

NMPA Measures - Technical Specification

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Potential outlier indicators

Third or fourth degree perineal tears

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women giving birth vaginally to a singleton baby with a cephalic presentation between 37+0 and 42+6 weeks of gestation

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Mode of birth	≥70% complete	<ul style="list-style-type: none"> • Caesarean section rate is between ≥5% and ≤50% AND • spontaneous vaginal rate >40%
Perineal tears	N/A	3 rd /4 th degree tear rate ≥0.1% and ≤10%
Number of infants	≥70% complete	Multiples rate >0.05%
Fetal presentation	≥70% complete	Cephalic rate ≥70%

Record level:

Records were excluded if they were missing information on: method of delivery, gestational age, number of infants (multiplicity) or fetal presentation

Numerator: Number of women giving birth vaginally to a singleton baby with a cephalic presentation between 37+0 and 42+6 weeks (inclusive) of gestation who have a third- or fourth-degree perineal tear

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

5-minute Apgar score less than 7

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of singleton, liveborn infants born between 37+0 and 42+6 weeks (inclusive) of gestation

Exclusions:

Site level: Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Apgar score at 5 minutes	≥70% complete	Rate of Apgar scores less than 7 at 5 minutes is between ≥0.1% and ≤70%
Number of infants	≥70% complete	Multiples rate >0.05%
Fetus outcome	≥70% complete	More than one stillbirth was recorded in the financial year

Record level: records were excluded if they were missing information on: Apgar score at 5 minutes, gestational age, number of infants (multiplicity), fetal outcome (stillbirth or livebirth)

Numerator: Number of singleton, liveborn infants born between 37+0 and 42+6 weeks (inclusive) of gestation with a 5-minute Apgar score less than 7

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Other measures

Smoking cessation

Lowest level of reporting: Trust/health board

Relevant population (denominator): Number of women recorded as being current smokers at their booking visit

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Smoking at booking	≥70% complete	Current smokers >0.5% and <50%
Smoking at delivery	≥70% complete	Current smokers >0.5% and <50%

Record level:

Records were excluded if they were missing information on: smoking at booking or smoking at delivery

Numerator: Number of women recorded as being current smokers at their booking visit who were recorded as non-smokers or ex-smokers by the time of birth

Case-mix factors: none

Preterm birth rate

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of singleton babies

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%

Record level:

Records were excluded if they were missing information on: gestational age, number of infants (multiplicity)

Numerator: Number of singleton babies born before 37 weeks gestation

Case-mix factors: none

Induction of labour

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women giving birth to a singleton baby between 37+0 and 42+6 weeks of gestation.

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Onset of labour and delivery	≥70% complete	<ul style="list-style-type: none"> • Induction of labour rate is ≥10% and <50% • Where labour onset = '2' (caesarean section), mode of delivery should be caesarean section in ≥90% of records

Record level:

Records were excluded if they were missing information on: gestational age, number of infants (multiplicity) or onset of labour

Numerator: Number of women giving birth to a singleton baby between 37+0 and 42+6 weeks of gestation, who had their labour induced.

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Early elective deliveries without a documented clinical indication

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women giving birth to a singleton baby between 37+0 and 38+6 weeks of gestation by elective caesarean section or following an induction of labour

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Mode of birth	≥70% complete	Caesarean section rate is between ≥5% and ≤50% AND spontaneous vaginal rate >40%
Onset of labour and delivery	≥70% complete	<ul style="list-style-type: none"> • Induction of labour rate is ≥10% and <50% • Where labour onset = '2' (caesarean section), mode of delivery should be caesarean section in ≥90% of records
Reason for early elective delivery	≥70% of records could be linked with HES/PEDW/SMR02	N/A

Record level:

Records were excluded if they were missing information on: gestational age, number of infants, mode of birth or onset of labour

Numerator: Number of women giving birth to a singleton baby between 37+0 and 38+6 weeks of gestation by elective caesarean section or following an induction of labour for whom there was no documented clinical indication for early delivery

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status

NOTE: Clinical indications for early delivery were classified as follows:

