

MBRN record: Record description

| | |
|-----------------------|---|
| MBRN database version | 2018Q3 |
| Record version | 5.4.1 |
| Number of records | 3 007 543 |
| Content | <ul style="list-style-type: none"> • All reported births including stillbirths • Miscarriages after 12 completed weeks of gestation • Terminations of pregnancy registered according to “MFR-forskriften § 1-2 pkt. 3” |
| Finalized data | 1967 – 2017 |
| Date | 2018-12-07 |
| Last change | 2018-12-07 |

| Variable name | Format | Description | Values |
|---|--------------|--|--|
| Administrative data | | | |
| VERSJON_DATABASE | Char (6) | Complete database, version no. | 2018Q3 |
| VERSJON_RECORD | Char (7) | MBRN record, version no. | 5.41 |
| MELDINGSTYPEID | Number (2) | Primary data source | 1 = Digital birth notification form v. 1.0 2 = Digital birth notification form v. 1.1 5 = Digital birth notification form v. 0.51 8 = Birth notification form 1998-present, green paper 10 = Birth notification form 1967-1998, white paper 199 = Termination of pregnancy registered according to §2.3c, unknown notification form |
| Unique project identification number | | | |
| ID_BARN | Varchar2 (8) | Record number, child | 7-digit number |
| ID_MOR | Varchar2 (8) | Record number, mother | 7-digit number |
| ID_FAR | Varchar2 (8) | Record number, father | 7-digit number |
| A – Demographic data | | | |
| FODESTED_KAT | Number (2) | Place of delivery categorized by: - Size of maternity clinic (deliveries per year) - Deliveries outside of institution | 1 = 1-49 2 = 50-499 3 = 500-1499 4 = 1500-2999 5 = 3000+ 6 = At home, planned 7 = At home, unplanned 8 = During transport 9 = Other place of delivery outside institution/unkown |

| Variable name | Format | Description | Values |
|----------------------|----------------|---|--|
| FODESTED_KAT_5 | Number (2) | Place of delivery categorized by: - Size of maternity clinic (deliveries per year) - Deliveries outside of institution | 1 = 1-499 2 = 500-1499 3 = 1500-2999 4 = 3000+ 5 = Outside of institution /Other |
| HOVEDINSTNR | Varchar2 (5) | Main institution no. (hospital) | Internal MBRN number |
| INSTNR | Varchar2 (5) | Department no. | Internal MBRN number |
| HELSEFORETAK | Varchar2 (3) | Administrative health region | Internal MBRN number |
| HELSEREGION | Number (1) | Health region | 1 = South-East 2 = West 3 = Middle 4 = North 9 = Unknown/Other |
| BOHELSEREGION_DAGENS | Number (1) | Health region of mother's place of residence, adjusted to fit today's region divisions | 1 = South-East 2 = West 3 = Middle 4 = North 9 = Unknown/Other |
| <i>Mother</i> | | | |
| MFDATO | Date | Mother's date of birth | Date |
| MOR_FAAR | Number (4) | Mother's year of birth | Year |
| MFMND | Varchar2 (2) | Mother's month of birth | Month |
| MORS_ALDER | Number (3) | Mother's age at time of delivery | Integer |
| MORS_ALDER_DESIMALT | Number (38,35) | Mother's age at time of delivery | Decimal |
| MORS_ALDER_K8 | Number (1) | Mother's age categorized | 1 = 17 years and younger 2 = 18 – 19 years 3 = 20 – 24 years 4 = 25 – 29 years 5 = 30 – 34 years 6 = 35 – 39 years 7 = 40 – 44 years 8 = 45 years and older |
| BOKOMM | Varchar2 (4) | Mother's municipality of residence at time of delivery | Statistics Norway municipality number |
| BOFYLKE | Varchar2 (2) | Mother's county of residence at time of delivery | Statistics Norway county number |
| BOKOMM_DAGENS | Varchar2 (4) | Mothers' municipality, adjusted to fit today's municipality borders – borders are updated after e.g. merging/splitting of municipality or moving of borders | Municipality number |
| BOFYLKE_DAGENS | Varchar2 (2) | Mother's county, adjusted to fit today's municipality borders – see above (BOKOMM_DAGENS) | County number |
| FODELAND_KODE | Varchar2 (3) | Mother's country of birth | Country number |

| Variable name | Format | Description | Values |
|----------------------|--------------|--|---|
| FODELAND_KAT_NOR_GBD | Varchar2 (4) | Mother's country of birth in 8 categories: - Norway - The 7 Global Burden of Disease (GBD) super regions | 0201 = Norway 0202 = High Income 0203 = Central Europe, Eastern Europe and Central Asia 0204 = Sub-Saharan Africa 0205 = North Africa and Middle East 0206 = South Asia 0207 = South East Asia, East Asia and Oceania 0208 = Latin America and Caribbean |
| MOR_BOSATT_NO | Number (1) | Mother reside in Norway at time of delivery | 1 = Yes 2 = No 3 = Unknown |
| SIVST | Number (1) | Mother's marital status at time of delivery | 1 = Married / Registered partner 2 = Co-habitant 3 = Unmarried / Single 4 = Divorced / Separated / Widow 9 = Other / Missing |
| SIVST_2 | Number (1) | Mother's marital status at time of delivery categorized | 1 = Married / Co-habitant 2 = Other |
| SLEKTF | Number (1) | Familial relations between parents | 1 = Not related 2 = Closer than first cousins 3 = First cousins 4 = Second cousins 5 = Other 6 = Unknown |
| YRKE_KODE | Number (1) | Employed | 1 = Not employed 2 = Employed, full-time 3 = Employed, part-time |
| YRKE_MOTSETTER_SEG | Number (1) | Does not consent to provide information about occupation | 1 = Yes 2 = No |
| <i>Father</i> | | | |
| FFDATO | Date | Father's date of birth | Date |
| FAR_FAAR | Number (4) | Father's year of birth | Year |
| FFMND | Varchar2 (2) | Father's month of birth | Month |
| FARS_ALDER | Number (3) | Father's age at time of delivery | Integer |
| FARS_ALDER_K11 | Number (1) | Father's age categorized | 1 = 17 years and younger 2 = 18 - 19 years 3 = 20 - 24 years 4 = 25 - 29 years 5 = 30 - 34 years 6 = 35 - 39 years 7 = 40 - 44 years 8 = 45 - 49 years 9 = 50 - 54 years 10 = 55 - 59 years 11 = 60 years and older |

