra Hospital NHS Trust	East of England
HEXHAM GENERAL HOSPITAL	Northumbria Healthcare NHS Foundation Trust	Northern
HILLINGDON HOSPITAL	The Hillingdon Hospitals NHS Foundation Trust	North West London
HINCHINGBROOKE HOSPITAL	North West Anglia NHS Foundation Trust	East of England
HOMERTON HOSPITAL	Homerton University Hospital NHS Foundation Trust	North Central & East London
HULL ROYAL INFIRMARY	Hull and East Yorkshire Hospitals NHS Trust	Yorkshire & Humber
IPSWICH HOSPITAL	The Ipswich Hospital NHS Trust	East of England
JAMES COOK UNIVERSITY HOSPITAL	South Tees Hospitals NHS Foundation Trust	Northern
JAMES PAGET HOSPITAL	James Paget University Hospitals NHS Foundation Trust	East of England



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
KETTERING GENERAL HOSPITAL	Kettering General Hospital NHS Foundation Trust	Central
KING GEORGE HOSPITAL	Barking, Havering and Redbridge University Hospitals NHS Trust	North Central & East London
KING'S COLLEGE HOSPITAL	King's College Hospital NHS Foundation Trust	South London
KING'S MILL HOSPITAL	Sherwood Forest Hospitals NHS Foundation Trust	Trent
KINGSTON HOSPITAL	Kingston Hospital NHS Foundation Trust	South London
LANCASHIRE WOMEN & NEWBORN CENTRE	East Lancashire Hospitals NHS Trust	North West (Lancashire and South Cumbria)
LEEDS NEONATAL SERVICE	The Leeds Teaching Hospitals NHS Trust	Yorkshire & Humber
LEICESTER NEONATAL SERVICE	University Hospitals of Leicester NHS Trust	Central
LEIGHTON HOSPITAL	Mid Cheshire Hospitals NHS Foundation Trust	North West (Cheshire and Merseyside)
LINCOLN COUNTY HOSPITAL	United Lincolnshire Hospitals NHS Trust	Trent
LISTER HOSPITAL	East and North Hertfordshire NHS Trust	East of England
LIVERPOOL WOMEN'S HOSPITAL	Liverpool Women's NHS Foundation Trust	North West (Cheshire and Merseyside)
LUTON & DUNSTABLE HOSPITAL	Luton and Dunstable University Hospital NHS Foundation Trust	East of England
MACCLESFIELD DISTRICT GENERAL HOSPITAL	East Cheshire NHS Trust	North West (Cheshire and Merseyside)
MAIDSTONE BIRTHING CENTRE	Maidstone and Tunbridge Wells NHS Trust	South East Coast
MAIDSTONE GENERAL HOSPITAL	Maidstone and Tunbridge Wells NHS Trust	South East Coast
MANCHESTER ROYAL INFIRMARY	Central Manchester University Hospitals NHS Foundation Trust	North West (Greater Manchester)
MANOR HOSPITAL	Walsall Healthcare NHS Trust	Staffordshire, Shropshire and Black Country
MEDWAY MARITIME HOSPITAL	Medway NHS Foundation Trust	South East Coast
MILTON KEYNES FOUNDATION TRUST HOSPITAL	Milton Keynes University Hospital NHS Foundation Trust	Thames Valley and Wessex
NEW CROSS HOSPITAL	The Royal Wolverhampton NHS Trust	Staffordshire, Shropshire and Black Country
NEW FOREST BIRTH CENTRE	University Hospital Southampton NHS Foundation Trust	Thames Valley and Wessex
NEWHAM GENERAL HOSPITAL	Barts Health NHS Trust	North Central & East London
NOBLES HOSPITAL	Isle of Man Department of Health and Social Care	Isle of Man
NORFOLK & NORWICH UNIVERSITY HOSPITAL	Norfolk and Norwich University Hospitals NHS Foundation Trust	East of England
NORTH BRISTOL NHS TRUST (SOUTHMEAD)	North Bristol NHS Trust	South West
NORTH DEVON DISTRICT HOSPITAL	Northern Devon Healthcare NHS Trust	South West
NORTH MANCHESTER GENERAL HOSPITAL	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
NORTH MIDDLESEX UNIVERSITY HOSPITAL	North Middlesex University Hospital NHS Trust	North Central & East London
NORTHAMPTON GENERAL HOSPITAL	Northampton General Hospital NHS Trust	Central



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
NORTHERN GENERAL HOSPITAL	Sheffield Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
NORTHUMBRIA SPECIALIST EMERGENCY CARE HOSPITAL	Northumbria Healthcare NHS Foundation Trust	Northern
NORTHWICK PARK HOSPITAL	London North West University Healthcare NHS Trust	North West London
NOTTINGHAM CITY HOSPITAL	Nottingham University Hospitals NHS Trust	Trent
NOTTINGHAM UNIVERSITY HOSPITAL (QMC)	Nottingham University Hospitals NHS Trust	Trent
ORMSKIRK DISTRICT GENERAL HOSPITAL	Southport & Ormskirk Hospital NHS Trust	North West (Cheshire and Merseyside)
OXFORD SPIRES MIDWIFERY-LED UNIT	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
OXFORD UNIVERSITY HOSPITALS, HORTON HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
OXFORD UNIVERSITY HOSPITALS, JOHN RADCLIFFE HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
PETERBOROUGH CITY HOSPITAL	North West Anglia NHS Foundation Trust	East of England
PILGRIM HOSPITAL	United Lincolnshire Hospitals NHS Trust	Trent
PINDERFIELDS GENERAL HOSPITAL	The Mid Yorkshire Hospitals NHS Trust	Yorkshire & Humber
