



SC BIRTH OUTCOMES DASHBOARD

About the Data

NOVEMBER 2021

boi.ifsreports.com

Data from April 1, 2018 - March 31, 2021

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Table of Contents

Acknowledgments	p. 3
For Additional Information	p. 3
Data Caveats (FAQs)	p. 4
KEY TERMS	
General	p. 5
Outcomes	
Labor & Delivery	p. 7
Newborn	p. 7
AIM	p. 8
DATA SOURCES	p. 8



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FOR ADDITIONAL INFORMATION

Contact the support team at ifsreports@mailbox.sc.edu.



DATA CAVEATS (FAQs)

What do these SC BOI data represent?

The data reflect point-in-time UB-04 data provided by individual hospitals to the SC Revenue and Fiscal Affairs Office (RFA) as of September 9, 2021, and may differ from a review of internal hospital medical records.

Notes: All data presented for CYs 2020 - 2021 are preliminary, and Medicaid as payer is underestimated in the final quarter of data. Outcomes presented as of Q2 2020 occurred during the COVID-19 pandemic; caution should be taken when comparing these rates to prior.

What accounts for differences in denominators?

The number of births and maternal hospitalization episodes used to calculate each maternal and newborn measure or characteristic may vary due to missing data and/or measure restrictions. Newborn measures were per neonate live birth from birth records with or without linkage to a UB-04 newborn hospitalization episode. The maternal measures were per UB-04 delivery hospitalization episodes with linkage to a live birth from birth records. One delivery was counted regardless of plurality.

How were demographic data determined?

Maternal demographics, such as maternal age and residence, were as of the day of delivery.

What does it mean when there is no data for a measure?

0.00% may indicate that there were zero births in the quarter matching the measure criteria, or an actual value of zero for a specific table result. Referring to the numerators and denominators for interpretation is encouraged.

What measure definitions were used in this report?

The most recent definitions for newborn and maternal measures were used and applied across all time periods. For the early elective measures, exclusions could not be made for active labor and prior uterine surgery.

How are unknown and missing data treated?

For the sake of visual presentation, Unknown and Missing values are not presented in the portal. These data are, however, included in statewide and hospital totals. Therefore, subtotals in charts may not add to 100%.

What hospital information is presented in this report?

Hospital data in this report reflect naming, perinatal levels, mergers, and closures identified by SCDHEC as of April 2021.



KEY TERMS

GENERAL

Age – Maternal age on the day of delivery as identified on the hospital UB-04 record and categorized as ages <20, 20-24, 25-29, 30-34, and 35+.

Birthweight – Newborn birthweight designated on the birth record and categorized as very low (<1,500 grams), moderately low (1,500-2,499 grams), and not low birthweight (2,500+ grams).

C-Sections – Final route identified on the birth record as cesarean or vaginal and cesarean was used as the primary source of information for this measure. If mode of delivery was missing from the birth record, the following codes from the maternal hospital UB-04 record were used to identify cesareans: APR-DRG code (540), MS-DRG codes (765, 766, 783, 784, 785, 786, 787, 788), or ICD-10-PCS codes (10D00Z0, 10D00Z1, 10D00Z2).

Deliveries – Maternal delivery hospitalization records were flagged if one of the below billing codes existed on the maternal hospital UB-04 record:

- ICD-10-CM: Z37.0, Z37.1, Z37.2, Z37.3, Z37.4, Z37.50, Z37.51, Z37.52, Z37.53, Z37.54, Z37.59, Z37.60, Z37.61, Z37.62, Z37.63, Z37.64, Z37.69, Z37.7, Z37.9, O75.82, O80, O82;
- ICD-10-PCS: 10D00Z0, 10D00Z1, 10D00Z2, 10D07Z3, 10D07Z4, 10D07Z5, 10D07Z6, 10D07Z7, 10D07Z8, 10E0XZZ;
- MS-DRG: 765, 766, 767, 768, 774, 775, 783, 784, 785, 786, 787, 788, 796, 797, 798, 805, 806, 807; or
- APR-DRG: 540, 541, 542, 560.