| Variable name | Format | Description | Values |
|--|------------|---|---|
| B – Pregnancy and maternal health | | | |
| PARITET | Number (2) | Number of previous deliveries: Highest value of variables 'PARITET_MOR' and 'PARITET_MFR' | Integer |
| PARITET_5 | Number (1) | The variable PARITET categorized | 0 = 0 (primiparous) 1 = 1 2 = 2 3 = 3 4 = 4 or more |
| PARITET_MOR | Number (2) | Number of previous deliveries, as stated by mother | Integer |
| PARITET_MFR | Number (2) | Number of previous deliveries, as registered by MBRN. From 1967-2001 registration starts at week 16, from 2002 at week 12 | Integer |
| DODFODTE | Number (2) | Previous stillbirths (from 24 weeks and later) | Integer |
| DODFODTE_5 | Number (2) | Previous stillbirths (from 24 weeks and later) categorized | 0 = 0 1 = 1 2 = 2 3 = 3 4 = 4 or more |
| LEVENDEFODTE | Number (2) | Previous live births | Integer |
| LEVENDEFODTE_5 | Number (2) | Previous live births categorized | 0 = 0 1 = 1 2 = 2 3 = 3 4 = 4 or more |
| SPABORT_12 | Number (2) | Previous miscarriages before 12 weeks of gestation | Integer |
| SPABORT_12_5 | Number (2) | Previous miscarriages before 12 weeks of gestation categorized | 0 = 0 1 = 1 2 = 2 3 = 3 4 = 4 or more |
| SPABORT_23 | Number(2) | Previous miscarriages/stillbirths 12-23 weeks of gestation | Integer |
| SPABORT_23_5 | Number(2) | Previous miscarriages/stillbirths 12-23 weeks of gestation categorized | 0 = 0 1 = 1 2 = 2 3 = 3 4 = 4 or more |
| KSNITT_TIDLIGERE | Number (1) | Mother has delivered by cesarean section in a previous pregnancy | 1 = Yes |
| KSNITT_TIDLIGERE_MFR | Number (1) | Mother has previous cesarean section registered in MBRN | 1 = Yes |
| SMENSD | Date | 1st day of last menstrual period | Date |

| Variable name | Format | Description | Values |
|--|----------------|---|---|
| SMENSD_KODE | Number (1) | Reliability of 1st day of last menstrual period | 1 = Certain 2 = Uncertain 3 = Irregular 4 = Unknown |
| UL_TERMIN | Date | Ultrasound estimated date of delivery | Date |
| TERMINMETODE | Number (2) | Method for estimating expected date of delivery | 1 = Ultrasound – “Terminhjulet” 2 = Ultrasound – “eSnurra” 3 = Ultrasound – Other 4 = Embryo transfer 5 = Naegels rule 6 = Ultrasound unspecified 7 = Ultrasound is not performed 99 = Other |
| SVLEN | Number (2) | Length of gestation based on ultrasound estimation. If ultrasound is not available, the gestational length is calculated from the last menstrual period | Number of completed weeks |
| SVLEN_DG | Number (3) | Length of gestation in days. See SVLEN for details | Days |
| SVLEN_UL_DG | Number (3) | Length of gestation based on ultrasound estimations | Days |
| SVLEN_SM_DG | Number (3) | Length of gestation calculated from the last menstrual period | Days |
| SVLEN_ART | Number (2) | Length of gestation calculated from date of embryo transfer | Number of completed weeks |
| SVLEN_ART_DG | Number(2) | Length of gestation calculated from date of embryo transfer | Days |
| ZSCORE_BW_GA | Number (5,2) | Raw z_score based on child's weight, length of gestation and gender | Decimal |
| PRENAT_PAT_KODER | Varchar2 (500) | Prenatal diagnostics: Pathological findings | Code-string variable. See code-strings |
| PRENAT_DIAG_TYPE | Varchar2 (500) | Prenatal diagnostics: Type | Code-string variable. See code-strings |
| PRENAT_DIAGNOSTIKK_UTF | Number (1) | Prenatal diagnostics performed | 1 = Yes |
| <i>Mother's health prior to pregnancy</i> | | | |
| MORS_HELSE_FOER | Varchar2 (500) | Mother's health prior to pregnancy | Code-string variable. See code-strings |
| ASTMA | Number (1) | Asthma | 1 = Yes |
| HYPERTENSJON_KRONISK | Number (1) | Chronic hypertension | 1 = Yes |
| NYRESYKDOM_KRONISK | Number (1) | Chronic renal disease | 1 = Yes |
| REUM_ARTRITT | Number (1) | Rheumatoid arthritis | 1 = Yes |
| EPILEPSI | Number (1) | Epilepsy | 1 = Yes |
| DIABETES_MELLITUS | Number (1) | Diabetes | 1 = Pregestational diabetes – Type 1 2 = Pregestational diabetes – Type 2 3 = Pregestational diabetes – Unspecified / other 4 = Gestational diabetes |