PONTEFRACT HOSPITAL	The Mid Yorkshire Hospitals NHS Trust	Yorkshire & Humber
POOLE HOSPITAL NHS FOUNDATION TRUST	Poole Hospital NHS Foundation Trust	Thames Valley and Wessex
PRINCESS ALEXANDRA HOSPITAL	The Princess Alexandra Hospital NHS Trust	East of England
PRINCESS ANNE HOSPITAL	University Hospital Southampton NHS Foundation Trust	Thames Valley and Wessex
PRINCESS ROYAL HOSPITAL	Brighton and Sussex University Hospitals NHS Trust	South East Coast
PRINCESS ROYAL UNIVERSITY HOSPITAL	King's College Hospital NHS Foundation Trust	South London
QUEEN ALEXANDRA HOSPITAL	Portsmouth Hospitals NHS Trust	Thames Valley and Wessex
QUEEN CHARLOTTE'S HOSPITAL	Imperial College Healthcare NHS Trust	North West London
QUEEN ELIZABETH HOSPITAL, GATESHEAD	Gateshead Health NHS Foundation Trust	Northern
QUEEN ELIZABETH HOSPITAL, KING'S LYNN	The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust	East of England
QUEEN ELIZABETH HOSPITAL, WOOLWICH	Lewisham and Greenwich NHS Trust	South London
QUEEN ELIZABETH II HOSPITAL	East and North Hertfordshire NHS Trust	East of England
QUEEN ELIZABETH THE QUEEN MOTHER HOSPITAL	East Kent Hospitals University NHS Foundation Trust	South East Coast
QUEEN'S HOSPITAL, BURTON ON TRENT	Burton Hospitals NHS Foundation Trust	Central
QUEEN'S HOSPITAL, ROMFORD	Barking, Havering and Redbridge University Hospitals NHS Trust	North Central & East London
ROCHDALE INFIRMARY	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
ROSIE MATERNITY HOSPITAL, ADDENBROOKES	Cambridge University Hospitals NHS Foundation Trust	East of England
ROTHERHAM DISTRICT GENERAL HOSPITAL	The Rotherham NHS Foundation Trust	Yorkshire & Humber



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
ROYAL ALBERT EDWARD INFIRMARY	Wrightington, Wigan and Leigh NHS Foundation Trust	North West (Greater Manchester)
ROYAL BERKSHIRE HOSPITAL	Royal Berkshire NHS Foundation Trust	Thames Valley and Wessex
ROYAL BLACKBURN HOSPITAL	East Lancashire Hospitals NHS Trust	North West (Lancashire and South Cumbria)
ROYAL BOLTON HOSPITAL	Bolton NHS Foundation Trust	North West (Greater Manchester)
ROYAL BOURNEMOUTH HOSPITAL	The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	Thames Valley and Wessex
ROYAL CORNWALL HOSPITAL	Royal Cornwall Hospitals NHS Trust	South West
ROYAL DERBY HOSPITAL	Derby Teaching Hospitals NHS Foundation Trust	Trent
ROYAL DEVON & EXETER HOSPITAL	Royal Devon and Exeter NHS Foundation Trust	South West
ROYAL HALLAMSHIRE HOSPITAL	Sheffield Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
ROYAL HAMPSHIRE COUNTY HOSPITAL	Hampshire Hospitals NHS Foundation Trust	Thames Valley and Wessex
ROYAL JUBILEE MATERNITY BELFAST	Belfast Health & Social Care Trust	Northern Ireland
ROYAL LANCASTER INFIRMARY	University Hospitals of Morecambe Bay NHS Foundation Trust	North West (Lancashire and South Cumbria)
ROYAL OLDHAM HOSPITAL	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
ROYAL PRESTON HOSPITAL	Lancashire Teaching Hospitals NHS Foundation Trust	North West (Lancashire and South Cumbria)
ROYAL STOKE UNIVERSITY HOSPITAL	University Hospitals of North Midlands NHS Trust	Staffordshire, Shropshire and Black Country
ROYAL SURREY COUNTY HOSPITAL	Royal Surrey County Hospital NHS Foundation Trust	South East Coast
ROYAL SUSSEX COUNTY HOSPITAL	Brighton and Sussex University Hospitals NHS Trust	South East Coast
ROYAL UNITED HOSPITAL	Royal United Hospitals Bath NHS Foundation Trust	South West
ROYAL VICTORIA INFIRMARY	The Newcastle upon Tyne Hospitals NHS Foundation Trust	Northern
RUSSELLS HALL HOSPITAL	The Dudley Group NHS Foundation Trust	Staffordshire, Shropshire and Black Country
SALISBURY DISTRICT HOSPITAL	Salisbury NHS Foundation Trust	Thames Valley and Wessex
SAMUEL JOHNSON COMMUNITY HOSPITAL	Burton Hospitals NHS Foundation Trust	Central
SANDWELL GENERAL HOSPITAL	Sandwell and West Birmingham Hospitals NHS Trust	Southern West Midlands
SCARBOROUGH GENERAL HOSPITAL	York Teaching Hospital NHS Foundation Trust	Yorkshire & Humber
SCUNTHORPE GENERAL HOSPITAL	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	Yorkshire & Humber
SOUTH TYNESIDE DISTRICT HOSPITAL	South Tyneside NHS Foundation Trust	Northern
SOUTHAMPTON GENERAL HOSPITAL	University Hospital Southampton NHS Foundation Trust	Thames Valley and Wessex
SOUTHEND HOSPITAL	Southend University Hospital NHS Foundation Trust	East of England
SOUTHPORT AND FORMBY DISTRICT GENERAL HOSPITAL	Southport & Ormskirk Hospital NHS Trust	North West (Cheshire and Merseyside)



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
ST AUSTELL COMMUNITY HOSPITAL	Royal Cornwall Hospitals NHS Trust	South West
