

Midwifery Report Deliveries in BC 2015/16



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General Notes

This report is based on delivery, postpartum transfer/readmission, newborn, and newborn transfer/readmission records submitted to Perinatal Services BC's British Columbia Perinatal Data Registry (BCPDR). The registry captures >99% of deliveries and births that occur in the province.

Records used to generate this report meet the following conditions:

- Mother delivery and baby newborn records must be linked. Unlinked mother delivery or newborn records are excluded (<0.2% of babies are not linked to a mother).
- Complete late terminations are excluded from all indicators; pregnancies involving selective fetal reduction are retained.
- Mother's delivery record has a discharge date between April 1, 2015 and March 31, 2016.
- Fiscal years begin on April 1 and end on March 31 of the following year. Fiscal year is based on the mother's discharge date from the delivery admission.
- Resident Health Authority was derived by linking the postal code on the mother's delivery record with the September 2016 version of BC Stats' Geocoding Self Service translation file.
- Counts between 1-4 cases are reported as <5. Statistics based on counts or numerators of 1-4 cases are not reported (NR).

Terms used in the Midwifery Report (see specifications on pages 36 and 37) Maternal Admission

• Any record of maternal care received by the BCPDR. Includes deliveries at home attended by a registered midwife, admissions to acute care for delivery, and postpartum readmissions or transfers within 42 days of delivery.

Delivery Admission

- Record of care provided between admission to acute care and discharge from acute care for delivery of a baby. The woman can be discharged to home or to another hospital. OR
- Record of care provided by a registered midwife for deliveries at home.

Post-Delivery Admission

Any record of post-delivery maternal care received by the BCPDR. Includes acute care
episodes that are transfers from another hospital and admissions from home, up to 42
days after delivery.

Baby Admission

• Any record of baby care received by the BCPDR. Includes births at home attended by a registered midwife, admissions to acute care from birth, neonatal readmissions, or transfers before 28 days of age, and continuous episodes of care (never discharged to home) from birth up to one year of age.

Birth Admission

- Record of care provided between baby's birth and discharge from acute care after birth. Baby can be discharged home or to another hospital. OR
- Record of care provided by a registered midwife for births at home.

Post-Neonatal Admission

• Any record of post-birth baby care received by the BCPDR. Includes acute care episodes that are transfers from another hospital and admissions from home, up to 28 days after birth.

Common denominators used in the Midwifery Report

Deliveries (Mothers)

Total number of deliveries.

• <u>NOTE</u>: Each pregnancy is considered as one delivery regardless of the number of babies, e.g. a twin pregnancy is one delivery.

Births/live births (Babies)

Total number of births/live births.

• <u>NOTE</u>: Each baby in a pregnancy is considered as one birth, e.g. a twin pregnancy includes two births.

Deliveries/births/live births with Midwifery-Involved Care

Total number of deliveries/births/live births with a registered midwife involved at any point in maternal or newborn care. A registered midwife may not have been the delivery provider.

Deliveries without Midwifery-Involved Care

Total number of deliveries without a registered midwife involved at any point in maternal or newborn care.

PSBC Midwifery Report 2015/16 Deliveries in British Columbia

Section 1: Maternal Health

Deliveries by a Registered Midwife by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Total	Per cent
Interior	967	15.3%
Fraser	2,040	11.7%
Vancouver Coastal	1,706	16.7%
Island	1,582	25.1%
Northern	246	7.3%
вс	6,575	14.9%

Deliveries with Midwifery-Involved Care by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Total	Per cent
Interior	1,443	22.8%
Fraser	3,128	18.0%
Vancouver Coastal	2,588	25.4%
Island	2,300	36.5%
Northern	329	9.8%
BC	9,832	22.4%

Deliveries by a Registered Midwife

Indicates whether a registered midwife was the primary provider at the time a woman gave birth. In the case of multifetal pregnancies, the highest training level of any delivering provider is assigned to the delivery, e.g. if twin A was delivered by a registered midwife and twin B was delivered by an obstetrician, then the obstetrician is the delivery provider.

Deliveries with Midwifery-Involved Care

A registered midwife was involved at any point in maternal or newborn care. A registered midwife may not have been the delivery provider.

Definitions and specifications begin on Page 31 of this document. Unknown, out of province, and out of country residents are included in the BC calculation. This method is applied for the entire report.

Perinatal Services BC, Midwifery Report 2015/16.

Section 1: Maternal Health.

Parity by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Deliveries With Midwifery-Involved Care

Health Authority	Nulliparous	Parous
Interior	42.3%	57.7%
Fraser	45.0%	55.0%
Vancouver Coastal	56.7%	43.3%
Island	44.9%	55.1%
Northern	37.4%	62.6%
вс	47.4%	52.6%

Deliveries Without Midwifery-Involved Care

Health Authority	Nulliparous	Parous
Interior	44.8%	55.2%
Fraser	43.6%	56.4%
Vancouver Coastal	52.2%	47.8%
Island	45.5%	54.5%
Northern	39.7%	60.3%
BC	45.6%	54.4%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

Maternal Age at Delivery by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Deliveries With Midwifery-Involved Care

Health Authority	<20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40+ Years
Interior	1.6%	11.5%	28.3%	38.5%	17.2%	2.9%
Fraser	1.1%	8.0%	27.7%	42.0%	18.3%	3.0%
Vancouver Coastal	NR	2.0%	13.8%	46.2%	31.7%	6.1%
Island	1.7%	8.4%	25.4%	41.8%	19.0%	3.7%
Northern	1.5%	9.4%	35.6%	35.3%	17.6%	NR
BC	1.1%	7.0%	23.8%	42.3%	21.8%	3.9%

Deliveries Without Midwifery-Involved Care

Health Authority	<20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40+ Years
Interior	3.3%	15.5%	30.3%	33.8%	14.4%	2.7%
Fraser	1.2%	9.0%	26.4%	37.9%	20.4%	5.2%
Vancouver Coastal	0.7%	4.8%	19.5%	38.6%	27.9%	8.4%
Island	2.9%	12.6%	27.8%	34.5%	18.0%	4.3%
Northern	5.0%	21.9%	33.0%	27.2%	10.6%	2.1%
BC	1.9%	10.6%	26.2%	36.1%	20.0%	5.2%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document. NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Antenatal Care Visits by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Deliveries With Midwifery-Involved Care

Health Authority	<5 Visits	Missing Visits
Interior	6.4%	1.5%
Fraser	5.1%	7.5%
Vancouver Coastal	3.6%	14.5%
Island	3.5%	0.8%
Northern	7.3%	6.1%
вс	4.6%	6.9%

Deliveries Without Midwifery-Involved Care

Health Authority	<5 Visits	Missing Visits
Interior	7.2%	4.1%
Fraser	8.0%	10.8%
Vancouver Coastal	6.4%	20.9%
Island	7.1%	2.5%
Northern	9.0%	8.7%
BC	7.6%	11.2%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

Hypertensive Disorders of Pregnancy and Gestational Diabetes in Pregnancy by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Deliveries With Midwifery-Involved Care

Health Authority	Hypertensive Disorders	Gestational Diabetes
Interior	3.7%	3.7%
Fraser	4.5%	10.2%
Vancouver Coastal	3.7%	6.4%
Island	5.0%	6.3%
Northern	6.4%	4.9%
вс	4.3%	7.1%

