NMPA

National Maternity & Perinatal Audit

Multiple Births Outcomes of Maternity Care

Based on births in NHS maternity services in England, Scotland and Wales during 2023

Methods

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RCPCH Royal College of Paediatrics and Child Health
Royal College of Midwives
Royal College of Obstetricians & Gynaecologists
HQIP Healthcare Quality Improvement Partnership

Contents

Introduction

The NMPA Multiple Births Outcomes of Maternity Care snapshot audit report presents results for women and birthing people who gave birth to twins, triplets or more in NHS maternity services in England, Scotland and Wales during 2023. This document provides details of the methods and cohort construction used for the report.

How to use this document

This document should be reviewed alongside the Methods and Measures Technical Specification documents for the NMPA 2023 annual clinical report. Both the 2023 annual clinical report and the multiple births snapshot audit use the same datasets containing births in NHS maternity services in England, Scotland and Wales during 2023. This methods document forms part of a suite of resources produced for the snapshot audit report. The following additional supporting documents can be found on our website:

- The Multiples Births Outcomes of Maternity Care snapshot audit report
- Country-level summary results tables
- The NMPA State of the Nation summary report on singleton births that occurred in 2023
- A glossary explaining the terminology and abbreviations used in our reports
- A line-of-sight table describing the evidence base for the recommendations in this report

Results can be used to benchmark against national standards and recommendations where these exist, and to identify good practice among maternity care providers and specific clinical areas for quality improvement. Only records and maternity services which passed thorough data quality checks are included in these results. This means not every maternity service at every trust/board has results for every measure.

The Multiple Births Outcomes of Maternity Care snapshot report provides GB-level results. The summary results tables document provides country-level results. For some measures the outcome did not occur for triplets or more at all, for others the numbers were too small to report at a country-level and were presented at GB-level, and for others the GB-level was too small and the numbers were suppressed. Numbers were too small to publish trust/board-level results

Selection of audit measures

In 2022, the NMPA were re-commissioned by the Healthcare Quality Improvement Partnership (HQIP) to continue and enhance its analysis of maternity care. This recommission period began in 2023 with a rigorous review of measures used in previous audit reports. A full description of this review process can be accessed online.

The suitability of a measure for inclusion in a national clinical audit depends on a number of explicit criteria: validity, fairness, sufficient statistical power and adequate technical specification.[1] In addition to these criteria, it is also important for a set of audit measures to be balanced. In other words, the audit should cover various dimensions of care to give a complete overall picture of the service, especially in an area of clinical practice where there are very few measurable standards against which care processes and outcomes can be audited.

As the NMPA reports results using data from the devolved nations, measures of maternity care must be identifiable across heterogeneous national maternity datasets which differ in terms of content, design, and completeness and quality of data.

List of measures

Late booking	Of women and birthing people who give birth to twins, triplets or more between 24^{+0} and 42^{+6} weeks, the proportion attending the first appointment with a midwife (booking) after 10^{+0} weeks of gestation.	
Preterm birth	Of women and birthing people who give birth to twins, triplets or more between 24^{+0} and 42^{+6} weeks of gestation, the proportion who give birth before 37 weeks of gestation.	
Induction of labour	Of women and birthing people who give birth to twins, triplets or more between 32^{+0} and 42^{+6}, the proportion who have an induction of labour.	
Birthweight discordance in twins	Of twin baby pairs, where both are liveborn, who have a birthweight discordance of ≥25%, the proportion who are born at or after 36 weeks of gestation.	
Third- and fourth-degree perineal tears	Of women and birthing people who give birth vaginally to twins, triplets or more between 32^{+0} and 42^{+6} weeks, the proportion who experience a third- or fourth-degree perineal tear.	
Episiotomy	Of women and birthing people who give birth vaginally to twins, triplets or more between 32^{+0} and 42^{+6} weeks, the proportion who have an episiotomy.	
Vaginal birth with and without the use of instruments	Of women and birthing people who give birth to twins, triplets or more between 32^{+0} and 42^{+6} weeks, the proportion giving birth vaginally:	a) without the use of instruments b) with the use of instruments (forceps and ventouse)
Caesarean birth	Of women and birthing people who give birth to twins, triplets or more between 32^{+0} and 42^{+6} weeks, the proportion who have:	a) an unplanned caesarean birth b) a planned caesarean birth
Sequential vaginal followed by caesarean birth	Of women and birthing people who give birth to baby one of twins, triplets or more between 32^{+0} and 42^{+6} weeks vaginally, the proportion who give birth to baby two or more by caesarean.	