ST GEORGE'S HOSPITAL	St George's University Hospitals NHS Foundation Trust	South London
ST HELIER HOSPITAL	Epsom and St Helier University Hospitals NHS Trust	South London
ST MARY'S HOSPITAL, IOW	Isle of Wight NHS Trust	Thames Valley and Wessex
ST MARY'S HOSPITAL, LONDON	Imperial College Healthcare NHS Trust	North West London
ST MARY'S HOSPITAL, MANCHESTER	Central Manchester University Hospitals NHS Foundation Trust	North West (Greater Manchester)
ST MICHAEL'S HOSPITAL	University Hospitals Bristol NHS Foundation Trust	South West
ST PETER'S HOSPITAL	Ashford and St Peter's Hospital NHS Foundation Trust	South East Coast
ST RICHARD'S HOSPITAL	Western Sussex Hospitals NHS Foundation Trust	South East Coast
STEPPING HILL HOSPITAL	Stockport NHS Foundation Trust	North West (Greater Manchester)
STOKE MANDEVILLE HOSPITAL	Buckinghamshire Healthcare NHS Trust	Thames Valley and Wessex
SUNDERLAND ROYAL HOSPITAL	City Hospitals Sunderland NHS Foundation Trust	Northern
TAMESIDE GENERAL HOSPITAL	Tameside Hospital NHS Foundation Trust	North West (Greater Manchester)
TAUNTON & SOMERSET HOSPITAL	Taunton and Somerset NHS Foundation Trust	South West
THE GREAT NORTH CHILDREN'S HOSPITAL	The Newcastle upon Tyne Hospitals NHS Foundation Trust	Northern
THE JESSOP WING, SHEFFIELD	Sheffield Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
THE PRINCESS ROYAL, TELFORD	The Shrewsbury and Telford Hospital NHS Trust	Staffordshire, Shropshire and Black Country
THE ROYAL FREE HOSPITAL	Royal Free London NHS Foundation Trust	North Central & East London
THE ROYAL LONDON HOSPITAL	Barts Health NHS Trust	North Central & East London
TIVERTON AND DISTRICT HOSPITAL	Royal Devon and Exeter NHS Foundation Trust	South West
TORBAY HOSPITAL	Torbay and South Devon NHS Foundation Trust	South West
TUNBRIDGE WELLS HOSPITAL	Maidstone and Tunbridge Wells NHS Trust	South East Coast
UNIVERSITY COLLEGE HOSPITAL	University College London Hospitals NHS Foundation Trust	North Central & East London
UNIVERSITY HOSPITAL COVENTRY	University Hospitals Coventry & Warwickshire NHS Trust	Central
UNIVERSITY HOSPITAL LEWISHAM	Lewisham and Greenwich NHS Trust	South London
UNIVERSITY HOSPITAL OF HARTLEPOOL	North Tees and Hartlepool NHS Foundation Trust	Northern
UNIVERSITY HOSPITAL OF NORTH DURHAM	County Durham and Darlington NHS Foundation Trust	Northern
UNIVERSITY HOSPITAL OF NORTH TEES	North Tees and Hartlepool NHS Foundation Trust	Northern
UNIVERSITY HOSPITAL OF SOUTH MANCHESTER	University Hospital of South Manchester NHS foundation Trust	North West (Greater Manchester)
VICTORIA HOSPITAL, BLACKPOOL	Blackpool Teaching Hospitals NHS Foundation Trust	North West (Lancashire and South Cumbria)



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
WALLINGFORD BIRTH CENTRE	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WALLINGFORD COMMUNITY HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WANTAGE HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WANTAGE MATERNITY UNIT	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WARRINGTON HOSPITAL	Warrington and Halton Hospitals NHS Foundation Trust	North West (Cheshire and Merseyside)
WARWICK HOSPITAL	South Warwickshire NHS Foundation Trust	Central
WATFORD GENERAL HOSPITAL	West Hertfordshire Hospitals NHS Trust	East of England
WEST CUMBERLAND HOSPITAL	North Cumbria University Hospitals NHS Trust	Northern
WEST MIDDLESEX UNIVERSITY HOSPITAL	Chelsea and Westminster Hospital NHS Foundation Trust	North West London
WEST SUFFOLK HOSPITAL	West Suffolk NHS Foundation Trust	East of England
WESTON GENERAL HOSPITAL		South West
WEXHAM PARK HOSPITAL	Frimley Health NHS Foundation Trust	Thames Valley and Wessex
WHIPPS CROSS UNIVERSITY HOSPITAL	Barts Health NHS Trust	North Central & East London
WHISTON HOSPITAL	St Helens and Knowsley Teaching Hospitals NHS Trust	North West (Cheshire and Merseyside)
WHITTINGTON HOSPITAL	Whittington Health	North Central & East London
WILLIAM HARVEY HOSPITAL	East Kent Hospitals University NHS Foundation Trust	South East Coast
WORCESTERSHIRE ROYAL HOSPITAL	Worcestershire Acute Hospitals NHS Trust	Southern West Midlands
WORTHING HOSPITAL	Western Sussex Hospitals NHS Foundation Trust	South East Coast
WYCOMBE HOSPITAL	Buckinghamshire Healthcare NHS Trust	Thames Valley and Wessex
WYE VALLEY NHS TRUST	Wye Valley NHS Trust	Southern West Midlands
YEOVIL DISTRICT HOSPITAL	Yeovil District Hospital NHS Foundation Trust	South West
YORK DISTRICT HOSPITAL	York Teaching Hospital NHS Foundation Trust	Yorkshire & Humber



Mapping hospital of birth to Neonatal ODN, 2019 and 2020. Mapping from MBRRACE-UK²³.

Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
AIREDALE GENERAL HOSPITAL	Airedale NHS Foundation Trust	Yorkshire & Humber
ALEXANDRA HOSPITAL	Worcestershire Acute Hospitals NHS Trust	Southern West Midlands
ANTRIM HOSPITAL	Northern Health & Social Care Trust	Northern Ireland
ARROWE PARK HOSPITAL	Wirral University Teaching Hospital NHS Foundation Trust	North West (Cheshire and Merseyside)
BARNET HOSPITAL	Royal Free London NHS Foundation Trust	North Central & East London
BARNESLEY DISTRICT GENERAL HOSPITAL	Barnsley Hospital NHS Foundation Trust	Yorkshire & Humber
BARTS HEALTH NHS TRUST	Barts Health NHS Trust	North Central & East London
BASILDON HOSPITAL	Basildon and Thurrock University Hospitals NHS Foundation Trust	East of England
BASINGSTOKE & NORTH HAMPSHIRE HOSPITAL	Hampshire Hospitals NHS Foundation Trust	Thames Valley and Wessex
BASSETLAW DISTRICT GENERAL HOSPITAL	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	Yorkshire & Humber
BEDFORD HOSPITAL	Bedford Hospital NHS Trust	East of England
BIRMINGHAM HEARTLANDS HOSPITAL	University Hospitals Birmingham NHS Foundation Trust	Southern West Midlands
BIRMINGHAM WOMEN'S HOSPITAL	Birmingham Women's and Children's NHS Foundation Trust	Southern West Midlands
BRADFORD ROYAL INFIRMARY	Bradford Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
BRIDGNORTH HOSPITAL	The Shrewsbury and Telford Hospital NHS Trust	Staffordshire, Shropshire and Black Country
BRISTOL CHILDREN'S HOSPITAL	University Hospitals Bristol NHS Foundation Trust	South West
BROOMFIELD HOSPITAL	Mid Essex Hospital Services NHS Trust	East of England
CALDERDALE ROYAL HOSPITAL	Calderdale & Huddersfield NHS Foundation Trust	Yorkshire & Humber

²³ Draper ES, Gallimore ID, Kurinczuk JJ, Smith PW, Boby T, Smith LK, Manktelow BN, on behalf of the MBRRACE-UK Collaboration. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2016. Leicester: The Infant Mortality and Morbidity Studies, Department of Health Sciences, University of Leicester. 2018. <https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/MBRRACE-UK%20Perinatal%20Surveillance%20Full%20Report%20for%202016%20-%20June%202018.pdf> accessed 12th February 2019



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
CANNOCK CHASE HOSPITAL	The Royal Wolverhampton NHS Trust	Staffordshire, Shropshire and Black Country
CHASE FARM HOSPITAL	Royal Free London NHS Foundation Trust	North Central & East London
CHELSEA & WESTMINSTER HOSPITAL	Chelsea and Westminster Hospital NHS Foundation Trust	North West London
CHELTENHAM GENERAL HOSPITAL	Gloucestershire Hospitals NHS Foundation Trust	South West
CHESTERFIELD & NORTH DERBYSHIRE ROYAL HOSPITAL	Chesterfield Royal Hospital NHS Foundation Trust	Yorkshire & Humber
CITY HOSPITAL, BIRMINGHAM	Sandwell and West Birmingham Hospitals NHS Trust	Southern West Midlands
COLCHESTER GENERAL HOSPITAL	East Suffolk and North Essex NHS Foundation Trust	East of England
CONQUEST HOSPITAL	East Sussex Healthcare NHS Trust	South East Coast
COTSWOLD BIRTH CENTRE	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
COUNTESS OF CHESTER HOSPITAL	Countess of Chester Hospital NHS Foundation Trust	North West (Cheshire and Merseyside)
COUNTY HOSPITAL, STAFFORD	University Hospitals of North Midlands NHS Trust	Staffordshire, Shropshire and Black Country
CROWBOROUGH BIRTHING CENTRE	Maidstone and Tunbridge Wells NHS Trust	South East Coast
CROYDON UNIVERSITY HOSPITAL	Croydon Health Services NHS Trust	South London
CUMBERLAND INFIRMARY	North Cumbria Integrated Care NHS Foundation Trust	Northern
DARENT VALLEY HOSPITAL	Dartford and Gravesham NHS Trust	South East Coast
DARLINGTON MEMORIAL HOSPITAL	County Durham and Darlington NHS Foundation Trust	Northern
DERRIFORD HOSPITAL	University Hospitals Plymouth NHS Trust	South West
DEWSBURY & DISTRICT HOSPITAL	The Mid Yorkshire Hospitals NHS Trust	Yorkshire & Humber
DIANA PRINCESS OF WALES HOSPITAL	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	Yorkshire & Humber