Deliveries Without Midwifery-Involved Care

Health Authority	Hypertensive Disorders	Gestational Diabetes
Interior	7.2%	7.3%
Fraser	6.6%	16.6%
Vancouver Coastal	6.5%	14.2%
Island	7.8%	11.9%
Northern	5.5%	4.9%
BC	6.7%	13.1%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

Substance Use During Pregnancy by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Deliveries With Midwifery-Involved Care

Health Authority	Cigarette Use	Alcohol as Risk	Binge Drinking	Other Drug Use
Interior	6.4%	0.8%	NR	5.0%
Fraser	3.8%	0.8%	0.3%	2.5%
Vancouver Coastal	1.0%	1.3%	0.2%	1.6%
Island	6.2%	0.8%	NR	3.3%
Northern	4.3%	5.2%	NR	3.0%
BC	4.0%	1.1%	0.2%	2.8%

Deliveries Without Midwifery-Involved Care

Health Authority	Cigarette Use	Alcohol as Risk	Binge Drinking	Other Drug Use
Interior	13.3%	1.4%	0.4%	8.4%
Fraser	5.5%	0.5%	0.1%	3.5%
Vancouver Coastal	2.0%	0.6%	0.2%	1.9%
Island	12.0%	1.8%	0.7%	8.5%
Northern	13.1%	3.8%	1.0%	9.2%
BC	7.3%	1.1%	0.3%	5.0%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document. NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Maternal Screening Tests by Resident Health Authority

Deliveries in British Columbia: April 1, 2015 - March 31, 2016

Deliveries With Midwifery-Involved Care

Health Authority	Hepatitis B Test Done	HIV Test Done	Group B Strep Test Done	Maternal Serum Screening Offered
Interior	95.4%	93.4%	94.8%	95.1%
Fraser	95.9%	94.9%	93.4%	95.6%
Vancouver Coastal	97.5%	97.2%	93.6%	97.1%
Island	97.3%	96.0%	96.6%	96.0%
Northern	89.7%	86.3%	95.6%	95.1%
BC	96.3%	95.2%	94.5%	96.0%

Deliveries Without Midwifery-Involved Care

Health Authority	Hepatitis B Test Done	HIV Test Done	Group B Strep Test Done	Maternal Serum Screening Offered
Interior	94.6%	93.3%	91.8%	82.5%
Fraser	97.0%	96.7%	87.6%	88.2%
Vancouver Coastal	97.0%	96.4%	85.5%	89.9%
Island	96.3%	96.1%	94.1%	86.3%
Northern	93.6%	93.2%	89.5%	67.4%
BC	96.2%	95.7%	88.5%	85.5%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

PSBC Midwifery Report 2015/16 Deliveries with Midwifery-Involved Care in British Columbia

Section 2: Labour and Delivery

Intended Place of Delivery by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Home	Hospital
Interior	28.1%	69.6%
Fraser	12.3%	83.6%
Vancouver Coastal	19.4%	78.9%
Island	22.1%	77.7%
Northern	17.9%	79.9%
BC	19.1%	78.7%

Intended vs. Actual Place of Delivery by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

		Actual Place of Delivery		
Health Authority	Intended Place of Delivery	Home	Hospital	
Interior	Home	76.3%	23.7%	
Interior	Hospital	NR	99.5%	
Fraser	Home	79.7%	20.3%	
Flase	Hospital	0.9%	98.7%	
Vanagun (ar Cagatal	Home	78.8%	21.0%	
Vancouver Coastal	Hospital	2.1%	97.7%	
laland	Home	69.3%	30.5%	
Island	Hospital	1.2%	98.8%	
Northorn	Home	81.4%	18.6%	
Northern	Hospital	NR	99.2%	
50	Home	76.1%	23.8%	
BC	Hospital	1.2%	98.6%	

Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Unknown and other place of delivery are not shown for intended and actual place of delivery respectively.

Labour Augmentation by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Per cent
Interior	35.1%
Fraser	36.9%
Vancouver Coastal	33.8%
Island	33.8%
Northern	23.7%
BC	34.6%

Labour Induction by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Per cent
Interior	15.7%
Fraser	19.1%
Vancouver Coastal	15.1%
Island	19.0%
Northern	15.5%
BC	17.4%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

Perinatal Services BC, Midwifery Report 2015/16.

Section 2: Labour and Delivery.

Vaginal Delivery by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Per cent
Interior	81.8%
Fraser	77.8%
Vancouver Coastal	80.0%
Island	78.9%
Northern	81.2%
BC	79.4%

Type of Vaginal Delivery by Resident Health Authority

Vaginal Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Spontaneous	Vacuum	Forceps	Forceps and Vacuum
Interior	94.2%	2.8%	3.0%	NR
Fraser	91.0%	5.6%	3.2%	0.2%
Vancouver Coastal	88.9%	4.2%	6.9%	NR
Island	92.5%	4.5%	2.9%	NR
Northern	97.4%	NR	NR	0.0%
BC	91.5%	4.4%	4.0%	0.2%

Perineal Trauma by Resident Health Authority

Vaginal Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Third or Fourth Degree Laceration	Cervical Tear	Episiotomy
Interior	3.2%	NR	4.5%
Fraser	4.1%	NR	5.7%
Vancouver Coastal	6.6%	0.2%	6.3%
Island	2.4%	NR	4.5%
Northern	3.7%	NR	4.5%
BC	4.2%	0.2%	5.4%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Cesarean Delivery by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Per cent
Interior	18.2%
Fraser	22.2%
Vancouver Coastal	20.0%
Island	21.1%
Northern	18.8%
BC	20.6%

Type of Cesarean Delivery by Resident Health Authority

Cesarean Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Elective Primary	Elective Repeat	Emergency Primary	Emergency Repeat
Interior	9.2%	11.5%	61.8%	17.6%
Fraser	6.6%	11.3%	69.1%	13.0%
Vancouver Coastal	9.9%	7.2%	70.8%	12.2%
Island	11.1%	15.3%	60.4%	13.2%
Northern	11.3%	12.9%	59.7%	16.1%
вс	9.1%	11.3%	66.2%	13.5%

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

Robson Groups, British Columbia

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Robson Groups		Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women with a single vertex pregnancy at 37+ weeks in spontaneous labour		3,142	32.0%	19.0%	29.4%
2 - Nulliparous women with a single vertex pregnancy at 37+ weeks with induced or no labour		963	9.8%	46.7%	22.2%
3 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks in spontaneous labour		3,445	35.0%	1.4%	2.3%
4 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks with induced or no labour		498	5.1%	11.2%	2.8%
5 - Parous women with a uterine scar with a single vertex pregnancy at 37+ weeks	426	811	8.2%	52.5%	21.0%
6 - Nulliparous women with a single breech pregnancy	195	212	2.2%	92.0%	9.6%
7 - Parous women with a single breech pregnancy, including women with a uterine scar	75	85	0.9%	88.2%	3.7%
8 - Women with a multifetal pregnancy, including women with a uterine scar	26	64	0.7%	40.6%	1.3%
9 - Women with a single pregnancy with a transverse or other abnormal presentation, including women with a uterine scar		39	0.4%	66.7%	1.3%
10 - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar	113	551	5.6%	20.5%	5.6%
99 - Unclassifiable	14	22	0.2%	63.6%	0.7%

Click here for data on all deliveres in BC in Robson Table.