[1] Geary R, Knight H, Carroll F, Gurol-Urganci I, Morris E, Cromwell D, et al. A step-wise approach to developing indicators to compare the performance of maternity units using hospital administrative data. *BJOG Int J Obstet Gynaecol*. 2018;125(7):857–65. doi: 10.1111/1471-0528.15013

Episiotomy followed by caesarean birth	Of women and birthing people who have an episiotomy when giving birth vaginally to baby one of twins, triplets or more between 32^{+0} and 42^{+6} weeks, the proportion who give birth to baby two or more by caesarean.
Vaginal birth after caesarean (VBAC)	Of women and birthing people who give birth to twins, triplets or more between 34^{+0} and 42^{+6} weeks after having had a caesarean birth for their first pregnancy, the proportion who give birth vaginally.
PPH ≥1500 ml	Of women and birthing people who give birth to twins, triplets or more between 32^{+0} and 42^{+6} weeks, the proportion who have a postpartum haemorrhage of ≥1500 ml.
Unplanned maternal readmission	Of women and birthing people who give birth to twins, triplets or more between 34^{+0} and 42^{+6} weeks, the proportion who have an unplanned overnight readmission to hospital within 42 days of birth.
Apgar Score <7 at 5 minutes	Of liveborn twins, triplets or more babies born between 34^{+0} and 42^{+6} weeks, the proportion who are assigned an Apgar score of less than 7 at 5 minutes of age.
Skin-to-skin contact	Of liveborn twins, triplets or more babies born between 34^{+0} and 42^{+6} weeks, the proportion who receive skin-to skin contact within one hour of birth.
Breast milk	Of liveborn twins, triplets or more babies born between 34^{+0} and 42^{+6} weeks, the proportion who receive: a) any breast milk at first feed b) any breast milk at discharge from the maternity unit

Data sources

The NMPA annual clinical report uses English, Scottish and Welsh data from the following sources:

England: Maternity data from the Maternity Services Data Set (MSDS v2.0), are linked to Hospital Episode Statistics Admitted Patient Care (HES APC) administrative data. These are linked to the ONS register of live births, stillbirths and mortality, as well as the PDS birth notification dataset which together form the ONS-PDS spine. All pseudonymised English datasets are controlled and supplied directly to the NMPA by NHS England.

Wales: Maternity data from the Maternity Indicators data set (MIds) (which includes the Initial Assessment (IA) dataset) are linked with selected variables from the National Community Child Health Database (NCCHD). Those are then linked to administrative data from the Patient Episode Database for Wales (PEDW) Admitted Patient Care (APC). All pseudonymised Welsh datasets are controlled and supplied directly to the NMPA by The Digital Health & Care Wales (DHCW).

Scotland: Maternity data from the Maternity Inpatients and Day Cases – Scottish Morbidity Record (SMR-02) and the Scottish Birth Record (SBR) are linked to data from the General Acute Inpatients and Day Cases – Scottish Morbidity Records (SMR-01). Those are then linked to data from the National Records of Scotland (NRS) register for live births, still births and death. All pseudonymised Scottish datasets are controlled and supplied directly to the NMPA by Public Health Scotland (PHS).

A data flow diagram for NMPA data from each of the devolved nations can be found online.

The challenges of implementing and refining MSDS v2.0 upgrades incorporated largescale structural changes compared to its predecessor (MSDS v1.5). This included mandating clinical data entry from both electronic and paper records, the introduction of a new clinical terminology Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT), additional data items, and updates to pre-existing data items.

SNOMED CT has shifted MSDS from the requirement for data to be input under the framework of specific items or categories to an open system where over 350 000 diagnoses, anatomical structures, events, observations, procedures, substances, organisms, interventions, situations, and concepts are numerically coded, and can be submitted in numerous locations. While this offers maternity care providers the possibility to submit more comprehensive data, for the NMPA this presented the challenge of managing vast amounts of data that are organised in a non-standardised way, and requires intensive processing and cleaning. In some instances, SNOMED CT coding has replaced data capture using well established variables with defined data fields, leading to a decrease in data completeness and quality.