| Variable name | Format | Description | Values |
|--|----------------|---|--|
| | | | 5 = Antidiabetic medication during pregnancy registered without further information |
| KOSTNEI | Number (1) | No regular supplements | 1 = Checked "Regular supplements: No" and no other information about supplements is registered 2 = Checked "Regular supplements: No", but also gave information about other supplements |
| FOLATF | Number (1) | Folate supplements prior to pregnancy | 1 = Yes |
| MULTIVITF | Number (1) | Multivitamin supplements prior to pregnancy | 1 = Yes |
| <i>Mother's health during pregnancy</i> | | | |
| MORS_HELSE_UNDER | Varchar2 (500) | Mother's health during pregnancy | Code-string variable. See code-strings |
| BLODN_F13 | Number (1) | Vaginal bleeding: Before week 13 | 1 = Yes |
| BLODN_13_28 | Number (1) | Vaginal bleeding: Week 13-28. | 1 = Yes |
| BLODN_E28 | Number (1) | Vaginal bleeding: After week 28 | 1 = Yes |
| HYPERTENSJON_ALENE | Number (1) | «Hypertension only» occurred during pregnancy | 1 = Yes |
| EKLAMPSI | Number (1) | Eclampsia, total: - Eclampsia during pregnancy - Eclampsia during birth and/or post partum - Unspecified eclampsia | 1 = Yes |
| PREEKL | Number (1) | Preeclampsia | 1 = Light 2 = Serious 3 = Unspecified |
| PREEKLTIDL | Number (1) | Early preeclampsia | 1 = Yes |
| HELLP | Number (1) | HELLP | 1 = Yes |
| MULTIVITU | Number (1) | Multivitamin supplements during pregnancy | 1 = Yes |
| FOLATU | Number (1) | Folate supplements during pregnancy | 1 = Yes |
| LEGEMIDLER_UNDER | Varchar2 (500) | Medication during pregnancy | Code-string variable. See code-strings |
| <i>Mother's smoking habits during pregnancy</i> | | | |
| ROYK_MOTSETTER_SEG | Number (1) | Refuses registration of smoking habits | 1 = Yes 2 = No |
| ROYK_SKRIFT_ORIENT | Number (1) | Written information on smoking registration is given (see ROYK_MOTSETTER SEG) | 1 = Yes 2 = No |
| ROYK_OPPL | Number (1) | Smoking information available | 1 = Yes |
| ROYK_FOER | Number (1) | Smoking before pregnancy | 1 = No 2 = Sometimes 3 = Daily |
| ROYK_FOER_ANT | Number (1) | Number of cigarettes per day before pregnancy | 0-99 |

| Variable name | Format | Description | Values |
|---|----------------|---|---|
| ROYK_BEG | Number (1) | Smoking at start of pregnancy | 1 = No 2 = Sometimes 3 = Daily |
| ROYK_BEG_ANT | Number (2) | Number of cigarettes per day at start of pregnancy | 0 – 99 |
| ROYK_AVSL | Number (1) | Smoking at end of pregnancy | 1 = No 2 = Sometimes 3 = Daily |
| ROYK_AVSL_ANT | Number (2) | Number of cigarettes per day at end of pregnancy | 0 – 99 |
| MORS_HOYDE | Number (3) | Mother's height | Centimeter |
| MORS_VEKT_FOER | Number (4) | Mother's weight before pregnancy | Kg |
| MORS_VEKT_SLUTT | Number (4) | Mother's weight at end of pregnancy | Kg |
| KMI_FOER | Number (38,4) | Mother's body mass index before the start of the pregnancy (BMI) | Decimal |
| KMI_SLUTT | Number (38,4) | Mother's body mass index at end of pregnancy (BMI) | Decimal |
| C – Delivery | | | |
| FSTART | Number (1) | Initiation of delivery | 1 = Spontaneous 2 = Induction 3 = Cesarean section |
| ROBSON_10 | Number (2) | Birth classification according to the Robson 10-group classification system | See tables under Abbreviations and definitions |
| <i>Position, induction, intervention</i> | | | |
| LEIE | Number (1) | Child's presentation/position at birth | 1 = Normal cephalic 2 = Breech 3 = Transverse 4 = Cephalic, abnormal 5 = Other |
| INTERVENSJON | Varchar2 (500) | Surgical intervention and induction | Code-string variable. See code-strings |
| INDUKSJON_PROSTAGLANDIN | Number (1) | Induction of labor: Prostaglandine | 1 = Yes |
| INDUKSJON_OXYTOCIN | Number (1) | Induction of labor: Oxytocin | 1 = Yes |
| INDUKSJON_AMNIOTOMI | Number (1) | Induction of labor: Amniotomy (membrane stripping) | 1 = Yes |
| INDUKSJON_ANNET | Number (1) | Induction of labor: Other methods | 1 = Yes |
| TANG | Number (1) | Forceps | 1 = Forceps, breech delivery 2 = Outlet forceps, vertex delivery 3 = Other forceps, vertex delivery |
| VAKUUM | Number (1) | Vacuum extraction | 1 = Yes |
| EPISIOTOMI | Number (1) | Episiotomy | 1 = Yes |
| FRAMHJELP | Number (1) | Assisted delivery of breech / partial extraction | 1 = Yes |

