

# Baby deaths in the UK

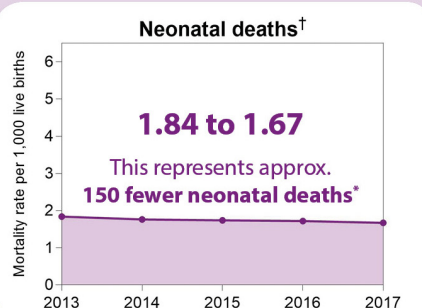
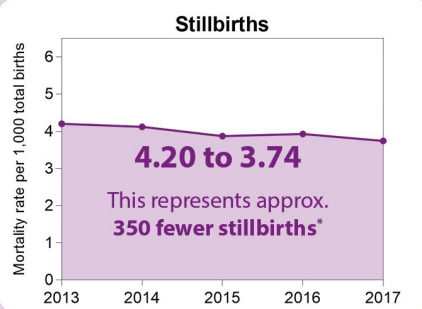
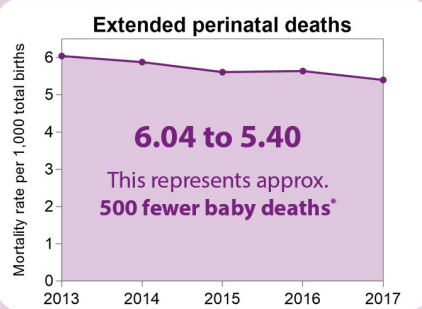
## The national picture for 2017



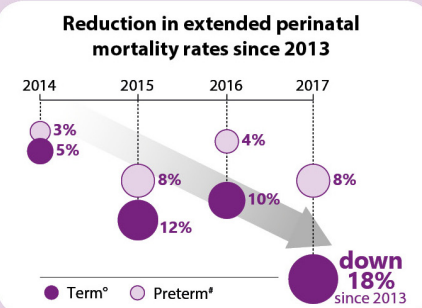
**760,169 births**  
of babies delivered from 24 weeks of pregnancy, excluding terminations of pregnancy



### Overall reduced mortality rates between 2013 and 2017

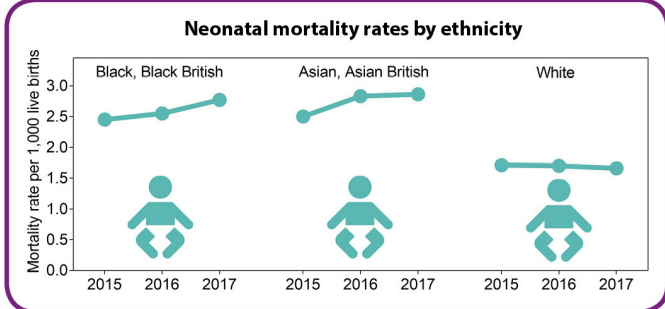


### Largest fall in mortality rates in babies delivered at term

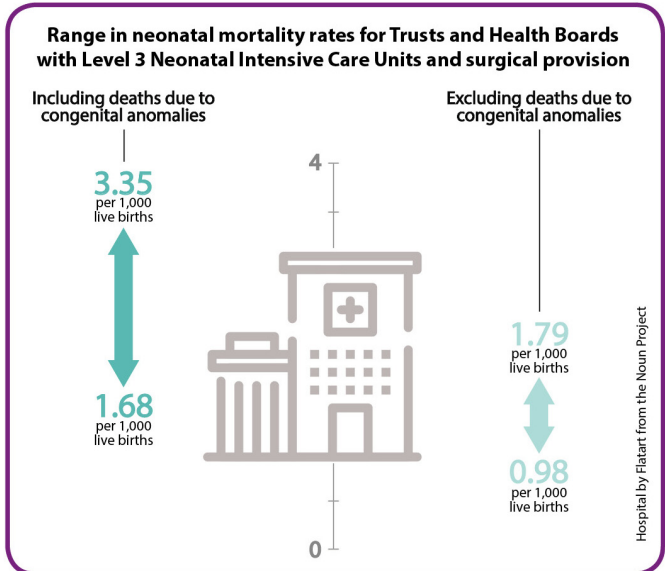


\* in 2017 compared with 2013  
† a baby born at any time during pregnancy who lives, even briefly, but dies within 4 weeks of birth  
° between 37<sup>+0</sup> and 41<sup>+6</sup> weeks of pregnancy  
# between 24<sup>+0</sup> and 36<sup>+6</sup> weeks of pregnancy