Both MSDS and HES APC continue to report operative procedures and diagnoses using the OPCS Classification of Interventions and Procedures version 4 (OPCS-4) and the International statistical classification of diseases and related health problems revision 10 (ICD-10) coding structures respectively, which are used for the numerator construction in many NMPA measures. OPCS-4 is an NHS coding system used for operations, interventions and procedures performed in the NHS, and ICD-10 is an international coding system of diseases, findings, and symptoms developed by the World Health Organisation.

Data quality

For the multiple births snapshot report, data quality was first assessed for the whole NMPA population as a part of the annual clinical report cohort construction and multiple births records were identified from this population. The NMPA team assesses data quality in the following four ways:

Data completeness

For each key data items required by the NMPA, we exclude sites or trusts/boards if the proportion of records missing this information exceeds 30%. An overview of data completeness on some of the key variables is available online in the Data Completeness documents.

Distribution

For many key variables, we define acceptable ranges within non-missing values. We exclude strongly outlying sites or trusts/boards that have a rate that is either too low or too high to be plausible (i.e. where no clinical reason for this level of variation could be envisaged). For example, a site with an obstetric unit will fail the gestational age check if the proportion of babies born at term (37^{+0} to 42^{+6} weeks) is less than 70%.

Within dataset consistency

For some variables, it is possible to perform internal consistency checks within the dataset. For example, it would be implausible for a woman or birthing person who is coded as having labour onset as '*not applicable – delivered prior to labour onset via caesarean section*' to also be coded as having given birth vaginally. We check that these types of implausible records are rare within the dataset. Where consistency issues are detected, the variable identified as being the least plausible is set to missing for that record.

Between dataset consistency

For a few key variables, it is also possible to check for consistency between the different source datasets. For example, for England, gestation length at birth is available in the main maternity dataset MSDS as well as the ONS-PDS spine and the HES APC dataset. This is extremely valuable in the sense that it allows better decision making when cleaning the data, particularly when addressing within-dataset consistency issues on key variables. Where consistency issues are detected, the source identified as being the most plausible and/or reliable is retained for that record.

Additionally, in some rare cases where important data quality issues on a given measure affect an entire site or trust/board, it is sometimes possible to substitute that measure with that of an alternative source dataset for that given site or trust/board.

Assessment criteria were developed based on previous work.[2] The four data quality assessment approaches detailed above each serve a different purpose and, together, improve the likelihood of detecting poor quality data. For example, data quality assessment based on the proportion of missing data alone would not be sufficient, as it could lead to the inclusion of records from hospitals

with seemingly complete data but with an observed distribution of data outside the expected range of values. By combining these approaches we can be confident that the published figures are based on data that have met at least a minimum standard of completeness and consistency.

Details of data quality checks performed for each measure as well as data item definition and alternative sources available for each can be found online in the Measures Technical Specification document.

Data analysis

Minimum requirements for inclusion in the analysis

The analysis in the annual clinical report for singleton births in 2023 and the multiple births snapshot report is restricted to:

- trusts/boards that passed the NMPA trust/board-level data quality checks
- birth records within those sites and trusts/boards that contain the required data to construct the measure
- birth records within those sites and trusts/boards that contain the required data to construct case-mix adjusted results (where adjustment is applicable)

The number of trusts/boards for which results are available therefore varies from measure to measure, depending on the specific data requirements.

Construction of audit measures

The statistics in the annual clinical report and multiple births snapshot report are given as the proportion of events occurring within a group of women and birthing people or babies. The reference group of women and birthing people or babies (the denominator) changes between audit measures. As a general principle, the denominator for each measure is restricted to women and birthing people or babies to whom the outcome or intervention of interest is applicable. For example, the measure of the '*proportion of women and birthing people with a third-or fourth-degree tear*' is restricted to those who gave birth vaginally. A full description of these groups is contained in the Measures Technical Specification under each measure. Additional technical specification information for the measures relevant for multiple births (sequential vaginal then caesarean birth, episiotomy followed by caesarean birth, and birthweight discordance in twins) can be found in appendix 1 of this document.

For measures relating to maternity care, results are presented per woman or birthing person giving birth. For measures relating to the care of the baby, results are presented per baby born.

Identifying multiple births

In identifying women and birthing people who gave birth to more than one baby, a 'number of infants' variable is used. Each woman or birthing person's record should have a value for this variable and it should correspond with the number of baby records attached to the maternal record, for a given pregnancy. We compared the expected number of babies (as per the information provided in

the 'number of infants' variable) with the number of baby records provided for each pregnancy record.