Delivery Exclusions – Records with delivery codes were not flagged as the unique delivery if they had DRGs identifying false labor, threatened abortion, antepartum admission, or postpartum admission:

- MS-DRG: 778, 780, 781, 782, 817, 818, 819, 831, 832, 833, 769, 776; or
- APR-DRG: 563, 565, 566, 561.

Delivery Hospitalization Episode – Maternal delivery hospitalization episodes were inclusive of Mom UB delivery hospitalization records and early return or transfer records within 0-1 day. Only delivery episodes having a linkage with a birth record are reported.

First-Time Moms – Identified when both previous live births (now living or dead) from the birth record were zero.



KEY TERMS

GENERAL (continued)

Gestational Age – Identified by the gestation on the birth record as Preterm: <37 weeks, Early-Term: 37-38 weeks, or Term: 39 weeks or 40+ weeks. When gestation was missing, this field was populated using the Z3A codes from the maternal hospital UB-04 record.

Inductions – ICD-10-PCS codes 0U7C7DZ, 0U7C7ZZ, 10907ZC, 3E033VJ, 3E0DXGC, 3E0P3VZ, 3E0P7GC, or 3E0P7VZ present on the maternal hospital UB-04 record (as designated by Appendix A, Table 11.05 of the Specifications Manual for Joint Commission National Quality Measures, v2022A1).

Maternal – Represents all maternal delivery hospitalization episodes and not unique mothers.

Number of Babies (Births) – Represents all newborn birth records.

Parity – Number of previous live births (now living or dead) as designated on the birth record and categorized as Nulliparous (zero), One, Two, or Three+.

Payment Source – Payor detailed on the hospital UB-04 record and categorized as Private Insurance (Commercial Insurance or Health Maintenance Organization); Medicaid, and Other (Self-pay, Indigent/Charitable Organization, Medicare, Worker's Compensation, Other Government, Not verified Medicaid, and Not Stated on hospital record). Medicaid delivery payment was adjusted to Medicaid when linking to Medicaid recipient records verified payment was Medicaid. Note: Medicaid eligibility will be underestimated in the final quarter of data.

Perinatal Level – SCDHEC hospital designation as of April, 2021. The level corresponds with the level of services provided: Level I (Basic Care), Level II (Specialty Care), and Level III and IV (Subspecialty and Complex Care, presented as III+ in visualizations) and may vary from the level submitted with the hospital record.

Plurality – Obtained using the birth month, birth year, and mother's identification number from the birth records as Singleton (1 newborn) and Multiples (> 1 newborn).

Race – Maternal race as identified on the birth record as non-Hispanic White, non-Hispanic Black, Other non-Hispanic (which includes Multiple Race), Hispanic, and Unknown. For maternal characteristics, race was also pulled from the maternal delivery hospitalization data when the episode was not linked to a birth record or the birth record was missing race.

Residence – Rural or urban status identified by a crosswalk using the zip code provided on the maternal hospital UB-04 record. Non-SC zip codes were classified into an Out-of-state/Unknown group.

State – Represents all deliveries occurring in SC birthing facilities. This excludes out-of-hospital births such as home births and those occurring in freestanding birthing facilities. It includes births for some out-of-state residents.

Year, Quarter – All data reflects post-ICD-10 time periods and is reported using calendar years and quarters (Q2, 2018 – Q1, 2021).

KEY TERMS

OUTCOMES

Labor & Delivery

Total C-Section – Percent of total delivery hospitalization episodes identified as cesarean on the birth record or via APR-DRG, MS-DRG, or ICD-10-PCS codes.

Total Primary C-Section – Percent of delivery hospitalization episodes without a prior cesarean identified as cesarean on the birth record or via APR-DRG, MS-DRG, or ICD-10-PCS codes.

Total Elective Primary C-Section – Percent of delivery hospitalization episodes without a prior cesarean identified as cesarean on the birth record or via APR-DRG or MS-DRG or ICD-10-PCS codes with the exclusion of delivery hospitalization episodes with a code on the UB-04 hospital record for multiple gestations and other presentations (TJC, v2022A1, Appendix A, Table 11.09).

Primary C-Section (TJC PC-02, NTSV) – This Joint Commission PC-02 Cesarean Birth Measure reflects cesareans identified by ICD-10-PCS codes among delivery hospitalization episodes limited to gestation at least 37 weeks, first-time mothers (nulliparous), singleton, ages 10 to 64, length of stay < 120 days, and excluding multiple gestations and other presentations (Appendix A, Table 11.09, v2022A1).