| Variable name | Format | Description | Values |
|--|----------------|--|---|
| UTTREKKING | Number (1) | Total breech extraction | 1 = Yes |
| VAGINAL | Number (1) | Vaginal delivery | 1 = Yes |
| KSNITT | Number (1) | Cesarean section | 1 = Planned C-section 2 = Emergency C-section 9 = Unspecified C-section |
| KSNITT_PLANLAGT | Number (1) | Cesarean section was planned | 1 = No 2 = Yes |
| <i>Complications during delivery</i> | | | |
| KOMPLIKASJONER | Varchar2 (500) | Complications | Code-string variable. See code-strings |
| VANNAVANGANG | Number (1) | Premature rupture of membranes | 1 = 12-24 hours before delivery 2 = More than 24 hours before delivery 3 = Unspecified time before delivery |
| ABRUPTIOP | Number (1) | Abruptio placentae | 1 = Yes |
| PLACENTA_PREVIA | Number (1) | Placenta previa | 1 = Yes |
| RUPTUR34 | Number (1) | Perineal rupture, 3.-4. degree | 1 = Yes |
| BLODNING_0500 | Number (1) | Hemorrhage more than 500 ml during delivery | 1 = 500-1500 ml 2 = >1500 ml, transfusion 3 = >500 ml, unspecified amount |
| ENHETER_BLOD | Number (2) | Units of blood given to the mother during delivery | Integer |
| <i>Anaesthesia/analgesia</i> | | | |
| ANESTESI_ANALGESI | Number (1) | Anaesthesia/analgesia | 1 = Yes |
| EPIDURAL | Number (1) | Epidural anaesthesia | 1 = Yes |
| SPINAL | Number (1) | Spinal anaesthesia | 1 = Yes |
| NARKOSE | Number (1) | General anaesthesia | 1 = Yes |
| <i>Placenta, umbilical cord, amniotic fluid</i> | | | |
| UTSKRAPING | Number (1) | Placenta: Curettage | 1 = Yes |
| PLACENTAVEKT | Number (5) | Weight of placenta | Gram |
| MANUELL_PLACENTA | Number (1) | Placenta: Manual extraction | 1 = Yes |
| NAVLESNORLENGDE | Number (3) | Length of the umbilical cord | Centimeter |
| FOSTERV_POLYHYDRAMNION | Number (1) | Amniotic fluid: Polyhydramnios | 1 = Yes |
| FOSTERV_OLIGOHYDRAMNION | Number (1) | Amniotic fluid: Oligohydramnios | 1 = Yes |
| FOSTERV_MISF_STINK_INFI | Number (1) | Amniotic fluid: Discoloured,malodorous,infected | 1 = Yes |
| NAVLESNOR_KOMPL | Number (1) | Umbilical cord: Complications | 1 = Yes |
| PCO2_NAVLESNORARTERIE | Number (2,2) | PCO2 umbilical cord artery | PCO2-value |
| PCO2_NAVLESNORVENE | Number (2,2) | PCO2 umbilical cord vein | PCO2-value |

| Variable name | Format | Description | Values |
|--|---------------|---|---|
| PH_NAVLESNORARTERIE | Number (2,2) | PH umbilical cord artery | PH-value |
| PH_NAVLESNORVENE | Number (2,2) | PH umbilical cord vein | PH-value |
| <i>Complications with the mother after delivery</i> | | | |
| KOMPLIKASJONER_ETTER | Varchar2 500) | Complications after delivery. Some medications and treatments are also included. | Code-string variable. See code-strings |
| D – The child | | | |
| FDATE | Date | Date of delivery | Date |
| FMND | Varchar2 (2) | Month of delivery | Month |
| FAAR | Number (4) | Year of delivery | Year (1967-) |
| FKLOKKEN | Char (4) | Time of birth | Time |
| UTSKRIVINGDATO_BARN | Date | Discharge date, child | Date |
| UTSKRIVINGDATO_MOR | Date | Discharge date, mother | Date |
| LIGGEDOBN_MOR | Number (1) | Days in hospital, mother | Integer |
| FLERFODSEL | Number (1) | The birth is a plural birth (twins, triplet etc.) | 1 = Yes |
| PLURAL | Number (1) | Plurality: Number of children born | Integer |
| PLUREK | Number (1) | Child's order | Integer |
| KJONN | Number (1) | Child's gender | 0 = Not specified 1 = Male 2 = Female 3 = Uncertain 9 = Missing |
| VEKT | Number (4) | Child's weight | Gram |
| VEKT_MANGLER | Number (1) | Child's weight is missing | 1 = Yes |
| LENGDE | Number (4) | Child's full length For some cases with MELDINGSTYPEID=10 crown-rump length is used. | Centimeter |
| SETE_ISSE | Number (2) | Child's crown-rump length | Centimeter |
| LENGDE_MANGLER | Number (1) | Child's length is missing | 1 = Yes |
| HODE | Number (2) | Child's head circumference | Centimeter |
| HODE_MANGLER | Number (1) | Child's head circumference is missing | 1 = Yes |
| APGAR1 | Number (2) | Apgar score after 1 minute | 0 – 10 |
| APGAR1_MANGLER | Number (1) | Apgar score after 1 minute is missing | 1 = Yes |
| APGAR5 | Number (2) | Apgar score after 5 minutes | 0 – 10 |
| APGAR5_MANGLER | Number (1) | Apgar score after 5 minutes is missing | 1 = Yes |
| APGAR10 | Number (2) | Apgar score after 10 minutes | 0 – 10 |