DONCASTER AND BASSETLAW HOSPITALS NHS FOUNDATION TRUST	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	Yorkshire & Humber
DONCASTER ROYAL INFIRMARY	Doncaster and Bassetlaw Hospitals NHS Foundation Trust	Yorkshire & Humber
DORSET COUNTY HOSPITAL	Dorset County Hospital NHS Foundation Trust	Thames Valley and Wessex
EALING HOSPITAL	London North West University Healthcare NHS Trust	North West London
EAST LANCASHIRE HOSPITALS NHS TRUST	East Lancashire Hospitals NHS Trust	North West (Lancashire and South Cumbria)
EAST SURREY HOSPITAL	Surrey and Sussex Healthcare NHS Trust	South East Coast



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
EASTBOURNE DISTRICT GENERAL HOSPITAL	East Sussex Healthcare NHS Trust	South East Coast
EPSOM GENERAL HOSPITAL	Epsom and St Helier University Hospitals NHS Trust	South London
FAIRFIELD GENERAL HOSPITAL	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
FREEMAN HOSPITAL	The Newcastle upon Tyne Hospitals NHS Foundation Trust	Northern
FRIMLEY PARK HOSPITAL	Frimley Health NHS Foundation Trust	Thames Valley and Wessex
FURNESS GENERAL HOSPITAL	University Hospitals of Morecambe Bay NHS Foundation Trust	North West (Lancashire and South Cumbria)
GEORGE ELIOT HOSPITAL	George Eliot Hospital NHS Trust	Central
GLENFIELD HOSPITAL	University Hospitals of Leicester NHS Trust	Central
GLOUCESTERSHIRE ROYAL HOSPITAL	Gloucestershire Hospitals NHS Foundation Trust	South West
GOOD HOPE HOSPITAL	University Hospitals Birmingham NHS Foundation Trust	Southern West Midlands
GREAT WESTERN HOSPITAL	Great Western Hospitals NHS Foundation Trust	South West
GUY'S & ST THOMAS' HOSPITAL	Guy's and St Thomas' NHS Foundation Trust	South London
HAMMERSMITH HOSPITAL	Imperial College Healthcare NHS Trust	North West London
HARROGATE DISTRICT HOSPITAL	Harrogate and District NHS Foundation Trust	Yorkshire & Humber
HELSTON HOSPITAL	Royal Cornwall Hospitals NHS Trust	South West
HEREFORD COUNTY HOSPITAL	Wye Valley NHS Trust	Southern West Midlands
HERTS & ESSEX HOSPITAL	The Princess Alexandra Hospital NHS Trust	East of England
HEXHAM GENERAL HOSPITAL	Northumbria Healthcare NHS Foundation Trust	Northern
HILLINGDON HOSPITAL	The Hillingdon Hospitals NHS Foundation Trust	North West London
HINCHINGBROOKE HOSPITAL	North West Anglia NHS Foundation Trust	East of England
HOMERTON HOSPITAL	Homerton University Hospital NHS Foundation Trust	North Central & East London
HULL ROYAL INFIRMARY	Hull University Teaching Hospitals NHS Trust	Yorkshire & Humber
IPSWICH HOSPITAL	East Suffolk and North Essex NHS Foundation Trust	East of England
JAMES COOK UNIVERSITY HOSPITAL	South Tees Hospitals NHS Foundation Trust	Northern
JAMES PAGET HOSPITAL	James Paget University Hospitals NHS Foundation Trust	East of England



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
KETTERING GENERAL HOSPITAL	Kettering General Hospital NHS Foundation Trust	Central
KING GEORGE HOSPITAL	Barking, Havering and Redbridge University Hospitals NHS Trust	North Central & East London
KING'S COLLEGE HOSPITAL	King's College Hospital NHS Foundation Trust	South London
KING'S MILL HOSPITAL	Sherwood Forest Hospitals NHS Foundation Trust	Trent
KINGSTON HOSPITAL	Kingston Hospital NHS Foundation Trust	South London
LANCASHIRE WOMEN & NEWBORN CENTRE	East Lancashire Hospitals NHS Trust	North West (Lancashire and South Cumbria)
LEEDS NEONATAL SERVICE	The Leeds Teaching Hospitals NHS Trust	Yorkshire & Humber
LEICESTER NEONATAL SERVICE	University Hospitals of Leicester NHS Trust	Central
LEIGHTON HOSPITAL	Mid Cheshire Hospitals NHS Foundation Trust	North West (Cheshire and Merseyside)
LINCOLN COUNTY HOSPITAL	United Lincolnshire Hospitals NHS Trust	Trent
LISTER HOSPITAL	East and North Hertfordshire NHS Trust	East of England
LIVERPOOL WOMEN'S HOSPITAL	Liverpool Women's NHS Foundation Trust	North West (Cheshire and Merseyside)
LUTON & DUNSTABLE HOSPITAL	Luton and Dunstable University Hospital NHS Foundation Trust	East of England