Definitions and specifications begin on Page 31 of this document.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Robson Groups, Residents of Interior Health

Deliveries with Midwifery-Involved Care at Interior Health: April 1, 2015 - March 31, 2016

Robson Groups		Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women with a single vertex pregnancy at 37+ weeks in spontaneous labour		422	29.2%	18.7%	30.2%
2 - Nulliparous women with a single vertex pregnancy at 37+ weeks with induced or no labour	54	118	8.2%	45.8%	20.6%
3 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks in spontaneous labour		577	40.0%	NR	NR
4 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks with induced or no labour		76	5.3%	9.2%	2.7%
5 - Parous women with a uterine scar with a single vertex pregnancy at 37+ weeks	62	126	8.7%	49.2%	23.7%
6 - Nulliparous women with a single breech pregnancy	30	35	2.4%	85.7%	11.5%
7 - Parous women with a single breech pregnancy, including women with a uterine scar	12	13	0.9%	92.3%	4.6%
8 - Women with a multifetal pregnancy, including women with a uterine scar	NR	11	0.8%	NR	NR
9 - Women with a single pregnancy with a transverse or other abnormal presentation, including women with a uterine scar	NR	5	0.3%	NR	NR
10 - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar	7	59	4.1%	11.9%	2.7%
99 - Unclassifiable	0	NR	NR	0.0%	0.0%

Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Robson Groups, Residents of Fraser Health

Deliveries with Midwifery-Involved Care at Fraser Health: April 1, 2015 - March 31, 2016

Robson Groups		Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women with a single vertex pregnancy at 37+ weeks in spontaneous labour	202	915	29.3%	22.1%	29.1%
2 - Nulliparous women with a single vertex pregnancy at 37+ weeks with induced or no labour	176	339	10.8%	51.9%	25.4%
3 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks in spontaneous labour		1,137	36.3%	1.8%	2.9%
4 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks with induced or no labour		170	5.4%	12.4%	3.0%
5 - Parous women with a uterine scar with a single vertex pregnancy at 37+ weeks	147	280	9.0%	52.5%	21.2%
6 - Nulliparous women with a single breech pregnancy	49	52	1.7%	94.2%	7.1%
7 - Parous women with a single breech pregnancy, including women with a uterine scar	26	27	0.9%	96.3%	3.8%
8 - Women with a multifetal pregnancy, including women with a uterine scar	NR	17	0.5%	NR	NR
9 - Women with a single pregnancy with a transverse or other abnormal presentation, including women with a uterine scar	5	8	0.3%	62.5%	0.7%
10 - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar	40	177	5.7%	22.6%	5.8%
99 - Unclassifiable	NR	6	0.2%	NR	NR

Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Robson Groups, Residents of Vancouver Coastal Health

Deliveries with Midwifery-Involved Care at Vancouver Coastal Health: April 1, 2015 - March 31, 2016

Robson Groups		Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women with a single vertex pregnancy at 37+ weeks in spontaneous labour	179	1,035	40.0%	17.3%	34.6%
2 - Nulliparous women with a single vertex pregnancy at 37+ weeks with induced or no labour	110	261	10.1%	42.1%	21.3%
3 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks in spontaneous labour		774	29.9%	1.2%	1.7%
4 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks with induced or no labour		89	3.4%	16.9%	2.9%
5 - Parous women with a uterine scar with a single vertex pregnancy at 37+ weeks	87	171	6.6%	50.9%	16.8%
6 - Nulliparous women with a single breech pregnancy	60	65	2.5%	92.3%	11.6%
7 - Parous women with a single breech pregnancy, including women with a uterine scar	12	15	0.6%	80.0%	2.3%
8 - Women with a multifetal pregnancy, including women with a uterine scar	6	11	0.4%	54.5%	1.2%
9 - Women with a single pregnancy with a transverse or other abnormal presentation, including women with a uterine scar	7	14	0.5%	50.0%	1.4%
10 - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar	30	150	5.8%	20.0%	5.8%
99 - Unclassifiable	NR	NR	NR	NR	NR

Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Robson Groups, Residents of Island Health

Deliveries with Midwifery-Involved Care at Island Health: April 1, 2015 - March 31, 2016

Robson Groups		Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women with a single vertex pregnancy at 37+ weeks in spontaneous labour	125	680	29.6%	18.4%	25.8%
2 - Nulliparous women with a single vertex pregnancy at 37+ weeks with induced or no labour	99	226	9.8%	43.8%	20.4%
3 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks in spontaneous labour		800	34.8%	1.5%	2.5%
4 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks with induced or no labour		140	6.1%	7.1%	2.1%
5 - Parous women with a uterine scar with a single vertex pregnancy at 37+ weeks	115	201	8.7%	57.2%	23.7%
6 - Nulliparous women with a single breech pregnancy	47	49	2.1%	95.9%	9.7%
7 - Parous women with a single breech pregnancy, including women with a uterine scar	22	27	1.2%	81.5%	4.5%
8 - Women with a multifetal pregnancy, including women with a uterine scar	11	22	1.0%	50.0%	2.3%
9 - Women with a single pregnancy with a transverse or other abnormal presentation, including women with a uterine scar	9	10	0.4%	90.0%	1.9%
10 - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar	26	133	5.8%	19.5%	5.4%
99 - Unclassifiable	9	12	0.5%	75.0%	1.9%

Definitions and specifications begin on Page 31 of this document.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Perinatal Services BC, Midwifery Report 2015/16.

Section 2: Labour and Delivery.

Robson Groups, Residents of Northern Health

Deliveries with Midwifery-Involved Care at Northern Health: April 1, 2015 - March 31, 2016

Robson Groups		Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women with a single vertex pregnancy at 37+ weeks in spontaneous labour	10	77	23.4%	13.0%	16.1%
2 - Nulliparous women with a single vertex pregnancy at 37+ weeks with induced or no labour	10	17	5.2%	58.8%	16.1%
3 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks in spontaneous labour		137	41.6%	NR	NR
4 - Parous women, no uterine scar, with a single vertex pregnancy at 37+ weeks with induced or no labour		18	5.5%	NR	NR
5 - Parous women with a uterine scar with a single vertex pregnancy at 37+ weeks	14	31	9.4%	45.2%	22.6%
6 - Nulliparous women with a single breech pregnancy	8	10	3.0%	80.0%	12.9%
7 - Parous women with a single breech pregnancy, including women with a uterine scar	NR	NR	NR	NR	NR
8 - Women with a multifetal pregnancy, including women with a uterine scar	NR	NR	NR	NR	NR
9 - Women with a single pregnancy with a transverse or other abnormal presentation, including women with a uterine scar	NR	NR	NR	NR	NR
10 - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar	10	32	9.7%	31.3%	16.1%
99 - Unclassifiable	0	0	0.0%	0.0%	0.0%

Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Robson Subgroups, British Columbia