| Variable name | Format | Description | Values |
|-------------------------|--------------|---|--|
| OVERFLYTTET | Number (1) | Child was transferred to neonatal ward | 1 = Yes 2 = No |
| UTVANDRET_DATO | Date | Date of the child's emigration from Norway | Date |
| FODT_MFR | Number (1) | Defined as a birth according to MBRN's definitions | 1 = VEKT >= 500g or SVLEN >= 22 2 = Live born in the national registry in Norway and not in category 1 |
| <i>Mortality</i> | | | |
| DDATO | Date | Child's date of death | Date |
| DAAR | Number (4) | Child's year of death | Year |
| DMND | Varchar2 (2) | Child's month of death | Month |
| DODKAT | Number (2) | Time of death, categorized | 0 = Live born, still alive 1 = Live born, died within 24 hours 2 = Live born, died 2.-6. day 3 = Live born, died 7.-27. day 4 = Live born, died 28. day – 1 year of age 5 = Live born, died 1-2 years of age 6 = Live born, died > 2 years of age 7 = Stillborn, died before delivery 8 = Stillborn, died during delivery 9 = Stillborn, unknown time of death 10 = Abortion requiring approval (§2.3c) 11 = Live born, unknown follow-up status 12 = Live born, emigrated 13 = Live born, registered birth certificate |
| PERINAT_FODT_MFR | Number (1) | Perinatal born according to MBRNs definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DODFODT_MFR | Number (1) | Perinatal stillborn according to MBRNs definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_TID_MFR | Number (1) | Death during the early perinatal period according to MBRNs definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_MFR | Number (1) | Death during the perinatal period according to MBRNs definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_FODT_22_EP | Number (1) | Perinatal born ≥ 22 weeks according to Euro-Peristat definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DODFODT_22_EP | Number (1) | Perinatal stillborn ≥ 22 weeks according to Euro-Peristat definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |

| Variable name | Format | Description | Values |
|---|----------------|--|--|
| PERINAT_DOD_TID_22_EP | Number (1) | Death during the early perinatal period ≥ 22 weeks according to Euro-Peristat definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_22_EP | Number (1) | Death during the perinatal period ≥ 22 weeks according to Euro-Peristat definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_FODT_500_WHO | Number (1) | Perinatal born ≥ 500 gram according to WHO's primary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DODFOD_500_WHO | Number (1) | Perinatal stillborn ≥ 500 gram according to WHO's primary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_TL_500_WHO | Number (1) | Death during the early perinatal period ≥ 500 gram according to WHO's primary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_500_WHO | Number (1) | Death during the perinatal period ≥ 500 gram according to WHO's primary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_FODT_1000_WHO | Number (1) | Perinatal born ≥ 1000 gram according to WHO's secondary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DODFOD_1000_WHO | Number (1) | Perinatal stillborn ≥ 1000 gram according to WHO's secondary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_TL_1000_WHO | Number (1) | Death during the early perinatal period ≥ 1000 gram according to WHO's secondary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| PERINAT_DOD_1000_WHO | Number (1) | Death during the perinatal period ≥ 1000 gram according to WHO's secondary definition. See also: Abbreviations and definitions: Perinatal mortality | 1 = Yes |
| <i>Child health and neonatal diagnoses</i> | | | |
| BARNETS_HELSE | Varchar2 (500) | Child health and neonatal diagnoses reported in the birth-, child- and abortion form | Code-string variable. See code-strings |
| ABSTINENS | Number (1) | Withdrawal symptoms in the child due to medicaments, alcohol or narcotics | 1 = Yes |
| RESPIRATORISK_DISTR | Number (1) | Respiratory distress syndrome | 1 = Yes |

| Variable name | Format | Description | Values |
|---|------------|---|--|
| INTRAKRANIELL_BLODN | Number (1) | Intracranial hemorrhage | 1 = Yes |
| PLEXUSSKADE | Number (1) | Plexus injury | 1 = Yes |
| SYSTEMISKANTIBIOTIKA | Number (1) | Treated with systemic antibiotics | 1 = Yes |
| RESPIRATOR | Number (1) | Respiratory treatment | 1 = Yes |
| FRACT_CLAVICULAE | Number (1) | Fractura clavicularae – fracture of clavicle | 1 = Yes |
| CPAP | Number (1) | CPAP-treatment | 1 = Yes |
| ANNEN_FRACTUR | Number (1) | Other fracture | 1 = Yes |
| ICTERUS | Number (1) | Icterus, treated | 1 = Yes |
| FACIALISPARESE | Number (1) | Facial paresis | 1 = Yes |
| <i>Congenital malformations - see also: Neonatal diagnoses (above)</i> | | | |
| MISD | Number (1) | Congenital malformations | 1 = Yes |
| NEVRALRORSDEFEKTER | Numer (1) | Anencephaly, Encephalocele or Spina bifida | 1 = Yes |
| ANENCEPH | Number (1) | Anencephaly | 1 = Yes |
| SPINAB | Number (1) | Spina bifida | 1 = Yes |
| ENCEPH | Number (1) | Encephalocele | 1 = Yes |
| HJERTE_MISD | Number (1) | Heart condition | 1 = Yes |
| GANESPALTE | Number (1) | Cleft palate without cleft lip | 1 = Yes |
| LEPPE_LEPPEGANESPALTE | Number (1) | Cleft lip with or without cleft palate | 1 = Yes |
| HYPOSPADIA | Number (1) | Hypospadias | 1 = Yes |
| KLUMPFOT | Number (1) | Pes equinovarus (Clubfoot) | 1 = Yes |
| OMPHALO | Number (1) | Omphalocele | 1 = Yes |
| GASTROS | Number (1) | Gastroschisis | 1 = Yes |
| KROMOSOMFEIL | Number (1) | Chromosomal abnormality | 1 = Yes |
| DOWNNS | Number (1) | Down's syndrome | 1 = Yes |
| ART | | | |
| ART | Number (1) | Assisted Reproductive Technology treatment (IVF, ICSI or other ART treatments. See ARTMETODE) | 1 = Reported on ART notification form 2 = Art info from birth notification form (mother's health) 3 = ART info from method of estimating delivery date (embryo transfer) 9 = Other ART info |

General Comments

Since 2015, a comprehensive modernization project has been in place at the Medical Birth Registry of Norway (MBRN), where the infrastructure for receiving, processing, coding, quality assuring, storing and managing data from the birth notification forms has been upgraded. The main goal of the project has been to ensure a consistent registry across its 50 year timespan. Data from all versions of the birth notification form have been transformed to a common format for easier understanding and to facilitate correct use. This work has resulted in data changes compared to previous versions. The changes first appear in database version 2017Q1. Comments to known changes are given under the individual variables in the following sections.