- O10.0 Pre-existing essential hypertension complicating pregnancy...
- O10.1 Pre-existing hypertensive heart disease complicating pregnancy...
- O10.2 Pre-existing hypertensive renal disease complicating pregnancy...
- O10.3 Pre-existing hypertensive heart and renal disease complicating pregnancy...
- O10.4 Pre-existing secondary hypertension complicating pregnancy...
- O10.9 Unspecified pre-existing hypertension complicating pregnancy...
- O11 Pre-existing hypertensive disorder with superimposed proteinuria
- O14.0 Moderate pre-eclampsia
- O14.1 Severe pre-eclampsia
- O14.2 HELLP syndrome
- O14.9 Pre-eclampsia, unspecified
- O15.0 Eclampsia in pregnancy
- O15.1 Eclampsia in labour
- O15.2 Eclampsia in the puerperium
- O44.0 Unspecified maternal hypertension
- O24.4 Diabetes mellitus arising in pregnancy
- O24.9 Diabetes mellitus in pregnancy, unspecified
- O26.6 Liver disorders in pregnancy, childbirth and the puerperium
- O26.8 Other specified pregnancy-related conditions
- O30.0 Twin pregnancy
- O30.1 Triplet pregnancy
- O30.2 Quadruplet pregnancy
- O30.8 Other multiple gestation
- O30.9 Multiple gestation, unspecified
- O31.1 Continuing pregnancy after abortion of one fetus or more
- O32.0 Maternal care for unstable lie
- O32.9 Maternal care for malpresentation of fetus, unspecified
- O35.0 Maternal care for (suspected) central nervous system malformation in fetus
- O35.1 Maternal care for (suspected) chromosomal abnormality in fetus
- O35.6 Maternal care for (suspected) damage to fetus by radiation
- O36 Maternal care for other known or suspected fetal problems
- O41.0 Oligohydramnios
- O41.1 Infection of amniotic sac and membranes
- O42.0 Premature rupture of membranes, onset of labour within 24 hours
- O42.1 Premature rupture of membranes, onset of labour after 24 hours
- O43.0 Placental transfusion syndromes
- O44.0 Placenta praevia specified as without haemorrhage
- O44.1 Placenta praevia with haemorrhage
- O45.0 Premature separation of placenta with coagulation defect
- O45.8 Other premature separation of placenta
- O45.9 Premature separation of placenta, unspecified
- O46.8 Other antepartum haemorrhage
- O46.9 Antepartum haemorrhage, unspecified
- O68 Labour and delivery complicated by fetal stress [distress]
- O69.4 Labour and delivery complicated by vasa praevia
- O99.1 Other diseases of the blood and blood-forming organs and certain disorders...
- O99.4 Diseases of the circulatory system complicating pregnancy...
- O99.8 Other specified diseases and conditions complicating pregnancy...
- Z35.2 Supervision of pregnancy with other poor reproductive or obstetric history
- Z37.1 Single stillbirth

Small-for-gestational-age babies not born before their due date

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of babies born small for gestational age (defined as less than the 10th birth weight centile using the WHO-UK 1990 charts¹) between 37+0 and 42+6 weeks of gestation

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Fetus outcome	≥70% complete	More than one stillbirth was recorded in the financial year
Birth weight	≥70% complete	Birthweight >2500g and <4500g in >80% of term infants

Record level:

Records were excluded if they were missing information on: gestational age, number of infants, fetus outcome or birth weight

Numerator: Number of babies born small for gestational age (defined as less than the 10th birth weight centile using the WHO-UK 1990 charts¹) between 37+0 and 42+6 weeks of gestation that are born at or after their estimated due date

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

¹ Cole TJ, Williams AF, Wright CM. Revised birth centiles for weight, length and head circumference in the UK-WHO growth charts. *Annals of Human Biology*. 2010 Jun 9;38(1):7–11.

Mode of birth

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women who give birth to a singleton baby between 37+0 and 42+6 weeks of gestation

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Mode of birth	≥70% complete	Caesarean section rate is between ≥5% and ≤50% AND spontaneous vaginal rate >40%

Record level:

Records were excluded if they were missing information on: gestational age, number of infants, or mode of birth

Numerator:

Number of women who give birth to a singleton baby between 37+0 and 42+6 weeks of gestation who had the following mode of birth:

1. Spontaneous vaginal birth
2. Instrumental birth
3. Caesarean section

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Vaginal birth after caesarean section

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women having their second baby between 37+0 and 42+6 weeks of gestation, following a caesarean section for their first baby

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Mode of birth	≥70% complete	Caesarean section rate is between ≥5% and ≤50% AND spontaneous vaginal rate >40%
Parity	≥70% complete	Proportion of nulliparous women >20% and <70%
Previous CS	≥70% complete	N/A

Record level:

Records were excluded if they were missing information on: gestational age, number of infants, mode of birth or parity

Numerator: Number of women having their second baby between 37+0 and 42+6 weeks of gestation following a caesarean section for their first baby, who give birth to their second baby vaginally

Case-mix factors: maternal age, ethnicity, deprivation quintile, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Episiotomy

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number women giving birth vaginally to a singleton baby with a cephalic presentation 37+0 to 42+6 weeks (inclusive)

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Fetal presentation	≥70% complete	Cephalic rate ≥70%
Mode of birth	≥70% complete	Caesarean section rate is between ≥5% and ≤50% AND spontaneous vaginal rate >40%
Episiotomy	≥70% complete in births which are not coded as Caesarean	Episiotomy rate >1% and <45%

Record level:

Records were excluded if they were missing information on: gestational age, number of infants, fetal presentation, mode of birth or episiotomy

Numerator: Number women giving birth vaginally to a singleton baby with a cephalic presentation 37+0 to 42+6 weeks (inclusive) who have an episiotomy

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Obstetric haemorrhage of 1500ml or more

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women giving birth to a singleton between 37+0 and 42+6 weeks of gestation

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of
Estimated blood loss (ml)	≥70% complete	<ul style="list-style-type: none"> • Blood loss of 0ml occurs in ≤5% of births AND • Blood loss >500ml occurs in ≤60% of births AND • Blood loss ≥1500ml occurs in between ≥0.5% and ≤20% of births
Number of infants	≥70% complete	Multiples rate >0.05%

Record level: records were excluded if they were missing information on estimated blood loss, number of babies (multiplicity), or gestational age

Numerator: Number of women giving birth to a singleton baby between 37+0 and 42+6 weeks (inclusive) of gestation who have an obstetric haemorrhage of greater than or equal to 1500ml

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Skin to skin contact within one hour of birth

Lowest level of reporting: Sites with an obstetric or freestanding midwifery unit

Relevant population (denominator): Number of liveborn babies born between 34+0 and 42+6 weeks of gestation

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Fetus outcome	≥70% complete	More than one stillbirth was recorded in the financial year
Skin to skin	≥70% complete	N/A

Record level:

Records were excluded if they were missing information on: gestational age, fetus outcome or skin to skin contact

Numerator: Number of liveborn babies born between 34+0 and 42+6 weeks of gestation who received skin to skin contact within one hour of birth

Case-mix factors: none

Breast milk at first feed, and at discharge

Lowest level of reporting: Sites with an obstetric or freestanding midwifery unit

Relevant population (denominator): Number of liveborn babies born between 34+0 and 42+6 weeks of gestation

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Fetus outcome	≥70% complete	More than one stillbirth was recorded in the financial year
Breast milk at first feed	≥70% complete	N/A
Breast milk at discharge	≥70% complete	N/A

Record level:

Records were excluded if they were missing information on: gestational age, fetus outcome, or breast milk at first feed/breast milk at discharge, respectively

Numerator: Number of liveborn babies born between 34+0 and 42+6 weeks of gestation who received:

- a) Any breast milk for their first feed
- b) Any breast milk at discharge from the maternity unit

Case-mix factors: none

Unplanned overnight maternal readmissions within 42 days

Lowest level of reporting: Sites with an obstetric unit

Relevant population (denominator): Number of women giving birth to a singleton baby between 37+0 and 42+6 weeks of gestation, excluding those who died before discharge or were not discharged within 42 days of delivery

Exclusions:

Site level:

Sites were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Gestational age	≥70% complete within both caesarean and vaginal births	Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births
Number of infants	≥70% complete	Multiples rate >0.05%
Type of readmission	≥70% of records could be linked with HES/PEDW/SMR02	N/A

Record level:

Records were excluded if they were missing information on: date of birth; gestational age; number of infants

Numerator: Number of women giving birth to a singleton baby between 37+0 and 42+6 weeks of gestation, excluding those who died before discharge or were not discharged within 42 days of delivery, who were readmitted to hospital within 42 days, excluding: planned readmissions, planned transfers, and readmissions of less than one day and women accompanying an unwell baby.