In Scotland and Wales, the 'number of infants' variable corresponded with the number of baby records for all the maternal records in the cohort. In England, where there was a discrepancy, we traced back the mother ID and relative babies in the ONS-PDS spine (data from ONS register of live births, stillbirths and mortality, and PDS birth notification dataset). Once the mother IDs were identified, we counted the number of babies recorded in the ONS-PDS spine for the same pregnancy and updated the 'number of infants' variable in our cohort with the value derived from ONS-PDS register.

Gestational age discrepancies

Where there was a discrepancy between the gestational age at birth recorded for each baby in a multiple pregnancy, factors such as the birthweight and live- or stillbirth status were taken into consideration. If the outcome of one of the babies was stillborn then the gestational age was not amended. If both/all babies were liveborn and their birthweights were plausible, then the gestational age of each baby was not amended. The time of birth was taken into consideration where there was a difference in completed weeks of gestation, for example, in cases where the first baby or babies were born just before midnight and the subsequent baby or babies after midnight, leading to different gestational weeks at birth then the gestational age of the first born was assigned to all babies in the pregnancy.

Determining chorionicity

Rates of adverse outcomes such as miscarriage, stillbirth, preterm birth, and neonatal death are higher for multiple births than singleton pregnancies.[1] Chorionicity and amnionicity are major factors for the chance of adverse outcomes, with guidance from NICE and RCOG offering optimal timings for birth for multiples based on chorionicity and amnionicity.

The NMPA made a recommendation in our previous report *NHS Maternity Care for Women with Multiple Births and Their Babies* published in 2020 for the recording of chorionicity and amnionicity in maternity datasets (box 1). The previous report made use of Maternity Information Systems for English maternity data which has since been replaced in the NMPA data flow by the Maternity Services Data Set (MSDS) v2.0. Changes to data fields in MSDS v2.0 have led to an increased reliance on SNOMED CT coding for the recording of many disorders, procedures, observations and findings. This includes the recording of information relevant to multiple births including number of fetuses, disorders of multiple births and chorionicity and amnionicity. There are no standalone data fields to record chorionicity in English, Scottish or Welsh maternity datasets and it is not included as a mandatory item in the maternity data records standard.

[1] Whittaker M, Greatholder I, Kilby MD, Heazell AEP. Risk factors for adverse outcomes in twin pregnancies: a narrative review. J Matern Fetal Neonatal Med. 2023;36(2):2240467. doi: 10.1080/14767058.2023.2240467

Box 1

Recommendation 3

Maternity service providers and national organisations responsible for collating and managing maternity datasets should make chorionicity and amnionicity a compulsory data item in maternity information systems and national datasets for women with multiple pregnancy. This should be implemented in the next version of the national data specification.

Recommendation 4

Maternity service providers who offer specialist fetal procedures, such as intrauterine fetal laser therapy, should work with their coding departments to ensure that the fetal complications and procedures are properly coded into HES, SMR and PEDW by the end of the 2020/21 reporting year.

To assess the completeness of SNOMED CT, ICD-10 and OPCS-4 coding relevant to multiple births, codes that directly relate to chorionicity and amnionicity as well as those that may serve as a proxy (for example placental transfusion complications that can occur in monochorionic pregnancies but rarely in dichorionic/trichorionic) were searched within the MSDS data files for both mother and baby. The search returned fewer than 500 records in the mother files and fewer than 250 records in the baby files. All codes that were searched for can be found in appendix 2.

Small for gestational age

The small for gestational age (SGA) measure definition we report for singletons is designed to measure if appropriate monitoring of fetal growth and timely interventions are offered with the aim of bringing about the birth of a baby with faltering growth before their estimated due date (40 weeks of gestation). This measure supports the NHS England *Saving Babies Lives Care Bundle version 3* (SBLCB v3).

We were unable to report this measure for babies from multiple births. This is because there is an absence of validated estimated fetal weight (EFW) centile charts and birthweight centile charts customised for multiple births babies, and research to suggest growth of twins differs by chorionicity, which is not recorded in the maternity dataset. There remains uncertainty about appropriate patterns of antenatal growth for multiple births babies, with the Global Twins and Multiples Priority Setting Partnership including 'optimal fetal growth' as one of their top 10 research priorities. Published research suggests that singleton EFW centile charts, that are currently used by the majority of providers, over-estimate fetal growth restriction in twins by as much as 30%.