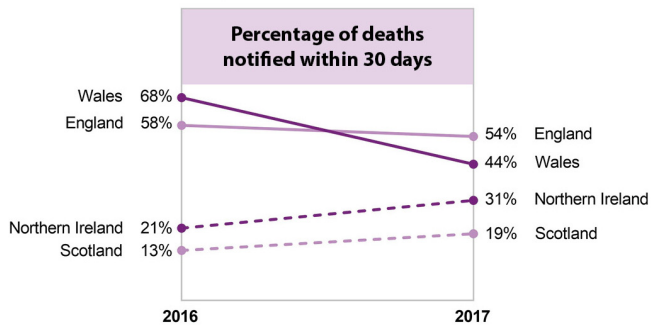
### Neonatal mortality rates remain high for babies of Black and Asian ethnicity



### Congenital anomalies account for wide variation in neonatal mortality rates



### Reduced variation in the time taken to notify deaths to MBRRACE-UK



Only **half of deaths** were notified within the MBRRACE-UK benchmark period of 30 days



# MBRRACE-UK Perinatal Mortality Surveillance Report

## UK Perinatal Deaths for Births from January to December 2017

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### Background

MBRRACE-UK is commissioned by the Healthcare Quality Improvement Partnership (HQIP) to undertake the Maternal, Newborn and Infant Clinical Outcome Review Programme (MNI-CORP). The aims of the MNI-CORP are to collect, analyse and report national surveillance data and conduct national confidential enquiries in order to stimulate and evaluate improvements in health care for mothers and babies (Box 1).

The fifth MBRRACE-UK Perinatal Mortality Surveillance Report provides information on extended perinatal deaths in the UK and Crown Dependencies arising from births during 2017.

### Methods

Deaths to be reported to MBRRACE-UK since 1 January 2013 through the secure online reporting system are:

- late fetal losses: a baby delivered between 22<sup>+0</sup> and 23<sup>+6</sup> weeks gestational age showing no signs of life, irrespective of when the death occurred;
- stillbirths: a baby delivered at or after 24<sup>+0</sup> weeks gestational age showing no signs of life, irrespective of when the death occurred;
- neonatal deaths: a liveborn baby (born at 20<sup>+0</sup> weeks gestational age or later, or with a birthweight of 400g or more where an accurate estimate of gestation is not available), who died before 28 completed days after birth.

Individual level information on all births in the UK is obtained in order to generate mortality rates adjusted for maternal, baby, and socio-demographic risk factors. This information is acquired through the collaboration of the following organisations: Patient Demographic Service (PDS) and Office for National Statistics (ONS) birth registration data (for England, Wales, and the Isle of Man); National Records Scotland (NRS) and Information Services Division (ISD) (for Scotland); Northern Ireland Maternity System (NIMATS) (for Northern Ireland); the Health and Social Services Department (for the Bailiwick of Guernsey); and Health Intelligence Unit (for the Bailiwick of Jersey). The data is combined to give a single dataset of births for the whole of the UK and the Crown Dependencies. This data is then amalgamated with the information about the deaths to obtain the final data for analysis.

### Analysis

The main findings of the report are presented in a combination of maps and tables showing crude, stabilised and stabilised & adjusted mortality rates for stillbirths, neonatal deaths, and extended perinatal deaths (stillbirths and neonatal deaths combined). Stabilisation is designed to take account of some of the random variation inherent in this type of data and adjustment takes account of some of the factors known to affect perinatal mortality rates in particular populations, e.g. the level of socio-economic deprivation.

In order to ensure comparability of mortality rates, the main analyses are shown after excluding births occurring at less than 24<sup>+0</sup> weeks gestational age and terminations of pregnancy. Analysis of data for countries is based on mother's postcode at the time of delivery while analysis of data for Trusts and Health Boards is based on the place of birth. For comparison purposes, the mortality rates for Trusts and Health Boards are presented compared to the average mortality in organisations providing similar levels of service.