MBRNs set of data contains births up to the year of 2017.

Terminations of pregnancy

Records with MELDINGSTYPEID=199 (Terminations of pregnancy according to §2.3c) only contain information submitted on the notification form for termination of pregnancy and from autopsy reports where available.

Code-strings

Also includes information from check boxes in the birth notification form, which is coded under the relevant string's code group. Please note that from database version 2013Q2 the amount of data elements in the code-strings has increased. This is due to the inclusion of check boxes that indicates "nothing unusual" or similar in the birth notification form.

Demographic information

Demographic information as e.g. mother's age, father's age, child's date of death depends on the quality of the information provided by the national registry in Norway. Smaller changes may occur in the demographic data from database version 2017Q1 version due to the introduction of a new infrastructure for the national registry data.

Variables

For more detailed documentation of each variable in the database versions, see the variable definition reports published on MBRNs web-site.

Abstinens

Abstinens was introduced in database version 2011Q1.

Anestesi_analgesi

Anestesi_analgesi is revised in database version 2017Q1.

Blodning_0500

Blodning_0500 is revised in database version 2017Q1. Notifications from before 1998 contains codes that was not included in the previous variable definition.

Diabetes_mellitus

Diabetes_mellitus was introduced as a group variable for diabetes in database version 2009Q2. The variable replaces the mutually excluding variables 'diabetes_1', 'diabetes_2', 'diabetes_annen' and 'diabetes_svgsk'.

Dodkat

Dodkat code 11 was introduced in database version 2010Q1. The code is used for live born children where MBRN is unable to track whether they are still alive or not. Dodkat code 12, 13 and 14 was introduced in database version 2013Q3. Dodkat code 12 is used for live born children, who have emigrated and MBRN is therefore unable to track whether they are still alive or not. Dodkat code 13 is used for live born children born in Norway by foreign parents which do not resides in Norway. The definition of dodkat is re-built in database version 2013Q3. This is done

to correct misclassifications, primarily for stillborns. The misclassifications were present from database version 2008Q4 to 2013Q3. In these versions, the number of neonatal deaths are too high and the number of stillborns too low. Please contact MBRN if you have any further questions about this subject.

Following the modernization project at MBRN, codes for approximately 100 stillborns and neonatal deaths was changes, mainly from died within 24 hours to died 2.-6. day.

Eclamsi

Eclamsia is probably under-reported in the period 1967 – 1998. Each individual case of eclampsia reported from 1999 is verified at the hospitals.

Flerfodsel

Flerfodsel was introduced in database version 2010Q2 and indicates if the birth is a single birth or part of a plural birth (twins, triplets etc.)

Fodested_kat

For MELDINGSTYPEID=10 (birth notification form 1967-1998, white paper) the category 7 (at home, unplanned) includes all home births, both planned and unplanned.

Fodt_mfr

Fodt_mfr distinguishes between a birth and a spontaneous abortion/termination of pregnancy for fetal anomaly.

Fosterv_misf_stink_infi

Fosterv_misf_stink_infi is revised in database version 2017Q1. Notifications from before 1998 contains codes that was not included in the previous variable definition.

Fstart

The definition of the categories for initiation of delivery (spontaneous, induction, c-section) has been changed from database version (2008Q4). Induction of delivery is now prioritized over c-section if both are reported.

Helseforetak

Helseforetak was introduced in database version 2011Q1.

Helseregion

Helseregion was introduced in database version 2011Q1.

Hode

Only contains information submitted on birth notification forms. Information reported to MBRN on NICU notification forms are no longer retained.

Hypospadia

Hypospadia is revised in database version 2017Q1.

Induksjon_oxytocin

Induksjon_oxytocin is revised in database version 2017Q1. For notifications from before 1998 some codes that previously was included in the variable definition are not included in the revised variable definition. In addition, new codes are included in the revised variable definition for notifications from after 1998.

Ksnitt

The definition of the categories (planned, emergency and unspecified) have been changed from database version 2008Q4. This resulted in a small increase in the number of unspecified cesarean sections. The changes have no effect on the total number of cesarean section. In database version 2013Q1 there are minor changes in the definition which reduces the amount of unspecified c-sections from Ullevål hospital.

Ksnitt_tidligere (Previous c-section)

The definition of this variable was changed in 2012Q4. The change consists of also including the mother's self-reported previous c-sections, even if these c-sections have not been reported to MBRN. The change increases the level of ksnitt_tidligere by approx. 100-200 per year.

Ksnitt_planlagt

Ksnitt_planlagt was introduced in database version 2012Q4. The variable indicates whether the c-section was planned or unplanned. The variable is based on check boxes on the notification form or free text that has been coded manually. Note that this variable does not have information for the period 1967-1998 (Meldingstype 10) in database version 2012Q4. This is fixed in database version 2013Q2.

KMI_foer og KMI_slutt (BMI)

The variables are based on mother's height and weight. The information is only available from 2007 and only from approximately 40% of the institutions.

Leie

Leie is revised in the database version 2017Q1. Notifications from before 1998 contains codes that was not included in the previous variable definition. For paper notifications after 1998, where abnormal cephalic position is reported in combination with normal cephalic, abnormal cephalic is prioritized.

Lengde

Only contains information submitted on birth notification forms. Information reported to MBRN on NICU notification forms are no longer retained.