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Robson Subgroups	Number of Cesareans	Number of Deliveries	Relative Size	Cesarean Delivery Rate	Contribution to Cesarean Delivery Rate
1 - Nulliparous women, single vertex pregnancy, at 37+ weeks, spontaneous labour	596	3,142	32.0%	19.0%	29.4%
2i - Nulliparous women, single vertex pregnancy, at 37+ weeks, induced labour	394	907	9.2%	43.4%	19.5%
2n - Nulliparous women, single vertex pregnancy, at 37+ weeks, no labour	56	56	0.6%	100.0%	2.8%
3 - Parous women, no uterine scar, single vertex pregnancy at 37+ weeks, spontaneous labour	47	3,445	35.0%	1.4%	2.3%
4i - Parous women, no uterine scar, single vertex pregnancy at 37+ weeks, induced labour	35	477	4.9%	7.3%	1.7%
4n - Parous women, no uterine scar, single vertex pregnancy at 37+ weeks, no labour	21	21	0.2%	100.0%	1.0%
5i - Parous women with a uterine scar, single vertex pregnancy at 37+ weeks, induced labour	35	77	0.8%	45.5%	1.7%
5n - Parous women with a uterine scar, single vertex pregnancy at 37+ weeks, no labour	234	234	2.4%	100.0%	11.6%
5s - Parous women with a uterine scar, single vertex pregnancy at 37+ weeks, spontaneous labour	157	500	5.1%	31.4%	7.8%
6 - Nulliparous women, single breech pregnancy	195	212	2.2%	92.0%	9.6%
7 - Parous women, single breech pregnancy, including women with a uterine scar	75	85	0.9%	88.2%	3.7%
8i - Women with a multifetal pregnancy, including women with a uterine scar, induced labour	8	25	0.3%	32.0%	0.4%
8n - Women with a multifetal pregnancy, including women with a uterine scar, no labour	12	12	0.1%	100.0%	0.6%
8s - Women with a multifetal pregnancy, including women with a uterine scar, spontaneous labour	6	27	0.3%	22.2%	0.3%
9 - Women with a single pregnancy with transverse or other abnormal presentation, including women with a uterine scar	26	39	0.4%	66.7%	1.3%
10i - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar, induced labour	41	196	2.0%	20.9%	2.0%
10n - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar, no labour	39	39	0.4%	100.0%	1.9%
10s - Women with a single vertex pregnancy at <37 weeks, including women with a uterine scar, spontaneous labour	33	316	3.2%	10.4%	1.6%
99 - Unclassifiable	14	22	0.2%	63.6%	0.7%

Click here for data on all deliveres in BC in Robson Table.

Definitions and specifications begin on Page 31 of this document.

Women in Group 99 are missing information on presentation, gestational age, parity, and/or type of labour.

Perinatal Services BC, Midwifery Report 2015/16.

Section 2: Labour and Delivery.

Previous Cesarean Delivery by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Total	Per cent
Interior	142	9.8%
Fraser	306	9.8%
Vancouver Coastal	192	7.4%
Island	231	10.0%
Northern	35	10.6%
BC	908	9.2%

Vaginal Birth After Cesarean (VBAC) by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Crude VBAC Rate	VBAC Eligible Rate	VBAC Attempted Rate	VBAC Success Rate
Interior	46.5%	93.0%	70.5%	71.0%
Fraser	45.1%	88.9%	75.4%	67.3%
Vancouver Coastal	47.9%	94.8%	72.5%	69.7%
Island	40.3%	83.5%	66.8%	72.1%
Northern	48.6%	82.9%	79.3%	73.9%
вс	44.8%	89.2%	72.0%	69.8%

Crude VBAC Rate: Total number vaginal deliveries / Women with a previous cesarean VBAC Eligible Rate: Women considered eligible for VBAC / Women with a previous cesarean VBAC Attempted Rate: Women who attempted a VBAC / Women considered eligible for VBAC VBAC Success Rate: Women with a vaginal delivery / Women who were eligible for and attempted VBAC

Click here for data on all deliveres in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document.

Water Birth by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Per cent
Interior	6.7%
Fraser	2.7%
Vancouver Coastal	5.4%
Island	3.5%
Northern	12.5%
BC	4.5%

Water Birth Setting by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Home	Hospital
Interior	91.7%	8.3%
Fraser	94.0%	6.0%
Vancouver Coastal	80.7%	19.3%
Island	100.0%	0.0%
Northern	41.5%	58.5%
вс	85.6%	14.4%

Definitions and specifications begin on Page 31 of this document.

Water birth is not a field in the BC Perinatal Data Registry.

Water birth includes women with delivery in a bathtub and excludes women who used a bathtub for labour support only. Other place of delivery are not shown for Water Birth Setting.

Anesthesia or Analgesia During Labour and Delivery by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Deliveries at Home

Health Authority	Entonox	Local	Narcotic	Other	No Anesthetic
Interior	NR	12.2%	0.0%	2.6%	85.3%
Fraser	NR	11.8%	NR	2.1%	84.5%
Vancouver Coastal	NR	17.8%	NR	2.7%	79.5%
Island	NR	26.7%	NR	NR	72.2%
Northern	0.0%	10.0%	0.0%	NR	88.0%
BC	0.5%	17.1%	0.3%	1.9%	80.4%

Deliveries in Hospitals

Health Authority	Entonox	Local	Narcotic	General	Epidural	Spinal	Combined Spinal and Epidural	Other	No Anesthetic
Interior	24.9%	24.1%	22.5%	2.2%	29.9%	17.4%	1.7%	1.2%	21.6%
Fraser	50.9%	19.3%	18.2%	1.9%	30.1%	15.9%	0.5%	2.4%	17.0%
Vancouver Coastal	42.8%	15.9%	8.0%	2.1%	43.8%	14.5%	2.6%	5.7%	16.5%
Island	37.4%	67.9%	18.0%	2.1%	34.8%	15.6%	0.3%	3.6%	14.2%
Northern	30.1%	24.7%	8.2%	2.5%	16.8%	15.4%	NR	NR	30.5%
вс	41.4%	30.6%	15.7%	2.1%	34.2%	15.6%	1.2%	3.3%	17.3%

Definitions and specifications begin on Page 31 of this document.

NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Multiple agents may be used.

Unknown anesthesia is not shown.

Effective April 1, 2015, patients who received anesthesia both in the subarachnoid and epidural space of the spine for pain management are coded as combined spinal and epidural.

Length of Stay (Hours) for Post-Delivery Admissions by Resident Health Authority

Deliveries with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Median	First Quartile	Third Quartile
Interior	27.4	13.0	68.4
Fraser	43.0	17.8	67.1
Vancouver Coastal	29.4	9.1	68.4
Island	50.2	24.2	88.4
Northern	50.0	43.9	60.3
BC	39.6	17.5	69.2

Definitions and specifications begin on Page 31 of this document.

PSBC Midwifery Report 2015/16 Births in British Columbia

Section 3: Newborn Health

Births by a Registered Midwife by Resident Health Authority

Births in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Total	Per cent
Interior	968	15.1%
Fraser	2,044	11.6%
Vancouver Coastal	1,706	16.4%
Island	1,589	24.8%
Northern	247	7.3%
вс	6,588	14.7%

Births with Midwifery-Involved Care by Resident Health Authority

Births in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Total	Per cent
Interior	1,454	22.6%
Fraser	3,145	17.8%
Vancouver Coastal	2,599	25.0%
Island	2,322	36.2%
Northern	332	9.8%
вс	9,896	22.1%

Definitions and specifications begin on Page 31 of this document.