Case-mix factors: maternal age, ethnicity, deprivation quintile, parity, previous CS, birthweight, gestational age, BMI, smoking status, diabetes, hypertension, preeclampsia, placental problems, poly/oligo/anhydramnios

Definitions used

Data item	Coding and data source/s		
	England	Wales	Scotland
Data items used for indicator construction			
Singleton	MIS: Number of infants this delivery (NumberInfants) = 1	MIDs: Number of infants this delivery (Number of Foetus at Onset of Labour) = 1	SMR-02: Number of infants this delivery (Number of Births this Pregnancy) = 1
Term	MIS: gestational age at birth (GestationLengthBirth) = 37+0 weeks to 42+6 weeks inclusive If gestational age was missing in the MIS record we used gestational age as recorded in HES (gestat_1)	MIDs: gestational age at birth (Gestation at onset of labour) = 37+0 weeks to 42+6 weeks inclusive	SMR-02: gestational age at birth = 37+0 weeks to 42+6 weeks inclusive
Cephalic	MIS: Fetal presentation at delivery (DeliveryPresentation) = 01 (Cephalic). If presentation was missing, we used method of delivery (DeliveryMethodBaby) to determine presentation where possible (e.g if spontaneous vertex delivery, recoded as 01 (Cephalic)).	MIDs: Fetal presentation at delivery (Foetal Presentation at Onset of Labour) = 1 (Cephalic).	SMR-02: Fetal presentation at delivery = 1 (Occipito-anterior); 2 (Occipito-posterior) or 3 (Occipito-lateral)

Vaginal birth	MIS: method of delivery (DeliveryMethodBaby) = 0 (Spontaneous Vertex), 1 (Spontaneous, other cephalic), 2, (Low forceps, not breech), 3 (Other forceps, not breech) or 4 (Ventouse, vacuum extraction). If method of delivery was missing in the MIS record we used method of delivery as recorded in HES (delmethd)	MIDs: method of delivery (Mode of Birth) = 1 (Spontaneous Vaginal Birth), 2 (Ventouse), 3 (Forceps).	SMR-02: Mode of delivery = 0 (Spontaneous Vertex), 1 (Spontaneous, other cephalic), 2 (Low forceps, no rotation), or A-E (Mid cavity forceps; Rotational forceps; Ventouse; Ventouse with rotation; Other forceps)
Livebirth	MIS: Delivery outcome (FetusOutcome) = 10 (Live birth)	MIDs: Delivery outcome (Outcome of Birth) = 1 (Live birth)	SMR-02: Outcome of pregnancy = 1 (Live birth)
3 rd or 4 th degree perineal tear	MIS: Perineal tears (GentialTractTraumaticLesion) = 6 (Third degree tear) or 7 (Fourth degree tear) OR HES: OPCS = R32.2/R32.5 OR ICD10 = O70.2/O70.3	MIDs: Perineal tears (Perineal Trauma) = 1 (Yes) OR PEDW: OPCS = R32.2/R32.5 OR ICD10 = O70.1/O70.3	SMR-02: Perineal tears (Tears) = 3 (Third degree tear) or 4 (Fourth degree tear) <u>OR</u> SMR-02: OPCS = R32.2/R32.5 OR ICD10 = O70.2/O70.3
Obstetric haemorrhage ≥1500ml	MIS: Estimated blood loss ≥1500ml	MIDs: Estimated blood loss ≥1500ml	N/A
Apgar score <7 at 5 mins	MIS: Apgar score at 5 minutes of 0 to 6	MIDs: Apgar score at 5 minutes of 0 to 6	SMR-02: Apgar score at 5 minutes of 0 to 6