## Key findings

1. There has been a reduction in the rate of extended perinatal mortality in the UK in 2017: 5.40 per 1,000 total births for babies born at 24<sup>+0</sup> weeks gestational age or later compared with 5.64 in 2016. This represents a 12% reduction in extended perinatal mortality since 2013, equivalent to nearly 500 fewer deaths in 2017.
2. The stillbirth rate for the UK in 2017 has reduced to 3.74 per 1,000 total births from 4.20 in 2013, which represents 350 fewer stillbirths.
3. The rate of neonatal mortality for babies born at 24 weeks gestational age or later in the UK continues to show a steady decline over the period 2013 to 2017 from 1.84 to 1.67 deaths per 1,000 live births. This represents a 10% reduction in neonatal mortality over the last five years.
4. The largest fall in stillbirth and neonatal death rates is seen in term babies (37<sup>+0</sup> to 41<sup>+6</sup> weeks gestational age), accounting for half of the reduction seen in these rates.
5. Just over half of deaths were notified within the MBRRACE-UK benchmark time of 30 days (57% of stillbirths and 51% of neonatal deaths). Only 39% of Trusts and Health Boards had an average notification time of less than 30 days for stillbirths and 29% for neonatal deaths.
6. There has been an increase in the completeness of carbon monoxide monitoring data for both stillbirths and neonatal deaths over the period 2015 to 2017: from 36.4% to 48.3% for stillbirths and 31.4% to 44.5% for neonatal deaths. This improvement is clearly linked to the Saving Babies' Lives Care Bundle as well as enhanced communication between care providers via the MBRRACE-UK web based system.
7. Despite overall improvements in mortality, out of 224 commissioning organisations, stabilised mortality rates were more than 5% higher than the overall UK average in 52 organisations for stillbirth and 57 organisations for neonatal death. There were only two commissioning organisations with a stabilised stillbirth rate more than 15% lower than the UK average and only six with a stabilised neonatal mortality rate more than 15% lower than the UK average.
8. The neonatal mortality rates for Trusts and Health Boards which care for the most complex pregnancies and births show wide variation, with rates of between 1.68 and 3.35 per 1,000 live births in those with Level 3 Neonatal Intensive Care Units (NICUs) and surgical provision. Exclusion of congenital anomalies from stabilised & adjusted neonatal mortality rates reduces this variation to between 0.98 and 1.79 per 1,000 live births.
9. There has been a substantial reduction in stillbirths recorded as having an intrapartum cause in the CODAC classification of cause of death from 189 (5.8%) stillbirths in 2014 to 51 (1.8%) stillbirths in 2017. The proportion of stillbirths reported as having an unknown cause of death using CODAC has reduced from around a half (46.0%) in 2014 to around one third (34.6%) in 2017.
10. Mortality rates remain high for Black or Black British and Asian or Asian British babies. Whilst stillbirth rates for these groups have reduced over the period 2015 to 2017 from 8.17 to 7.46 and from 5.88 to 5.70 per 1,000 total births, respectively, conversely neonatal mortality rates have increased over the same period from 2.45 to 2.77 and from 2.50 to 2.86 per 1,000 live births, respectively.
11. The reduction in both the stillbirth and neonatal death rate ratios associated with twin pregnancies (relative to singletons) over the period 2014 to 2016 has not been sustained, with small increases in risk seen in 2017 for stillbirths from 1.60 (95% CI, 1.36 to 1.88) to 1.93 (95% CI, 1.65 to 2.25) and for neonatal deaths from 3.33 (95% CI, 2.80 to 3.98) to 3.53 (95% CI, 2.97 to 4.21).

## Recommendations

1. In order to achieve the various UK Governments' ambitions renewed efforts need to be focused on implementing existing national initiatives to reduce stillbirths and continue the slow but steady decline in neonatal mortality rates observed since 2013. Particular emphasis should be placed on reducing preterm birth.
2. Trusts and Health Boards should aim to notify all deaths via the MBRRACE-UK system within 30 days of the death occurring. Mechanisms for timely notification should be incorporated into local processes, and must have adequate staff, time allocation and resources. Trusts and Health Boards should aim for completion of all surveillance data within 90 days in order to facilitate data sharing with the PMRT and aid discussions with parents at follow-up appointments.
3. Trusts and Health Boards should use the MBRRACE-UK real time data monitoring tool to monitor the completeness of their data. Particular emphasis should be placed on carbon monoxide monitoring and other data items feeding into national initiatives such as the Saving Babies' Lives Care Bundle version 2.
4. Commissioning organisations should review both their crude and stabilised mortality rates alongside their high risk population characteristics (e.g. deprivation and ethnicity) to facilitate the development of public health initiatives and to target focused interventions, such as the continued rollout of continuity of carer as recommended by Better Births, with a particular focus on women in high-risk ethnic groups and those living in areas of high deprivation.
5. Trusts and Health Boards with a stabilised & adjusted stillbirth, neonatal mortality or extended perinatal mortality rate that falls into the red or amber band should carry out an initial investigation of their data quality and possible contributing local factors. Organisations should review their performance against national outcome measures with a view to understanding where improvement may be required.
6. Trust and Health Boards should use Perinatal Mortality Review Tool multidisciplinary meetings to improve the quality of cause of death coding.
7. Trusts and Health Boards should review their policies to ensure that the parents of ALL babies who die are provided with unbiased counselling for post-mortem to enable them to make an informed decision.
8. Trusts and Health Boards should work to implement fully the National Bereavement Care Pathway to ensure that all parents are offered high quality, individualised bereavement care after the loss of their baby.
9. Placental histology should be undertaken for all stillbirths and if possible all anticipated neonatal deaths, preferably by a perinatal pathologist.

**The full report is available as a downloadable document, obtainable from the MBRRACE-UK website:**  
[www.npeu.ox.ac.uk/mbrrace-uk/reports](http://www.npeu.ox.ac.uk/mbrrace-uk/reports)