Preterm Birth by Resident Health Authority

Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	latrogenic Preterm	Spontaneous Preterm	Total Preterm
Interior	2.4%	3.0%	5.4%
Fraser	3.2%	3.8%	7.0%
Vancouver Coastal	3.1%	4.1%	7.2%
Island	4.0%	4.0%	7.9%
Northern	5.4%	5.7%	11.1%
BC	3.3%	3.8%	7.1%

Weight for Gestational Age by Resident Health Authority

Live Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Small for Gestational Age	Large for Gestational Age
Interior	4.2%	13.8%
Fraser	4.8%	14.7%
Vancouver Coastal	6.3%	12.6%
Island	3.8%	16.2%
Northern	6.4%	13.7%
BC	4.9%	14.3%

Click here for data on all births in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document. Preterm births with unknown type of labour are not shown for Preterm Birth.

Type of Newborn Feeding by Resident Health Authority

Live Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Exclusive Breastfeeding	Non-Exclusive Breastfeeding	No Breastfeeding	Any Breastfeeding	No Documentation
Interior	86.9%	7.5%	0.6%	94.4%	4.8%
Fraser	80.8%	15.4%	0.7%	96.2%	2.9%
Vancouver Coastal	88.0%	7.0%	0.3%	94.9%	4.4%
Island	80.7%	14.5%	0.8%	95.2%	3.2%
Northern	86.9%	9.7%	NR	96.7%	2.4%
BC	83.7%	11.6%	0.6%	95.3%	3.7%

Breastfeeding Initiation by Resident Health Authority

Live Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	<=1 Hour	>1 Hour and <=24 Hours	>24 Hours	Unknown
Interior	67.4%	22.6%	1.0%	8.2%
Fraser	61.6%	27.0%	1.6%	8.8%
Vancouver Coastal	66.6%	25.9%	0.9%	5.6%
Island	67.5%	17.7%	1.8%	10.9%
Northern	68.7%	22.5%	2.1%	5.8%
BC	65.4%	23.7%	1.4%	8.3%

Click here for data on all births in BC in Perinatal Health Report. Definitions and specifications begin on Page 31 of this document. NR: Statistics based on counts or numerators of 1 to 4 are not reported.

Neonatal Intensive Care Need During Birth and Transfer Episode of Care by Resident Health Authority

Health Authority	Level II Care	Level III Care
Interior	6.1%	1.0%
Fraser	4.3%	1.1%
Vancouver Coastal	4.3%	1.5%
Island	4.8%	1.2%
Northern	6.7%	1.5%
BC	4.7%	1.2%

Live Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Length of Stay (Days) with Neonatal Intensive Care Need During Birth and Transfer Episode of Care

by Resident Health Authority

Live Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

	Level II Care				Level III Care	
Health Authority	Median	First Quartile	Third Quartile	Median	First Quartile	Third Quartile
Interior	3.0	2.0	5.0	3.0	2.0	13.0
Fraser	2.0	1.0	4.0	3.0	1.0	7.0
Vancouver Coastal	3.0	1.0	7.0	4.0	1.0	13.0
Island	3.0	2.0	6.0	2.0	1.0	8.0
Northern	5.0	3.0	8.0	7.0	2.0	13.0
BC	3.0	2.0	5.0	3.0	1.0	10.0

Definitions and specifications begin on Page 31 of this document.

Low 5 Minute Apgar Score by Resident Health Authority

Live Births with Midwifery-Involved Care in British Columbia: April 1, 2015 - March 31, 2016

Health Authority	Per cent
Interior	2.8%
Fraser	1.9%
Vancouver Coastal	1.6%
Island	2.3%
Northern	3.0%
BC	2.0%

Definitions and specifications begin on Page 31 of this document.

Perinatal Services BC, Midwifery Report 2015/16.

Section 3: Newborn Health.

Definitions

Section 1: Maternal Health

Deliveries by a Registered Midwife

Indicates whether a registered midwife was the primary provider at the time a woman gave birth. In the case of multifetal pregnancies, the highest training level of any delivering provider is assigned to the delivery, e.g. if twin A was delivered by a registered midwife and twin B was delivered by an obstetrician, then the obstetrician is the delivery provider.

Deliveries with Midwifery-Involved Care

A registered midwife was involved at any point in maternal or newborn care. A registered midwife may not have been the delivery provider.

Parity

Indicates whether a woman delivered a previous pregnancy \geq 20 weeks gestation or \geq 500g. For nulliparous women, this is the first pregnancy meeting these criteria. Parous women have had at least one previous pregnancy meeting these criteria.

Maternal Age at Delivery

Maternal age, in completed years, at delivery.

Antenatal Care Visits

- <5 Visits Woman with zero to five antenatal care visits documented in the PDR.
- <u>Missing Visits</u> Woman with no information documented about the number of antenatal care visits.

Hypertensive Disorders of Pregnancy

Indicates whether a woman had any hypertensive disorder during pregnancy. Hypertensive disorders include pre-existing hypertention, gestational hypertension, pre-eclampsia, eclampsia, and HELLP (<u>Hemolysis</u>, <u>Elevated Liver</u> enzymes, and <u>Low</u> <u>Platelet</u> count) syndrome.

Gestational Diabetes in Pregnancy

Indicates whether a woman had gestational diabetes diagnosed during pregnancy.

Substance Use During Pregnancy

- <u>Cigarette Use</u> Care provider documented that the woman reported smoking tobacco products during pregnancy. Includes women who stopped or reduced smoking during pregnancy.
- <u>Alcohol as Risk</u> Care provider documented that the woman's use of alcohol was a risk in the pregnancy. Alcohol use prior to the woman knowing she was pregnant is not included.
- <u>Binge Drinking</u> Care provider documented that the woman's consumed ≥4 alcoholic drinks at one time during pregnancy.
- <u>Other Drug Use</u> Care provider documented that the woman reported use of drugs (heroin/opioids, cocaine, methadone, solvents, or marijuana) at any time during pregnancy, or care providers listed use of prescription, "other", or unknown other drug as a risk to the pregnancy. Drug use prior to the woman knowing she was pregnant may be included.

Maternal Screening Tests

- <u>Hepatitis B Test Done</u> Woman was screened for the Hepatitis B virus, Hepatitis B surface antigen, or HBsAg during pregnancy.
- <u>HIV Test Done</u> Woman was screened for the Human Immunodeficiency Virus (HIV) during pregnancy.
- <u>Group B Strep Test Done</u> Woman who delivered a baby at 35 weeks gestation or more was screened for Group B Streptococcus.
- <u>Maternal Serum Screening Offered</u> Woman was offered blood test(s) to screen for fetal abnormalities (extra chromosomes or neural tube defects). Refers either to private testing or that offered by the <u>BC Prenatal Genetic Screening Program</u>.

Section 2: Labour and Delivery

Intended Place of Delivery

Where the woman planned to deliver for deliveries with midwifery-involved care. Intended place of delivery includes hospital, home, and unknown.

Intended vs. Actual Place of Delivery

Where the woman planned to deliver in comparison to where she actually delivered for deliveries with midwifery-involved care. Actual place of delivery includes hospital, home, and other.

Labour Augmentation

Labour for the current delivery was augmented by a care provider.

Labour Induction

Labour for the current delivery was induced by a care provider.

Vaginal Delivery

Baby was delivered vaginally.

Type of Vaginal Delivery

- <u>Spontaneous</u> Baby was delivered vaginally without assistance of vacuum or forceps extractors.
- <u>Vacuum</u> Baby was delivered vaginally with the assistance of a vacuum extractor.
- Forceps Baby was delivered vaginally with the assistance of forceps.
- <u>Forceps and Vacuum</u> Baby was delivered vaginally with the assistance of vacuum and forceps extractors.