Navlesnor_kompl

Navlesnor_kompl is revised in the database version 2017Q1. Notifications from before 1998 contains codes that was not included in the previous variable definition.

Overflyttet

In database version 2011Q1 this variable was redefined to include data from source 1 (1967-1998). Definitions for source 2 and 3 (1999->) have not been changed.

Paritet

Paritet (parity) does not include terminations of pregnancy according to §2.3c. These were included in previous database versions.

Paritet_mfr

Paritet_mfr (parity) does not include terminations of pregnancy according to §2.3c. These were included in previous database versions.

Paritet_5

Paritet_5 was introduced in database version 2010Q2. Paritet (parity) is a group variable that indicates the number of previous deliveries. It is the highest value of the fields "paritet_mor" and "paritet_mfr".

Preekl

The categories has been changed from database version 2008Q4. The changes do not affect the total number of cases with preeclampsia. The definition has been changed from database version 2011Q1. The change has led to a small decrease in incidents.

Prenat_diagnostikk_utf

Prenat_diagnostikk_utf is revised in database version 2017Q1.

Royk_avsl

The category 9 (does not consent to give information about smoking) is removed from the categories as of database version 2014Q1. This information is available in the variable royk_motsetter_seg.

Royk_beg

The category 9 (does not consent to give information about smoking) is removed from the categories as of database version 2014Q1. This information is available in the variable `royk_motsetter_seg`.

Royk_foer

`Royk_foer` and `royk_foer_ant` was introduced in database version 2012Q4. All variables regarding smoking were adjusted in database version 2013Q2 to improve the handling of missing-values. The category 9 (does not consent to give information about smoking) is removed from the categories as of database version 2014Q1. This information is available in the variable `royk_motsetter_seg`.

Slektf

`Slektf` was introduced in database version 2011Q1. The variable indicates the familial relationship between the parents. `Slektf` is revised in database version 2017Q1.

Svlen

The variable definition is changed from database version 2013Q3. When `svlen < 35`, `plural = 1` and `z_score > 4`, the `svlen` value is set to missing. From medio 2015 the reported method for estimating expected date of delivery is more specific. From this point it is decided to use reported methods as basis for length of gestation.

Svlen_art

The variable was removed in database version 2011Q2 due to uncertainties in the data basis. The variable was reintroduced in database version 2014Q3.

Svlen_art_dg

The variable was removed in database version 2011Q2 due to uncertainties in the data basis. The variable was reintroduced in database version 2014Q3.

Tang

A category variable for use of forceps was introduced in database version (2008Q4). This variable replaces the mutually excluding variables `tang_sete`, `tang_utskj` and `tang_annen`.

Utvandret_dato

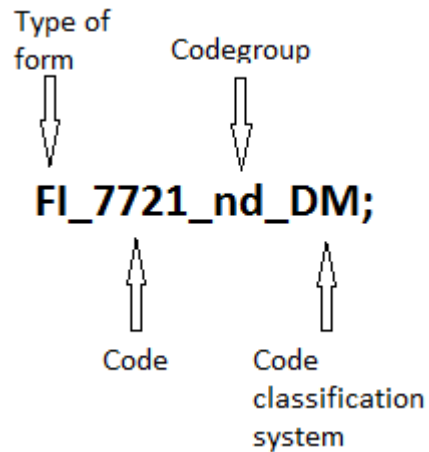
The variable is temporarily removed from database version 2017Q1 due to quality issues.

Vekt

Only contains information submitted on birth notification forms. Information reported to MBRN on NICU notification forms are no longer retained.

Code-strings

Code-strings contain codes that describe conditions related to pregnancy and delivery. The structure of the code-strings is shown below. The example is taken from the code-string `'BARNETS_HELSE`.



In this example the maternity ward (FI) has reported the neonatal diagnosis (nd) Cephalhematom which are coded with the ICD-8-MFR (DM) code 7721.

Each code-string contains one or several code blocks that are separated by semicolons. Each code block contains four elements separated by underscores:

- 1.st element indicates the type of form the code is reported on, e.g. birth notification form or NICU notification form
- 2.nd element indicates the reported code, e.g. a diagnosis or medication code
- 3.rd element indicates the code group which is used to group codes into certain categories, e.g. mother's health during pregnancy or neonatal diagnoses.
- 4.th element indicates the code classification system used, e.g. ICD-10 or ATC

A description of the different code elements are given in the following tables.

Using code-strings

Examples on how to use code-strings and syntaxes that can be used in SPSS and SAS to split code-strings into single fields are available on MBRNs website.

Type of form

| Type of form | Description |
|--------------|--|
| FI | Birth notification form |
| BA | NICU notification form |
| A | Termination of pregnancy notification form |
| OR | Autopsy notification form |
| EK | Epicrisis notification form |
| PP | Test results of the placenta |
| CT | CT of stillborn |
| AN | Other |

Code groups

| Codegroup | Description | Code-string variable |
|-----------|---------------------------------------|----------------------|
| ig | Intervention | INTERVENSJON |
| ii | Indication for intervention | INTERVENSJON |
| io | Indication for transfer to NICU | BARNETS_HELSE |
| pf | Pathological findings prenatally | PRENAT_PAT_KODER |
| mf | Mother's health before pregnancy | MORS_HELSE_FOER |
| mu | Mother's health during pregnancy | MORS_HELSE_UNDER |
| dd | Cause of death for stillbirths | BARNETS_HELSE |
| id | Induction of labour | INTERVENSJON |
| ke | Maternal complications after delivery | KOMPLIKASJONER_ETTER |
| kp | Complications (during delivery) | KOMPLIKASJONER |
| lu | Medication during pregnancy | LEGEMIDLER_UNDER |
| nd | Neonatal diagnoses | BARNETS_HELSE |
| pd | Prenatal diagnostics | PRENAT_DIAG_TYPE |
| if | Intrauterine intervention | KOMPLIKASJONER |
| sl | Familial relations between parents | SLEKTSKAPSKODER |
| ov | Assessment during delivery | BARNETS_HELSE |
| as | Asphyxia | BARNETS_HELSE |