MACCLESFIELD DISTRICT GENERAL HOSPITAL	East Cheshire NHS Trust	North West (Cheshire and Merseyside)
MAIDSTONE BIRTHING CENTRE	Maidstone and Tunbridge Wells NHS Trust	South East Coast
MAIDSTONE GENERAL HOSPITAL	Maidstone and Tunbridge Wells NHS Trust	South East Coast
MANCHESTER ROYAL INFIRMARY	Manchester University NHS Foundation Trust	North West (Greater Manchester)
MANOR HOSPITAL	Walsall Healthcare NHS Trust	Staffordshire, Shropshire and Black Country
MEDWAY MARITIME HOSPITAL	Medway NHS Foundation Trust	South East Coast
MILTON KEYNES FOUNDATION TRUST HOSPITAL	Milton Keynes University Hospital NHS Foundation Trust	Thames Valley and Wessex
NEW CROSS HOSPITAL	The Royal Wolverhampton NHS Trust	Staffordshire, Shropshire and Black Country
NEW FOREST BIRTH CENTRE	University Hospital Southampton NHS Foundation Trust	Thames Valley and Wessex
NEWHAM GENERAL HOSPITAL	Barts Health NHS Trust	North Central & East London
NOBLES HOSPITAL	Isle of Man Department of Health and Social Care	Isle of Man
NORFOLK & NORWICH UNIVERSITY HOSPITAL	Norfolk and Norwich University Hospitals NHS Foundation Trust	East of England
NORTH DEVON DISTRICT HOSPITAL	Northern Devon Healthcare NHS Trust	South West
NORTH MANCHESTER GENERAL HOSPITAL	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
NORTH MIDDLESEX UNIVERSITY HOSPITAL	North Middlesex University Hospital NHS Trust	North Central & East London
NORTHAMPTON GENERAL HOSPITAL	Northampton General Hospital NHS Trust	Central
NORTHERN GENERAL HOSPITAL	Sheffield Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
NORTHUMBRIA SPECIALIST EMERGENCY CARE HOSPITAL	Northumbria Healthcare NHS Foundation Trust	Northern
NORTHWICK PARK HOSPITAL	London North West University Healthcare NHS Trust	North West London
NOTTINGHAM CITY HOSPITAL	Nottingham University Hospitals NHS Trust	Trent
NOTTINGHAM UNIVERSITY HOSPITAL (QMC)	Nottingham University Hospitals NHS Trust	Trent
ORMSKIRK DISTRICT GENERAL HOSPITAL	Southport & Ormskirk Hospital NHS Trust	North West (Cheshire and Merseyside)
OXFORD SPIRES MIDWIFERY-LED UNIT	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
OXFORD UNIVERSITY HOSPITALS, HORTON HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
OXFORD UNIVERSITY HOSPITALS, JOHN RADCLIFFE HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
PETERBOROUGH CITY HOSPITAL	North West Anglia NHS Foundation Trust	East of England
PILGRIM HOSPITAL	United Lincolnshire Hospitals NHS Trust	Trent
PINDERFIELDS GENERAL HOSPITAL	The Mid Yorkshire Hospitals NHS Trust	Yorkshire & Humber
PONTEFRACT HOSPITAL	The Mid Yorkshire Hospitals NHS Trust	Yorkshire & Humber
POOLE HOSPITAL NHS FOUNDATION TRUST	Poole Hospital NHS Foundation Trust	Thames Valley and Wessex
PRINCESS ALEXANDRA HOSPITAL	The Princess Alexandra Hospital NHS Trust	East of England
PRINCESS ANNE HOSPITAL	University Hospital Southampton NHS Foundation Trust	Thames Valley and Wessex
PRINCESS ROYAL HOSPITAL	Brighton and Sussex University Hospitals NHS Trust	South East Coast
PRINCESS ROYAL UNIVERSITY HOSPITAL	King's College Hospital NHS Foundation Trust	South London
QUEEN ALEXANDRA HOSPITAL	Portsmouth Hospitals NHS Trust	Thames Valley and Wessex
QUEEN CHARLOTTE'S HOSPITAL	Imperial College Healthcare NHS Trust	North West London
QUEEN ELIZABETH HOSPITAL, GATESHEAD	Gateshead Health NHS Foundation Trust	Northern
QUEEN ELIZABETH HOSPITAL, KING'S LYNN	The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust	East of England
QUEEN ELIZABETH HOSPITAL, WOOLWICH	Lewisham and Greenwich NHS Trust	South London
QUEEN ELIZABETH II HOSPITAL	East and North Hertfordshire NHS Trust	East of England
QUEEN ELIZABETH THE QUEEN MOTHER HOSPITAL	East Kent Hospitals University NHS Foundation Trust	South East Coast
QUEEN'S HOSPITAL, BURTON ON TRENT	University Hospitals of Derby and Burton NHS Foundation Trust	Central
QUEEN'S HOSPITAL, ROMFORD	Barking, Havering and Redbridge University Hospitals NHS Trust	North Central & East London