The percentages are defined as the number of women with the above mentioned type of vaginal delivery over the total number of vaginal deliveries with midwifery-involved care.

Perineal Trauma

- <u>Third or Fourth Degree Laceration</u> Woman experienced a significant perineal tear during delivery.
- <u>Cervical Tear</u> Woman experienced a cervical tear during delivery.
- Episiotomy An episiotomy was performed during delivery.

Cesarean Delivery

Baby was delivered by an incision in the woman's abdomen.

Type of Cesarean Delivery

- <u>Elective Primary</u> Woman without a previous cesarean had a cesarean delivery with elective timing.
- <u>Elective Repeat</u> Woman with a history of cesarean delivery had a cesarean delivery with elective timing.
- <u>Emergency Primary</u> Woman without a previous cesarean had a cesarean delivery with urgent or emergent timing.
- <u>Emergency Repeat</u> Woman with a history of cesarean delivery had a cesarean delivery with urgent or emergent timing.

The percentages are defined as the number of women with the above mentioned type of cesarean delivery over the total number of cesarean deliveries with midwifery-involved care.

Robson Groups

Robson Ten Group Classification uses obstetric characteristics to classify women into relatively homogeneous groups to facilitate examination of cesarean delivery rate.

- <u>Relative size</u> Proportion of the obstetric population included in each group

 Number of deliveries in a group / Total number of deliveries
- <u>Cesarean delivery rate</u> Proportion of women delivered by cesarean in each group

 Number of cesarean deliveries in a group / Total number of deliveries
- <u>Contribution to cesarean delivery rate</u> Proportion of cesarean deliveries occurred in each group
 - Number of cesarean deliveries in a group / Total number of cesarean deliveries

Robson Subgroups

Robson Subgroup Classification expands Robson Ten Group Classification so that – for selected Groups – women with spontaneous, induced, and no labour are separated. Same calculation methods as Robson Groups.

Previous Cesarean Delivery

The woman had a previous cesarean delivery.

Vaginal Birth after Cesarean (VBAC)

- <u>Crude VBAC</u> Woman with a previous cesarean delivery had a vaginal delivery in this pregnancy.
 - Total number vaginal deliveries / Women with a previous cesarean
- <u>VBAC Eligible</u> Woman with a previous cesarean delivery is identified as eligible for VBAC by a care provider, or woman with a previous cesarean whose eligibility was unknown or not documented had a singleton with vertex presentation in this pregnancy.
 - Women considered eligible for VBAC / Women with a previous cesarean
- <u>VBAC Attempted</u> Woman with a previous cesarean delivery is identified as having attempted VBAC, or woman whose eligibility was unknown or not documented and the current delivery was either augmented or induced.
 - Women who attempted a VBAC / Women considered eligible for VBAC
- <u>VBAC Success</u> Woman with a previous cesarean delivery was eligible for and attempted VBAC had a vaginal delivery.
 - Women with a vaginal delivery / Women who were eligible for and attempted VBAC

Water Birth

Woman with delivery in a bathtub. Excludes women who used a bathtub for labour support only.

Water Birth Setting

The location where water birth took place.

- <u>Home</u> The percentage of women who had water birth at home.
- <u>Hospital</u> The percentage of women who had water birth in hospitals.

Anesthesia or Analgesia During Labour and Delivery

- <u>Entonox</u> Woman received entonox (nitrous oxide gas and oxygen) for pain management.
- Local Woman received localized anesthesia for pain management.
- <u>Narcotic</u> Woman received narcotic for pain management.
- <u>General</u> Woman received general anesthesia for pain management.
- <u>Epidural</u> Woman received anesthesia in the epidural space of the spine for pain management.
- <u>Spinal</u> Woman received anesthesia in the subarachnoid space of the spine for pain management.
- <u>Combined Spinal and Epidural</u> Woman received anesthesia both in the subarachnoid and epidural space of the spine for pain management.
- <u>Other</u> Woman received another type of anesthetic or analgesic not specified above, including pudendal.
- <u>No Anesthetic</u> No analgesic or anesthetic were used for pain management.

The percentages are defined as the number of women received the above mentioned anesthesia or analgesia over the total number of deliveries with midwifery-involved care at home or in hospitals.

Length of Stay (Hours) for Post-Delivery Admissions

Hours between when a woman was admitted to an acute care facility and her discharge from the Post-Delivery Admission.

Section 3: Newborn Health

Births by a Registered Midwife

Indicates whether a registered midwife delivered the baby. Babies part of a multifetal pregnancy may have different delivery providers, e.g. if twin A was delivered by a registered midwife and twin B was delivered by an obstetrician, then only twin A is a birth by a registered midwife.

Births with Midwifery-Involved Care

A registered midwife was involved at any point in maternal or newborn care. A registered midwife may not have been the delivery provider.

Preterm Birth

Baby was delivered before 37 completed weeks of estimated gestation.

- <u>latrogenic Preterm</u> Baby was delivered following induced labour or by cesarean delivery without labour, before 37 completed weeks of estimated gestation.
- <u>Spontaneous Preterm</u> Baby was delivered following onset of spontaneous labour or by vaginal delivery without labour, before 37 completed weeks of estimated gestation.
- <u>Unknown Preterm</u> Baby was delivered before 37 completed weeks of estimated gestation but the type of labour was unknown.

Weight for Gestational Age

- <u>Small for Gestational Age</u> Baby with birthweight below the 10th percentile for their sex and gestational age. Based on BC-specific growth curves available <u>here</u>.
- <u>Large for Gestational Age</u> Baby with birthweight above the 90th percentile for their sex and gestational age. Based on BC-specific growth curves available <u>here</u>.

The percentages are defined as the number of live births with the aboved mentioned weight for gestational age over the total number of live births with midwifery-involved care.

Type of Newborn Feeding

The type of feeding given to the baby during the Birth Admission, including at time of discharge.

- <u>Exclusive Breastfeeding</u>
 Baby received only breast milk (via the breast, a bottle, or other feeding method).
- <u>Non-Exclusive Breastfeeding</u> Baby received both breast milk and breast milk substitute.
- <u>No Breastfeeding</u> Baby received only breast milk substitute.
- <u>Any Breastfeeding</u> Baby received breast milk (via the breast, a bottle, or other feeding method). Baby may also have received breast milk substitute.
- <u>No Documentation</u> No documentation of feeding type.

The percentages are defined as the number of live births received the above mentioned type of newborn feeding over the total number of live births with midwifery-involved care.

Breastfeeding Initiation

Time frame when breastfeeding first commenced/attempted following birth, regardless of whether the baby latched or not.

- <=1 Hour Baby was breastfed within the first hour after birth.
- >1 Hour and <=24 Hours Baby was breastfed after the first hour and within 24 hours of birth.
- <u>>24 Hours</u> Baby was first breastfed more than 24 hours after birth.
- <u>Unknown</u> Unknown when breastfeeding started.

The percentages are defined as the number of live births first breastfed within the above mentioned time frame over the total number of live births with midwifery-involved care.

Neonatal Intensive Care Need During Birth and Transfer Episode of Care

Among live births, whether the baby needed Level II or III Neonatal Intensive Care for at least one day during birth and/or transfer episode of care.

 <u>NOTE</u>: Neonatal intensive care needs are defined by the PSBC Neonatal Daily Classification Tool <u>here</u>.