Data items used as case mix adjustors			
Maternal age	MIS: Derived from mother's date of birth (PersonBirthDateMother) – date of birth (baby) (BabyBirthDateTime) in completed years of age. Categorised as: 12-15; 16-19; 20-24; 25-29; 30-34; 35-39; 40-44; 45-49; 50+, and unknown	MIDs: Derived from mother's date of birth (Birth Date (Woman)) – date of birth (baby) (Birth Date (Baby)) in completed years of age. Categorised as: 12-15; 16-19; 20-24; 25-29; 30-34; 35-39; 40-44; 45-49; 50+, and unknown	SMR-02: Mother's age at delivery in completed years of age. Categorised as: 12-15; 16-19; 20-24; 25-29; 30-34; 35-39; 40-44; 45-49; 50+, and unknown
Ethnicity	MIS: Derived from mother's ethnicity (EthnicCategoryMother) and categorised as: white; black; Asian; other, and unknown	MIDs: Derived from mother's ethnicity (Ethnic Group) and categorised as: white; black; Asian; other, and unknown	SMR-02: Derived from mother's ethnicity (Ethnic Group) and categorised as: white; black; Asian; other, and unknown
Deprivation quintile	MIS: mother's postcode (Postcode) was converted to Lower Super Output Area (LSOA) and linked to its Index of Multiple Deprivation (IMD) ranking. This was then categorised into quintiles and an unknown category	MIDs: mother's postcode (Postcode of Usual Address) was converted to Lower Super Output Area (LSOA) and linked to its Index of Multiple Deprivation (IMD) ranking. This was then categorised into quintiles and an unknown category	SMR-02: SMID quintile
Parity	MIS: Number of previous registerable birth (Prevtotalbirths), categorised as 0 (primiparous); 1 (parous), and unknown We also checked for evidence of previous births in HES and infilled parity with 1 if we found one or more previous delivery records for that woman	MIDs: Number of previous registerable birth (Parity), categorised as 0 (primiparous); 1 (parous), and unknown We also checked for evidence of previous births in PEDW and infilled parity with 1 if we found one or more previous delivery records for that woman	Number of previous registerable birth, categorised as 0 (primiparous); 1 (parous), and unknown

Previous CS	HES: We checked for evidence of previous caesarean sections in HES and categorised this as: 0 (no previous CS) and 1 (one or more previous CS), unknown	PEDW: We checked for evidence of previous caesarean sections in PEDW and categorised this as: 0 (no previous CS) and 1 (one or more previous CS), unknown	SMR-02: number of previous caesarean sections, categorised this as: 0 (no previous CS) and 1 (one or more previous CS), unknown
Birthweight	MIS: Baby's birthweight (BirthWeight), categorised as: <2500g; 2500-4000g; >4000g, and unknown. If birthweight was missing in the MIS record we used birthweight as recorded in HES (birweit_1)	MIDs: Baby's birthweight (Birth Weight (g)), categorised as: <2500g; 2500-4000g; >4000g, and unknown.	SMR-02: Baby's birthweight, categorised as: <2500g; 2500-4000g; >4000g, and unknown.
Gestational age	MIS: gestational age at birth (GestationLengthBirth), categorised in completed weeks: 37; 38; 39; 40; 41; 42, and unknown. If gestational age was missing in the MIS record we used gestational age as recorded in HES (gestat_1)	MIDs: gestational age at birth (Gestation at onset of labour), categorised in completed weeks: 37; 38; 39; 40; 41; 42, and unknown.	SMR-02: gestational age at birth, categorised in completed weeks: 37; 38; 39; 40; 41; 42, and unknown.
BMI	MIS: Mother's BMI at booking (MotherBMI), categorised as: <18.5; 18.5 to 25; >25 to <30; >=30, and unknown	MIDs: Mother's BMI at booking (Maternal Weight at Initial Assessment / Maternal Height at Initial Assessment ²), categorised as: <18.5; 18.5 to 25; >25 to <30; >=30, and unknown	SMR-02: Mother's BMI at booking, categorised as: <18.5; 18.5 to 25; >25 to <30; >=30, and unknown

Smoking status at booking	MIS: Mother's smoking status at booking (SmokingStatusBooking), categorised as: Yes; No, and unknown	MIDs: Mother's smoking status at booking (Smoker at Initial Assessment), categorised as: Yes; No, and unknown	SMR-02: Mother's smoking status at booking (Booking Smoking History), categorised as: Current; No (any history), and unknown
Diabetes	HES: ICD-10 codes O24.0-O23.4; O24.4; O24.9; E10-E11	PEDW: ICD-10 codes O24.0-O23.4; O24.4; O24.9; E10-E11	SMR-02: ICD-10 codes O24.0-O23.4; O24.4; O24.9; E10-E11 SMR-02: If variable diabetes has value 1, 2 or 3
Hypertension	HES: ICD-10 codes O10-O11; I10	PEDW: ICD-10 codes O10-O11; I10	SMR-02: ICD-10 codes O10-O11; I10
Preeclampsia	HES: ICD-10 codes O14-O15	PEDW: ICD-10 codes O14-O15	SMR-02: ICD-10 codes O14-O15
Placental problems	HES: ICD-10 codes O44-O45	PEDW: ICD-10 codes O44-O45	SMR-02: ICD-10 codes O44-O45
Poly/oligo/anhydramnios	HES: ICD-10 codes O40	PEDW: ICD-10 codes O40	SMR-02: ICD-10 codes O40