ROCHDALE INFIRMARY	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
ROSIE MATERNITY HOSPITAL, ADDENBROOKES	Cambridge University Hospitals NHS Foundation Trust	East of England
ROTHERHAM DISTRICT GENERAL HOSPITAL	The Rotherham NHS Foundation Trust	Yorkshire & Humber
ROYAL ALBERT EDWARD INFIRMARY	Wrightington, Wigan and Leigh NHS Foundation Trust	North West (Greater Manchester)



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
ROYAL BERKSHIRE HOSPITAL	Royal Berkshire NHS Foundation Trust	Thames Valley and Wessex
ROYAL BLACKBURN HOSPITAL	East Lancashire Hospitals NHS Trust	North West (Lancashire and South Cumbria)
ROYAL BOLTON HOSPITAL	Bolton NHS Foundation Trust	North West (Greater Manchester)
ROYAL BOURNEMOUTH HOSPITAL	The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	Thames Valley and Wessex
ROYAL CORNWALL HOSPITAL	Royal Cornwall Hospitals NHS Trust	South West
ROYAL DERBY HOSPITAL	University Hospitals of Derby and Burton NHS Foundation Trust	Central
ROYAL DEVON & EXETER HOSPITAL	Royal Devon and Exeter NHS Foundation Trust	South West
ROYAL HALLAMSHIRE HOSPITAL	Sheffield Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
ROYAL HAMPSHIRE COUNTY HOSPITAL	Hampshire Hospitals NHS Foundation Trust	Thames Valley and Wessex
ROYAL JUBILEE MATERNITY BELFAST	Belfast Health & Social Care Trust	Northern Ireland
ROYAL LANCASTER INFIRMARY	University Hospitals of Morecambe Bay NHS Foundation Trust	North West (Lancashire and South Cumbria)
ROYAL OLDHAM HOSPITAL	The Pennine Acute Hospitals NHS Trust	North West (Greater Manchester)
ROYAL PRESTON HOSPITAL	Lancashire Teaching Hospitals NHS Foundation Trust	North West (Lancashire and South Cumbria)
ROYAL STOKE UNIVERSITY HOSPITAL	University Hospitals of North Midlands NHS Trust	Staffordshire, Shropshire and Black Country
ROYAL SURREY COUNTY HOSPITAL	Royal Surrey County Hospital NHS Foundation Trust	South East Coast
ROYAL SUSSEX COUNTY HOSPITAL	Brighton and Sussex University Hospitals NHS Trust	South East Coast
ROYAL UNITED HOSPITAL	Royal United Hospitals Bath NHS Foundation Trust	South West
ROYAL VICTORIA INFIRMARY	The Newcastle upon Tyne Hospitals NHS Foundation Trust	Northern
RUSSELLS HALL HOSPITAL	The Dudley Group NHS Foundation Trust	Staffordshire, Shropshire and Black Country
SALISBURY DISTRICT HOSPITAL	Salisbury NHS Foundation Trust	Thames Valley and Wessex
SAMUEL JOHNSON COMMUNITY HOSPITAL	University Hospitals of Derby and Burton NHS Foundation Trust	Central
SANDWELL GENERAL HOSPITAL	Sandwell and West Birmingham Hospitals NHS Trust	Southern West Midlands
SCARBOROUGH GENERAL HOSPITAL	York Teaching Hospital NHS Foundation Trust	Yorkshire & Humber
SCUNTHORPE GENERAL HOSPITAL	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust	Yorkshire & Humber
SOUTH TYNESIDE DISTRICT HOSPITAL	South Tyneside NHS Foundation Trust	Northern
SOUTHAMPTON GENERAL HOSPITAL	University Hospital Southampton NHS Foundation Trust	Thames Valley and Wessex
SOUTHEND HOSPITAL	Southend University Hospital NHS Foundation Trust	East of England
SOUTHMEAD HOSPITAL	North Bristol NHS Trust	South West
SOUTHPORT AND FORMBY DISTRICT GENERAL HOSPITAL	Southport & Ormskirk Hospital NHS Trust	North West (Cheshire and Merseyside)



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
ST AUSTELL COMMUNITY HOSPITAL	Royal Cornwall Hospitals NHS Trust	South West
ST GEORGE'S HOSPITAL	St George's University Hospitals NHS Foundation Trust	South London
ST HELIER HOSPITAL	Epsom and St Helier University Hospitals NHS Trust	South London
ST MARY'S HOSPITAL, IOW	Isle of Wight NHS Trust	Thames Valley and Wessex
ST MARY'S HOSPITAL, LONDON	Imperial College Healthcare NHS Trust	North West London
ST MARY'S HOSPITAL, MANCHESTER	Manchester University NHS Foundation Trust	North West (Greater Manchester)
ST MICHAEL'S HOSPITAL	University Hospitals Bristol NHS Foundation Trust	South West
ST PETER'S HOSPITAL	Ashford and St Peter's Hospital NHS Foundation Trust	South East Coast