Length of Stay (Days) with Nenonatal Intensive Care Need During Birth and Transfer Episode of Care

Among live births with neonatal inteisive care needs, the total number of days the baby needed Level II or III Neonatal Intensive Care during birth and/or transfer episode of care. Length of stay is the difference between discharge and admission date. If admission and discharge are on the same date, length of stay is one day.

• <u>NOTE</u>: Effective April 1, 2010 discharges, NICU days are assigned based on baby's needs as defined by the PSBC Neonatal Daily Classification Tool <u>here</u>.

Low 5 Minute Apgar Score

Live births whose Apgar score is below 7 out of 10 at five minutes after birth.

Episodes Included in the Midwifery Report

This report is based on delivery admissions meeting the following minimum criteria:

Delivery Admission				
Include:				
Delivery	MOTHER_ADMISSION.screen_source = "DL" AND			
	April 1, 2015 \leq discharge_date \leq March 31, 2016			
Linked maternal-newborn records	BABY_ADMISSION.screen_source = "NB"			
	AND			
	BABY_ADMISSION.mother_id is not null			
Exclude from all:				
Complete termination of pregnancy	DIAGNOSES.diagnosis_cd begins with O04 (Mother)			
	OR			
	PROCEDURES_PERFORMED.procedure_code begins with 5CA88 or 5CA89			
	(Mother) and woman delivered a singleton pregnancy			
	OR			
	DIAGNOSES.diagnosis_cd begins with P96.4 (Baby) for all babies linked to mother			

Other Maternal Admissions	
Admission type	Criteria
Maternal Admission	MOTHER_ADMISSION.screen_source = "DL" or "PP"
	For any woman whose Delivery Admission meets the inclusion criteria above.
Post-Delivery Admission	MOTHER_ADMISSION.screen_source = "PP"
	AND
	most responsible diagnosis is not Z76.3
	For any woman whose Delivery Admission meets the inclusion criteria above.

Baby Admissions	
Admission type	Criteria
Birth Admission	BABY_ADMISSION.screen_source = "NB"
	For any baby linked to a woman whose Delivery Admission meets the inclusion criteria above.
Newborn Admission	BABY_ADMISSION.screen_source = "NB" or "XF"
	For any baby linked to a mother whose Delivery Admission meets the inclusion criteria above.
Post-Neonatal Admission	BABY_ADMISSION.screen_source = "XF"
	AND
	most responsible diagnosis is not Z76.2, Z76.3, or Z76.4
	For any baby linked to a mother whose Delivery Admission meets the inclusion criteria above.

Detailed Specifications for Selected Variables

	PDR variables		CIHI Codes
Fiscal year			
2015/16	screen_source = "DL" AND April 1, 2015 ≤ discharge_date ≤ March 31, 2016		
Deliveries by a Registered Midwife	<pre>delivered_by = 3 or 7 for all babies in a pregnancy</pre>		
Births by a Registered Midwife	delivered_by = 3 or 7 for a given baby		
Deliveries/Births with Midwifery-Involved Care	institution_id = 976 or 977 OR delivered_by = 3 or 7 OR midwife_case = "Y" OR actual_place_of_delivery = 1 or 2	OR	DOCTORS.doctor_service = 11004 OR PROCEDURES_PERFORMED.procedure_doctor_service = 11004 on the delivery or newborn record
Parity			
Nulliparous Parous	(term = 0 AND premature = 0 AND prev_cesarian_deliv = 0 AND prev_vaginal_deliv = 0) OR (term = null AND premature = null AND prev_cesarian_deliv = null AND prev_vaginal_deliv = null AND living = 0) OR (any of term, premature, prev_cesarian_deliv, prev_vaginal_deliv = null AND gravida =1) (term ≥ 1 OR premature ≥1 OR prev_cesarian_deliv ≥1 OR prev_vaginal_deliv ≥1) OR (term = null AND premature = null AND prev_cesarian_deliv = null AND prev_vaginal_deliv = null AND prev_vaginal_deliv = null AND prev_vaginal_deliv = null AND living ≥1)		
Maternal Age	AND prev_vaginal_deliv = fidir AND living 21)		
<20	(baby_delivered_date – date of birth/365.25) < 20 and ≠ null		
20-24	20 ≤ (baby_delivered_date – date of birth/365.25) < 25		
25-29	25 ≤ (baby_delivered_date – date of birth/365.25) < 29		
30-34	30 ≤ (baby_delivered_date – date of birth/365.25) < 34		

	PDR variables		CIHI Codes
35-39	35 ≤ (baby_delivered_date – date of		
· · · · · · · · · · · · · · · · · · ·	birth/365.25) < 39		
40+	(baby_delivered_date – date of birth/365.25) ≥ 40		
Antenatal Care Visits			
<5 Visits	0 ≤ num_antenatal_visits < 5		
Missing Visits	num_antenatal_visits = null		
Hypertensive Disorders of Pregnancy	pp_hellp_syndrome = "Y"	OR	diagnosis_code begins with O10, O11, O13, O14, O15, or O16
Gestational Diabetes in Pregnancy	risk_code = 13 or 14	OR	diagnosis_code begins with O248 or O249
Substance Use During Pregnancy			
Cigarette Use	smoker_type_cd = "C"		
Alcohol as Risk	r_alc_flg = "Y"		
Binge Drinking	binge_drinking = "Y"		
Other Drug Use	risk_code = 29, 30, 31, 32, 33, 34, 35, or 36		
Maternal Screening Tests			
Hepatitis B Test Done	hbsag_test = "Y"		
HIV Test Done	hiv_test = "Y"		
Group B Strep Test Done	b_strep = "Y"		
Maternal Serum Screening Offered	mat_serum_screen = "Y"		
Augmentation of Labour	labour_aug_flg = "Y"		
Induction of Labour	labour_ind_flg = "Y"		
Mode of Delivery			
Cesarean Delivery			procedure_code begins with 5MD60
Vaginal Delivery			procedure_code does not begin with 5MD60
Mode of Delivery – Detailed (Hierarchical)			
Emergency Primary	csection_type = 2	AND	procedure_code begins with 5MD60
Emergency Repeat	csection_type = 4	AND	procedure_code begins with 5MD60
Elective Primary	csection_type = 1	AND	procedure_code begins with 5MD60
Elective Repeat	csection_type = 3	AND	procedure_code begins with 5MD60
Forceps and Vacuum			procedure_code begins with 5MD55 OR
			procedure_code begins with 5MD54 AND one of the
			following codes is also on the abstract: 5MD53,
			5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, or 5MD56PJ
Forceps			procedure_code begins with 5MD53, 5MD56NN,
			5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, or
			5MD56PJ
Vacuum			procedure_code begins with 5MD54