There is invariably a difference in birthweight of babies born from multiple births. For many this difference is small and may demonstrate normal patterns of fetal growth. RCOG guidance recommends increased monitoring when there is a discordance of >20% between the EFW of twins. RCOG and NICE guidance both recommend referral to a specialist fetal medicine centre when there is a discordance of 25% or more between the estimated fetal weight of twins. NICE guidance also includes information on when to offer birth based on chorionicity and complications that include fetal growth restriction. The guidance states that birth should be offered at 36 weeks for

uncomplicated monochorionic diamniotic twin pregnancy and between 32+0 and 33+6 for uncomplicated monochorionic monoamniotic twin pregnancy. Therefore, we used a cut-off of at or after 36 completed weeks from when to measure the proportion of twin pairs with a birthweight discordance of ≥25%.

Appendix 1

Technical specification for multiples measures

This appendix should be reviewed in conjunction with the Measures Technical Specification document that provides details of the cohort construction, data definitions and data sources used for the NMPA annual clinical report based on singleton births in the NHS maternity services in England, Scotland and Wales during 2023. However, the case-mix adjustment factors have not been applied to the multiple births results and crude results only are presented in the Multiple Births Outcomes of Maternity Care snapshot audit report and summary results tables.

The following measures technical specification provides the data definitions and data sources for the additional measures that are relevant to multiple births and presented in the Multiple Births Outcomes of Maternity Care snapshot audit report.

Sequential vaginal birth followed by caesarean birth

Lowest level of reporting in NMPA Results for births occurring in 2023: Trusts/boards with at least one OU

Lowest level of reporting on NMPA website: Sites with an OU (where possible to report)

Relevant population (denominator): Number of women and birthing people giving birth vaginally to baby one of twins, triplets or more between 32^{+0} and 42^{+6} weeks.

Exclusions: Trusts/boards were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Mode of birth	• ≥70% complete	If trust/board has at least one OU: • Caesarean birth rate is between ≥5% and ≤60% If trust/board has no OUs and is not in Scotland: • Caesarean birth rate is <5% If trust/board has no OUs and is in Scotland: • Any caesarean birth rate
Gestational age	If trust/board has at least one OU: • ≥70% complete within vaginal births • ≥70% complete within caesarean births • ≥70% complete overall If trust/board has no OUs: • ≥70% complete overall	If trust/board has at least one OU: • Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births If trust/board has no OUs: • Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥90% of births
Number of infants	• ≥70% complete	N/A

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

For each trust / board, specific months were excluded if:

- counts were less than 70% of the expected monthly average
- completeness for mode of birth was less than 70%

Numerator: Number of women and birth people giving birth to baby one of twins, triplets or more between 32^{+0} and 42^{+6} weeks vaginally and baby two or more by caesarean.

Episiotomy followed by caesarean birth

Lowest level of reporting in NMPA Results for births occurring in 2023: Trusts/boards with at least one OU

Lowest level of reporting on NMPA website: Sites with an OU (where possible to report)

Relevant population (denominator): Number of women and birthing people who have an episiotomy when giving birth vaginally to baby one of twins, triplets or more between 32^{+0} and 42^{+6} weeks.

Exclusions: Trusts/boards were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Episiotomy	• ≥70% complete vaginal births	• Episiotomy rate >0% and <45% within vaginal births
Mode of birth	• ≥70% complete	If trust/board has at least one OU: • Caesarean birth rate is between ≥5% and ≤60% If trust/board has no OUs and is not in Scotland: • Caesarean birth rate is <5% If trust/board has no OUs and is in Scotland: • Any caesarean birth rate
Gestational age	If trust/board has at least one OU: • ≥70% complete within vaginal births • ≥70% complete within caesarean births • ≥70% complete overall If trust/board has no OUs: • ≥70% complete overall	If trust/board has at least one OU: • Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births If trust/board has no OUs: • Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥90% of births
Number of infants	• ≥70% complete	N/A

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

For each trust / board, specific months were excluded if:

- counts were less than 70% of the expected monthly average
- completeness for episiotomy was less than 70%

Numerator: Number of women and birthing people who have an episiotomy when giving birth vaginally to baby one of twins, triplets or more between 32^{+0} and 42^{+6} weeks, who give birth to baby two or more by caesarean.