Total Induced Delivery (ICD-10) – The percentage of total delivery hospitalization episodes with an induction as defined by induction procedure codes provided by The Joint Commission (Appendix A, Table 11.05, v2022A1).

Total Elective Induced Delivery (ICD-10) – The percentage of total delivery hospitalization episodes with a potentially non-medically-indicated induction as defined by induction codes and exclusions provided by The Joint Commission (Appendix A, Tables 11.05 & 11.07, v2022A1). Caution should be taken when interpreting these data without consideration of gestation as inductions >39 weeks may not be considered elective.

Early Elective Delivery (TJC PC-01, ICD-10) – The Joint Commission PC-01 Elective Delivery measure identifies the percentage of delivery hospitalization episodes that were elective at 37-38 weeks of gestation. This measure is restricted to only those singleton deliveries at 37-38 weeks gestation with ages 10-64 and a length of stay <120 days that do not have an ICD-10-CM code for conditions possibly justifying elective delivery prior to 39 weeks gestation (Appendix A, Table 11.07, v2022A1). Exclusions cannot be made for active labor or prior uterine surgery.

Early Elective Induced Delivery (ICD-10) – Among singleton deliveries 37-38 weeks gestation, the percentage of delivery hospitalization episodes with a non-medically-indicated induction as defined by induction codes and exclusions provided by The Joint Commission (Appendix A, Tables 11.05 & 11.07, v2022A1). This measure is restricted to only those singleton deliveries at 37-38 weeks gestation with ages 10-64 and a length of stay <120 days. Exclusions cannot be made for active labor or prior uterine surgery.

Newborn Outcomes

BIRTHWEIGHT

- Not Low Birthweight – 2,500+ grams
- Moderately Low Birthweight – 1,500-2,499 grams
- Very Low Birthweight – < 1,500 grams

GESTATIONAL AGE

- Gestation < 37 Weeks – Preterm
- Gestation 37-38 Weeks – Early-Term
- Gestation 39 Weeks – Term
- Gestation 40+ Weeks – Term+

KEY TERMS

OUTCOMES (continued)

Alliance for Innovation on Maternal Health (AIM)

Severe maternal morbidity (SMM) refers to life-threatening outcomes of labor and delivery. UB-04 all-payer billing data were used to calculate delivery-related SMM using ICD-10 codes associated with 21 SMM conditions, such as heart failure, renal failure, sepsis, shock, embolism, and respiratory ventilation.

AIM reports:

1. SMM

2. SMM excluding cases where a transfusion procedure code was the only SMM indicator present at the time of delivery out of:

All maternal delivery hospitalization records having ICD-10 or MS-DRG delivery codes defined by AIM, excluding ectopics and miscarriages

These two measures are then calculated for two delivery subpopulations:

Maternal Hemorrhage was identified if any of the following were present at the time of delivery:

- Presence of an Abruptio, Placenta Previa, or Antepartum hemorrhage diagnosis code
- Presence of transfusion procedure code without a sickle cell crisis diagnosis code
- Presence of a Postpartum hemorrhage diagnosis code

Severe Hypertension/Preeclampsia accounts for obstetric patients with a diagnosis code for:

- Severe Preeclampsia
- Eclampsia
- Preeclampsia superimposed on pre-existing hypertension

The 1/26/2021 AIM Data Collection Plan and 8/9/2021 AIM SMM Codes List were used to calculate these outcomes. To review the specific codes, please visit: <https://safehealthcareforeverywoman.org/aim/resources/aim-data-resources/>.

More information about the AIM initiative may be read here: <https://boi.ifsreports.com/resources/documents/>

DATA SOURCES

Maternal and newborn data were inclusive of hospitalizations from April 1, 2018 to March 31, 2021. All data records were pulled by SC RFA as of September 9, 2021. These data were restricted to only deliveries and births occurring in SC birthing facilities (i.e., data for births and deliveries to SC residents occurring outside the state of SC, at home, or in a freestanding birthing center were not included).

