

**Appendix S1:** Diagnostic and procedural codes used to identify the cohort, exposure and outcome variables

Data element	Data Source	Definition, if applicable
<b>Defining cohort</b>		
Newborn birth date	BIS	Exclusion
Birth location	BIS	Include only hospital births
Gestational age at delivery	BIS	Exclusion
Non-vertex presentation	BIS	Exclusion
Placenta Previa	BIS	Exclusion
Previous Cesarean Section	BIS	Exclude number of previous cesarean sections $\geq 1$
Multiple gestations	BIS	Exclude number of fetuses $> 1$
Congenital anomalies	BIS	<p>Exclusion</p> <p>Major confirmed congenital anomaly inclusive of:</p> <ul style="list-style-type: none"> <li>▪ Head-Cranium &amp; Brain \ Anencephaly</li> <li>▪ Head-Cranium &amp; Brain \ Acrania</li> <li>▪ Head-Cranium &amp; Brain \ Craniorachischisis</li> <li>▪ Head-Cranium &amp; Brain \ Encephalocele</li> <li>▪ Head-Cranium &amp; Brain \ Hydranencephaly</li> <li>▪ Spine - Back \ NTD (neural tube defect) with hydrocephalus</li> <li>▪ Spine - Back \ NTD (neural tube defect) without hydrocephalus</li> <li>▪ Head-Cranium &amp; Brain \ Hydrocephalus</li> <li>▪ Head-Cranium &amp; Brain \ Atresia of foramina of Magendie &amp; Luschka</li> <li>▪ Gastrointestinal \ Atresia small or large intestine</li> <li>▪ Head-Cranium &amp; Brain \ Dandy-Walker malformation / variant (DWM)</li> <li>▪ Syndromes \ Dandy-walker syndrome</li> <li>▪ Head-Cranium &amp; Brain \ Aqueductal stenosis</li> <li>▪ Syndromes \ Hydrocephalus X-Linked</li> <li>▪ Face \ MOUTH-Cleft lip</li> <li>▪ Face \ MOUTH-Cleft lip &amp; palate</li> <li>▪ Face \ MOUTH-Cleft palate</li> <li>▪ Gastrointestinal \ Esophageal atresia</li> </ul>

Data element	Data Source	Definition, if applicable
		<ul style="list-style-type: none"> <li>▪ Gastrointestinal \ Tracheo-esophageal fistula (TEF)</li> <li>▪ Gastrointestinal \ Atresia small or large intestine</li> <li>▪ Gastrointestinal \ Duodenal atresia</li> <li>▪ Gastrointestinal \ Abnormal Small Bowel</li> <li>▪ Gastrointestinal \ Abnormal Large Bowel</li> <li>▪ Gastrointestinal \ Bowel obstruction small or large intestine</li> <li>▪ Gastrointestinal \ Stenois small or large intestine</li> <li>▪ Gastrointestinal \ Imperforate anus</li> <li>▪ Genitourinary Tract \ Hypospadias</li> <li>▪ Extremities-skeletal \ Generalized/other-Limb reduction defect(s) (LRD) - lower limb</li> <li>▪ Extremities-skeletal \ Generalized/other-Limb reduction defect(s) (LRD) - upper limb</li> <li>▪ Extremities-skeletal \ Hands/feet-Radial ray anomaly (absent thumb)</li> <li>▪ Extremities-skeletal \ Hands/feet-Adactyly (absent fingers/ toes)</li> <li>▪ Extremities-skeletal \ Hands/feet-Ectrodactyly (lobster-claw / cleft hand)</li> <li>▪ Abdominal Wall \ Gastroschisis</li> <li>▪ Abdominal Wall \ Omphalocele (exomphalos)</li> <li>▪ Genitourinary Tract \ Renal agenesis</li> <li>▪ Cardiovascular \ HLHS (hypoplastic left heart syndrome)</li> <li>▪ Cardiovascular \ Hypoplastic left heart syndrome (HLHS)</li> <li>▪ Cardiovascular \ Hypoplastic right heart syndrome (HRHS)</li> <li>▪ Cardiovascular \ Tetralogy of Fallot (TOF)</li> <li>▪ Cardiovascular \ Transposition of great vessels (TGA)</li> <li>▪ Cardiovascular \ Transposition of great arteries - congenitally corrected (CCTGA)</li> <li>▪ Chromosomes \ Trisomy 21 (Down syndrome)</li> <li>▪ Chromosomes \ Trisomy 18</li> <li>▪ Chromosomes \ Trisomy 13</li> </ul>
Stillbirth during antepartum period	BIS	Exclusion Defined as birth at $\geq 20$ weeks gestational age or $\geq 500$ grams during antepartum period
Maternal medical conditions	BIS	Exclusion Chronic medical conditions that include chronic hypertension, chronic renal disease, complications of diabetes (worsening retinopathy, renal dysfunction, decreasing insulin requirements), cardiac disease (congenital or acquired), pulmonary disease (pulmonary hypertension, cystic fibrosis, pulmonary embolism),