ST RICHARD'S HOSPITAL	Western Sussex Hospitals NHS Foundation Trust	South East Coast
STEPPING HILL HOSPITAL	Stockport NHS Foundation Trust	North West (Greater Manchester)
STOKE MANDEVILLE HOSPITAL	Buckinghamshire Healthcare NHS Trust	Thames Valley and Wessex
SUNDERLAND ROYAL HOSPITAL	South Tyneside and Sunderland NHS Foundation Trust	Northern
TAMESIDE GENERAL HOSPITAL	Tameside Hospital NHS Foundation Trust	North West (Greater Manchester)
TAUNTON & SOMERSET HOSPITAL	Taunton and Somerset NHS Foundation Trust	South West
THE GREAT NORTH CHILDREN'S HOSPITAL	The Newcastle upon Tyne Hospitals NHS Foundation Trust	Northern
THE JESSOP WING, SHEFFIELD	Sheffield Teaching Hospitals NHS Foundation Trust	Yorkshire & Humber
THE PRINCESS ROYAL, TELFORD	The Shrewsbury and Telford Hospital NHS Trust	Staffordshire, Shropshire and Black Country
THE ROYAL FREE HOSPITAL	Royal Free London NHS Foundation Trust	North Central & East London
THE ROYAL LONDON HOSPITAL	Barts Health NHS Trust	North Central & East London
TIVERTON AND DISTRICT HOSPITAL	Royal Devon and Exeter NHS Foundation Trust	South West
TORBAY HOSPITAL	Torbay and South Devon NHS Foundation Trust	South West
TUNBRIDGE WELLS HOSPITAL	Maidstone and Tunbridge Wells NHS Trust	South East Coast
UNIVERSITY COLLEGE HOSPITAL	University College London Hospitals NHS Foundation Trust	North Central & East London
UNIVERSITY HOSPITAL COVENTRY	University Hospitals Coventry & Warwickshire NHS Trust	Central
UNIVERSITY HOSPITAL LEWISHAM	Lewisham and Greenwich NHS Trust	South London
UNIVERSITY HOSPITAL OF HARTLEPOOL	North Tees and Hartlepool NHS Foundation Trust	Northern
UNIVERSITY HOSPITAL OF NORTH DURHAM	County Durham and Darlington NHS Foundation Trust	Northern
UNIVERSITY HOSPITAL OF NORTH TEES	North Tees and Hartlepool NHS Foundation Trust	Northern
VICTORIA HOSPITAL, BLACKPOOL	Blackpool Teaching Hospitals NHS Foundation Trust	North West (Lancashire and South Cumbria)
WALLINGFORD BIRTH CENTRE	Oxford University Hospitals NHS Trust	Thames Valley and Wessex



Maternity Unit Name	Trust Name	Neonatal ODN Associated with Trust
WALLINGFORD COMMUNITY HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WANTAGE HOSPITAL	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WANTAGE MATERNITY UNIT	Oxford University Hospitals NHS Trust	Thames Valley and Wessex
WARRINGTON HOSPITAL	Warrington and Halton Hospitals NHS Foundation Trust	North West (Cheshire and Merseyside)
WARWICK HOSPITAL	South Warwickshire NHS Foundation Trust	Central
WATFORD GENERAL HOSPITAL	West Hertfordshire Hospitals NHS Trust	East of England
WEST CUMBERLAND HOSPITAL	North Cumbria Integrated Care NHS Foundation Trust	Northern
WEST MIDDLESEX UNIVERSITY HOSPITAL	Chelsea and Westminster Hospital NHS Foundation Trust	North West London
WEST SUFFOLK HOSPITAL	West Suffolk NHS Foundation Trust	East of England
WESTON GENERAL HOSPITAL	Weston Area Health NHS Trust	South West
WEXHAM PARK HOSPITAL	Frimley Health NHS Foundation Trust	Thames Valley and Wessex
WHIPPS CROSS UNIVERSITY HOSPITAL	Barts Health NHS Trust	North Central & East London
WHISTON HOSPITAL	St Helens and Knowsley Teaching Hospitals NHS Trust	North West (Cheshire and Merseyside)
WHITTINGTON HOSPITAL	Whittington Health	North Central & East London
WILLIAM HARVEY HOSPITAL	East Kent Hospitals University NHS Foundation Trust	South East Coast
WORCESTERSHIRE ROYAL HOSPITAL	Worcestershire Acute Hospitals NHS Trust	Southern West Midlands
WORTHING HOSPITAL	Western Sussex Hospitals NHS Foundation Trust	South East Coast
WYCOMBE HOSPITAL	Buckinghamshire Healthcare NHS Trust	Thames Valley and Wessex
WYE VALLEY NHS TRUST	Wye Valley NHS Trust	Southern West Midlands
WYTHENSHAW HOSPITAL	Manchester University NHS Foundation Trust	North West (Greater Manchester)
YEOVIL DISTRICT HOSPITAL	Yeovil District Hospital NHS Foundation Trust	South West
YORK DISTRICT HOSPITAL	York Teaching Hospital NHS Foundation Trust	Yorkshire & Humber