The maternal and newborn data were derived from three sources:

1. South Carolina Revenue and Fiscal Affairs Office, Health and Demographics, all-payer uniformed billing data for inpatient discharges (UB-04)

- ⇒ Used as the base for maternal age, payment, residence, and measures of maternal quality as defined by billing codes submitted on the hospital claim.

2. South Carolina Department of Health and Environmental Control, Division of Biostatistics, Vital Statistics

- ⇒ Used to establish maternal race, gestation, birthweight, singleton, parity, and mode of delivery.
- ⇒ Based on birth records submitted to DHEC by delivering hospitals in South Carolina.

3. South Carolina Department of Health & Human Services, Medicaid recipient records

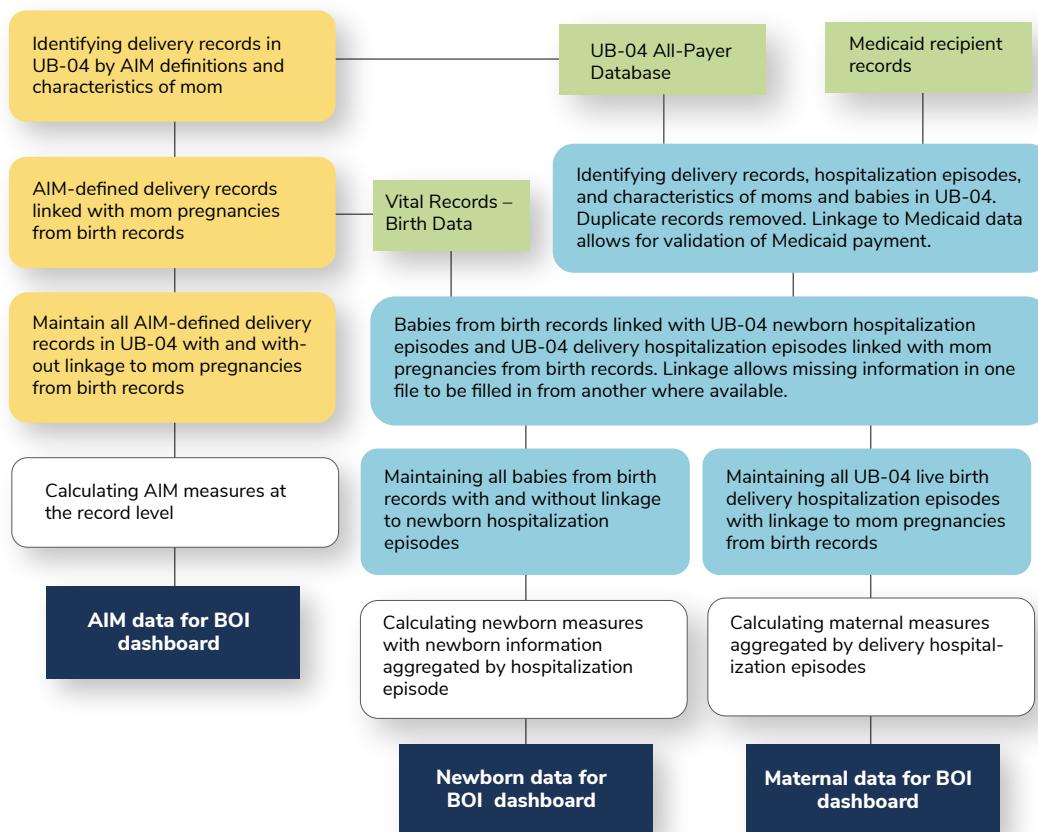
- ⇒ Used to verify Medicaid as the payer.

In this report, all available information of births and pregnancies were retained from UB-04 and birth records data. Birth data from birth records were linked to UB-04 newborn hospitalization data, and UB-04 maternal delivery data was linked to maternal pregnancy data from the birth record. Newborn and maternal hospitalizations were aggregated to hospitalization episodes for newborns and deliveries, respectively.

The Joint Commission measures do not require this linkage of maternal hospital events with vital statistics, as some states are not set up for this level of data sharing. Linking newborn and maternal delivery hospitalization episodes with baby data and mom pregnancies from birth records, respectively, allows maximum use of the available data for newborn and maternal measures with improved accuracy of results.

BOI DATA PROCESSING FLOWCHART

Events from April 1, 2018 — March 31, 2021, Inclusive



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