Data element	Data Source	Definition, if applicable
		autoimmune conditions (systemic lupus erythematosus) or hematologic diseases (hemophilia, sickle cell disease)
Chronic hypertension	BIS & CIHI-DAD	Exclusion Defined as diagnosis for pre-existing hypertension in the BIS or linked copy of the DAD (ICD-10-CA codes (I10, I15, O10, O11))
Pre-existing diabetes	BIS & CIHI-DAD	Inclusion Defined as a diagnosis for pre-existing diabetes in the BIS or linked copy of the DAD (ICD-10-CA codes (E10, E11, E13, E14, O24.5, O24.6, O24.7))
Type of labor	BIS	Inclusion <ul style="list-style-type: none"> <li>▪ Induction of labor at 38+0 to 38+6 weeks or expectant management (women who remained undelivered at 39+0 weeks)</li> </ul>
Primary reason for induction of labor	BIS	Inclusion <ul style="list-style-type: none"> <li>▪ Fetal \ Macrosomia</li> <li>▪ Maternal \ Diabetes</li> <li>▪ Missing (assumption is the primary reason is diabetes)</li> </ul>
<b>Characteristics</b>		
Maternal age	BIS	Defined as age at delivery
Pre-pregnancy body mass index (BMI)	BIS	Of those pregnancies with first trimester weight (i.e., successfully linked with the PSO database), maternal height and missing pre-pregnancy weight, the Institute of Medicine first trimester upper recommended weight gain of 2 kg was subtracted from first trimester weight to estimate pre-pregnancy weight and subsequently calculate pre-pregnancy BMI. Subsequently, multiple imputation was performed to impute missing pre-pregnancy BMI using a chained equation approach based on pre-pregnancy weight using a subset of women with available pre-pregnancy weight (i.e., pre-pregnancy weight was not imputed).
Gestational weight gain	BIS	Weight at delivery subtracted by pre-pregnancy weight
Ethnicity	BIS	Only available to those who consent to prenatal screening and classified as: Asian, Caucasian, Black, Other or Missing (for those that did not provide this information or did not consent to prenatal screening)
Female sex	BIS	N/A
Nulliparity	BIS	N/A
Type of diabetes (Type 1, 2 or unknown)	BIS & CIHI-DAD	Defined as type of diabetes in the BIS or linked copy of the DAD (ICD-10-CA codes (Type 1: O24.5; Type 2: O24.6; Unknown; O24.7 or missing))
Insulin status	BIS	N/A
<b>Neonatal Outcomes</b>		

Data element	Data Source	Definition, if applicable
Large for gestational age > 90 <sup>th</sup> centile	BIS	Defined based on Canadian National Reference Curve (Kramer et al. 2001)
Birth weight	BIS	N/A
Respiratory morbidity	BIS & CIHI-DAD	Defined as a diagnosis of need for respiratory support in the form of continuous positive airway pressure (CPAP) or mechanical ventilation, a diagnosis of transient tachypnea of the newborn (TTN) or respiratory distress syndrome (RDS) in this BIS or linked copy of the DAD (ICD-10-CA codes: Respiratory Distress Syndrome (P22) or CCI code for mechanical ventilation (1GZ31))
5-minute Apgar score < 7	BIS	N/A
Shoulder dystocia	BIS	N/A
Gestational age at delivery	BIS	N/A
NICU admission	BIS & CIHI-DAD	N/A
NICU Length of stay (days)	BIS & CIHI-DAD	N/A
Stillbirth	BIS	Defined as birth at $\geq 20$ weeks of gestation or $\geq 500$ grams
Neonatal death	BIS	Death within 28 days of birth
Jaundice requiring phototherapy	BIS & CIHI-DAD	Defined as a diagnosis of jaundice requiring phototherapy in the BIS or CIHI-DAD (ICD-10-CA codes: P57.8, P57.9, P58, P59 and CCI code 1YZ12)
Hypoglycemia	BIS & CIHI-DAD	Defined as a diagnosis of hypoglycemia in the BIS or CIHI-DAD (ICD-10-CA codes: P70.0, P70.1, P70.3, P70.8, P70.9)
<b>Maternal Outcomes</b>		
Hypertensive diseases during pregnancy	BIS	Defined as gestational hypertension, preeclampsia, superimposed preeclampsia, eclampsia, or HELLP syndrome
Cesarean section	BIS	N/A
Intrapartum fever	BIS	Defined as a temperature greater than 38.5 ° C
Induction of labor	BIS	N/A

<b>Data element</b>	<b>Data Source</b>	<b>Definition, if applicable</b>
Instrumental delivery	BIS	Defined as forceps or vacuum delivery
Postpartum hemorrhage	BIS	N/A
Anal sphincter injury	BIS	Defined as obstetrical anal sphincter injuries classified as 3 <sup>rd</sup> or 4 <sup>th</sup> degree perineal lacerations