Code classification systems

The codes that are reported on birth notification forms are classified by different types of code classification systems. The table below describes the relationship between the classification numbers in the code-strings and the code classification systems.

| Classification number | Short name | Description |
|-----------------------|---------------------|---|
| D8 | ICD-8 | International statistical classification of diseases and related health problems. 8th revision (ICD-8) |
| D | ICD-10 | International statistical classification of diseases and related health problems. 10th revision (ICD-10) |
| F | ATC | Anatomical Therapeutic Chemical classification system |
| M | NCMP | Norwegian classification of medical procedures |
| K | NCSP-N | Norwegian version of The NOMESCO Classification of Surgical Procedures |
| DM | ICD-8-MFR | MBRN's modifications of and supplements to ICD-8 |
| IM | Internal MBRN codes | Internal MBRN codes used when there are no suitable official codes |
| IK | X-codes | Predefined variables from lists in the digital birth notification form and check boxes in the birth notification paper form |

Abbreviations and definitions

Robson 10-group classification system

| Birth classification according to Robson | Datatype - description |
|--|--|
| 1 | Number of previous deliveries = 0, singleton, normal cephalic, length of gestation ≥ 37 weeks, spontaneous initiation of delivery |
| 2 | Number of previous deliveries = 0, singleton, normal cephalic, length of gestation ≥ 37 weeks, induction or sectio |
| 3 | Number of previous deliveries ≥ 1 , no previous sectio, singleton, normal cephalic, length of gestation ≥ 37 weeks, spontaneous initiation of delivery |
| 4 | Number of previous deliveries ≥ 1 , no previous sectio, singleton, normal cephalic, length of gestation ≥ 37 weeks, induction or sectio |
| 5 | Number of previous deliveries ≥ 1 , previous sectio, singleton, normal cephalic, length of gestation ≥ 37 weeks |
| 6 | Number of previous deliveries = 0, singleton, breech |
| 7 | Number of previous deliveries ≥ 1 , singleton, breech |
| 8 | Plurality: Number of children born ≥ 2 |
| 9 | Singleton, transverse |
| 10 | Singleton, normal cephalic, length of gestation ≤ 36 weeks |

ICSI

Intracytoplasmic sperm injection. Also referred to as microinjection. One (single) sperm cell is injected directly into an oocyte.

ART

Assisted Reproductive Technology. The variable indicates if the pregnancy is a result of IVF, ICSI or other ART treatments.

Paritet

MBRN's definition is based on number of prior births as reported by the mother (PARITET_MOR) and on number of prior births as registered by MBRN (PARITET_MFR). A prior twin birth will increase mother's parity by 2.

PARITET_MOR for Meldingstypeid = 10 is the sum of prior live borns and stillborns as reported by the mother (without specification of gestational age for stillborns). For Meldingstypeid = 1, 2, 5 and 8 PARITET_MOR is based upon the number of prior live- and stillborns from 12 weeks of gestation.

PARITET_MFR is based upon the sum of prior births for the mother, from 16 weeks of gestation in Meldingstypeid = 10, and from 12 weeks of gestation for Meldingstypeid = 1, 2, 5 and 8.

Paritet does include previously termination of pregnancy registered according to §2.3c.

Perinatal period

The period from immediately before birth up to and including the first 7 days after birth. See: Perinatal mortality.

Early perinatal period

The period from immediately before birth up to and including the end of the first day after birth. See: Perinatal mortality.

Perinatal mortality

The total number of stillbirths and deaths within the first 7 days after birth according to the inclusion criteria (specified below) divided by the total number of births according to the inclusion criteria.

As a result of the general development within neonatal medicine most official institutions have lowered the inclusion criteria for gestational age and birth weight from 28 weeks/1000 grams to 22 weeks/500 grams.

Perinatal mortality: MBRN

The MBRN uses the variable FODT_MFR (see record description above) as a tool to identify the births that fulfil the inclusion criteria.

Perinatal mortality: Euro-Peristat:

Gestational age \geq 22 weeks. If gestational age is unknown, birth weight \geq 500 grams is used as a reasonable indicator for inclusion.

Perinatal mortality: WHO's primary definition

Birth weight \geq 500 grams. If birth weight is unknown, gestational age \geq 22 weeks is considered a reasonable indicator for inclusion. If both birth weight and gestational age are unknown, length (crown-heel) \geq 25 cm is used as an indicator for inclusion.

Perinatal mortality: WHO's secondary definition

Birth weight \geq 1000 grams. If birth weight is unknown, gestational age \geq 28 weeks is considered as an indicator for inclusion. If both birth weight and gestational age are unknown, length (crown-heel) \geq 35 cm is used as an indicator for inclusion.

Data types

MBRNs data are stored in an ORACLE database 11g, and therefore MBRN uses data types from ORACLE 11g. Different programs use different data types with similar, but not necessarily identical properties. When data are read from MBRNs data base into another program i.e. SAS, SPSS, Microsoft Access or Microsoft Excel the fields are converted to data types in the chosen program. For details, see documentation for the chosen program.

| Oracle 11g datatype | Datatype | Description |
|---------------------|---------------|--|
| date | Date and time | MBRN uses MM.DD.YYYY |
| number (precision) | Number | Number. The value in the parenthesis defines the precision. |
| varchar2 (length) | String | Text-string with variable length. The value in the parenthesis defines the maximum length. |
| char (length) | String | Text-string with permanent length. The value in the parenthesis defines the length. |