Birthweight discordance in twins

Lowest level of reporting in NMPA Results for births occurring in 2023: Trusts/boards with at least one OU

Lowest level of reporting on NMPA website: Sites with an OU (where possible to report)

Relevant population (denominator): Number of twin baby pairs, where both are liveborn between 24^{+0} and 42^{+6}, who have a birthweight discordance of ≥25%.

Exclusions: Trusts/boards were excluded if they did not meet the following criteria:

Data item	Completeness check	Distribution check
Birthweight	• ≥70% complete	• Birthweight ≥2500g and ≤4500g in ≥80% of babies born between 37 and 42 weeks (inclusive)
Gestational age	If trust/board has at least one OU: • ≥70% complete within vaginal births • ≥70% complete within caesarean births • ≥70% complete overall If trust/board has no OUs: • ≥70% complete overall	If trust/board has at least one OU: • Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥70% of births If trust/board has no OUs: • Gestational age at birth is between 37 and 42 weeks (inclusive) in ≥90% of births
Number of infants	• ≥70% complete	N/A
Fetus outcome	If trust/board is not in Scotland: • ≥70% complete If trust/board is in Scotland: • Any completeness	If trust/board has at least one OU: • More than one stillbirth was recorded If trust/board has no OUs or is in Scotland: • Any number of stillbirths

Records were excluded if they were missing information on birthweight, gestational age, number of infants, or fetus outcome.

For each trust / board, specific months were excluded if:

- counts were less than 70% of the expected monthly average
- completeness for episiotomy was less than 70%

Numerator: Number of twin baby pairs, where both are liveborn, who have a birthweight discordance of ≥25% who are born at or after 36 weeks of gestation.

Appendix 2

List of diagnosis and procedure codes and their description

SNOMED CT Code	Description
459167000	Monochorionic twin pregnancy (finding)
2256007	Monozygotic twins (finding)
459171002	Monochorionic monoamniotic twin pregnancy (finding)
459168005	Monochorionic diamniotic twin pregnancy (finding)
73621009	Monoamniotic twins (finding)
84357006	Twin monochorionic monoamniotic placenta (disorder)
83787007	Twin monochorionic diamniotic placenta (disorder)
72957006	Diamniotic-monochorionic twins (finding)
459166009	Dichorionic diamniotic twin pregnancy (finding)
75798003	Twin dichorionic diamniotic placenta (disorder)
459169002	Monochorionic diamniotic twin pregnancy with similar amniotic fluid volumes (finding)
459170001	Monochorionic diamniotic twin pregnancy with dissimilar amniotic fluid volumes (disorder)
75798003	Twin dichorionic diamniotic placenta (disorder)
1148801000000108	Monochorionic monoamniotic triplet pregnancy (finding)
1149411000000103	Monochorionic diamniotic triplet pregnancy (finding)
1149421000000109	Monochorionic triamniotic triplet pregnancy (finding)
1148841000000106	Dichorionic diamniotic triplet pregnancy (finding)
1148821000000104	Dichorionic triamniotic triplet pregnancy (finding)
1148811000000105	Trichorionic triamniotic triplet pregnancy (finding)
89244003	Entanglement of cords of twins in monoamniotic sac (disorder)
ICD-10 code	
(O43.0)*	((Placental transfusion syndromes) but does not differentiate fetomaternal, maternofetal, twin-to-twin)
P02.3	Fetus and newborn affected by placental transfusion syndromes (placental and cord abnormalities resulting in twin-to-twin or other transplacental transfusion)
P50.3	Haemorrhage into co-twin
P50.5	Fetal blood loss from cut end of co-twin's cord
OPCS-4	
R07	Therapeutic endoscopic operations for twin to twin transfusion syndrome
R07.2	Endoscopic serial drainage of amniotic fluid for twin to twin transfusion syndrome
R08	Therapeutic percutaneous operations for twin to twin transfusion syndrome
R08.2	Percutaneous serial drainage of amniotic fluid for twin to twin transfusion syndrome

* O43.0 was not included in the diagnostic and procedural codes search because it does not differentiate between fetomaternal, maternofetal or twin-to-twin placental transfusion syndromes.

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For further information and resources, please visit the NMPA website where you can also subscribe to the email newsletter for regular audit updates: https://maternityaudit.org.uk

Alternatively, you can contact us at: nmpa@rcog.org.uk

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