	PDR variables		CIHI Codes
Spontaneous			procedure_code begins with 5MD50, 5MD51, 5MD52, 5MD56AA, 5MD56NL, 5MD56NP, 5MD56NU, 5MD56NM, 5MD56NQ, 5MD56NV, 5MD56GH, 5MD56PA, 5MD56PD, 5MD56PG, 5MD56PB, 5MD56PE, or 5MD56PH OR procedure_code = null OR record has not been classified above
Perineal Trauma			
Third or Fourth Degree Laceration	laceration_flg = "Y" AND laceration_degree = 3 or 4	OR	diagnosis_code begins with O702 or O703
Cervical Tear	cervical_tear_flg = "Y"		diagnosis_code begins with O713
Episiotomy	episiotomy_flg = "Y"	OR	procedure_code begins with 5MD50GH, 5MD53KS, 5MD53JE, 5MD53KL, 5MD53KN, 5MD53KJ, 5MD54KJ, 5MD54KL, 5MD54KN, 5MD54NF, 5MD55KN, 5MD55KL, 5MD55KJ, 5MD55KR, 5MD56GH, or 5MD56P
Robson Groups			
1	gestational age ≥ 37 AND parity = Nulliparous AND labour_spont_flg = "Y" AND maximum(baby_sequence) = 1 AND baby_presentation_delivery = 6		
2	gestational age \geq 37 AND parity = Nulliparous AND (labour_ind_flg = "Y" OR labour_none_flg = "Y") AND maximum(baby_sequence) = 1 AND baby_presentation_delivery = 6		
3	gestational age ≥ 37 AND parity = Parous AND labour_spont_flg = "Y" AND maximum(baby_sequence) = 1 AND baby_presentation_delivery = 6 AND prev_cesarian_deliv = 0		
4	gestational age \geq 37 AND parity = Parous AND (labour_ind_flg = "Y" OR labour_none_flg = "Y") AND maximum(baby_sequence) = 1 AND baby_presentation_delivery = 6 AND prev_cesarian_deliv = 0		
5	gestational age ≥ 37 AND parity = Parous AND maximum(baby_sequence) = 1 AND baby_presentation_delivery = 6 AND prev_cesarian_deliv ≥ 1		

	PDR variables	CIHI Codes
6	gestational age ≠ null	
	AND parity = Nulliparous	
	AND maximum(baby_sequence) = 1	
	AND baby_presentation_delivery = 1, 2, 3, 4,	
	or 5	
7	gestational age ≠ null AND parity = Parous	
	AND maximum(baby_sequence) = 1	
	AND baby_presentation_delivery = 1, 2, 3, 4,	
	or 5	
8	gestational age ≠ null	
	AND maximum(baby_sequence) = 1	
9	gestational age ≠ null	
	AND maximum(baby_sequence) = 1	
	AND baby_presentation_delivery = 7 or 8	
10	gestational age <37 and ≠ null	
	AND maximum(baby_sequence) = 1	
	AND baby_presentation_delivery = 6	
99	record has not been classified above	
Robson Subgroups		
01	Robson Groups = 1	
02i	Robson Groups = 2 AND labour_ind_flg = "Y"	
02n	Robson Groups = 2	
	AND labour_none_flg = "Y"	
03	Robson Groups = 3	
04i	Robson Groups = 4 AND labour_ind_flg = "Y"	
04n	Robson Groups = 4	
	AND labour_none_flg = "Y"	
05s	Robson Groups = 5	
	AND labour_spont_flg = "Y"	
05i	Robson Groups = 5 AND labour_ind_flg = "Y"	
05n	Robson Groups = 5	
	AND labour_none_flg = "Y"	
06	Robson Groups = 6	
07	Robson Groups = 7	
08s	Robson Groups = 8	
	AND labour_spont_flg = "Y"	
08i	Robson Groups = 8 AND labour_ind_flg = "Y"	
08n	Robson Groups = 8	
	AND labour_none_flg = "Y"	
09	Robson Groups = 9	
10s	Robson Groups = 10	
	AND labour_spont_flg = "Y"	

	PDR variables		CIHI Codes
10i	Robson Groups = 10 AND labour_ind_flg = "Y"		
10n	Robson Groups = 10		
	AND labour_none_flg = "Y"		
99	Robson Groups = 99		
Previous Cesarean Delivery	prev_cesarian_deliv > 0		
Vaginal Birth After Cesarean (VBAC)			
VBAC Case	prev_cesarian_deliv ≥ 1	AND	procedure_code does not begin with 5MD60
VBAC Eligible	(vbac_eligible = "Y"		······································
ů – – – – – – – – – – – – – – – – – – –	AND prev_cesarian_deliv ≥ 1)		
	OR		
	(vbac_eligible = "U" or " "		
	AND baby_presentation_delivery = 6		
	AND prev_cesarian_deliv ≥ 1		
	AND maximum(baby_sequence) = 1)		
VBAC Attempted	(vbac_attempted = "Y"		
	AND prev_cesarian_deliv is \geq 1)		
	OR		
	(vbac_attempted = "U", "A", or " "		
	AND prev_cesarian_deliv ≥ 1		
	AND (labour_ind_flg = "Y"		
	OR (labour_spont_flg = "Y"		
	AND labour_aug_flg = "Y"))		
VBAC Success	woman VBAC Eligible and VBAC Attempted	AND	procedure_code does not begin with 5MD60
	(above)		
Water Birth			procedure_code begins with 5MD52
Anesthesia or Analgesia			
Entonox	entonox_flg = "Y"		
Local	local_flg = "Y"		
Narcotic	narcotic_flg = "Y"		
General	general_flg = "Y"		
Epidural	epidural_flg = "Y"		
Spinal	spinal_flg = "Y"		
Combined Spinal and Epidural	discharge_date ≥ April 1, 2015	AND	anesthetic_type = C for a procedure_code beginning with 5MD
Other	pudendal_flg = "Y" OR other_flg = "Y"		
No Anesthetic	none_flg = "Y"		
Length of Stay (Hours) for Post-Delivery	screen_source = "PP"		
Admission	AND minutes between		
	(discharge_date discharge_hour -		
	admission_date admission_hour) / 60		

	PDR variables		CIHI Codes
Preterm Birth			
latrogenic Preterm	gestational age < 37 AND (labour_ind_flg = "Y" OR (labour_none_flg = "Y" AND csection_type = 1, 2, 3, or 4))		
Spontaneous Preterm	gestational age < 37 AND (labour_spont_flg = "Y" OR (labour_none_flg = "Y" AND (csection_type = 0	OR	procedure_code does not begin with 5MD60)))
Unknown Preterm	gestational age < 37 AND (labour_unk_flg = "Y" OR (labour_spont_flg ≠ "Y AND labour_ind_flg ≠ "Y" AND labour_none_flg ≠ "Y"))		
Weight for Gestational Age		•	
Small for Gestational Age	baby with birthwegith below the 10 th percentile for gestational age and sex based on gestational age, sex, multiple_birth_count, and admission_weight where screen_source = "NB" and sex = "M" or "F"		
Large for Gestational Age	baby with birthwegith below the 90 th percentile for gestational age and sex based on gestational age, sex, multiple_birth_count, and admission_weight where screen_source = "NB" and sex = "M" or "F"		
Newborn Feeding		-	
Exclusive Breastfeeding	newborn_feeding = "BR"		
Non-exclusive Breastfeeding	newborn_feeding = "BF"		
No Breastfeeding	newborn_feeding = "FR"		
Any Breastfeeding	newborn_feeding = "BR" or "BF"		
No Documentation	newborn_feeding = "UN"		
Breastfeeding Initiation			
<= 1 Hour	breast_feeding_initiation = 1		
>1 Hour and <=24 Hours	breast_feeding_initiation = 2		
>24 Hours	breast_feeding_initiation = 3		
Unknown	breast_feeding_initiation = 4		
Not Applicable	breast_feeding_initiation = 5		

	PDR variables	CIHI Codes
Neonatal Intensive Care (NICU) Use	screen_source = "NB" or "XF"	
During Birth and Transfer Episode of	AND (nicu_ii > 0 OR nicu_iii > 0)	
Care		
Length of Stay (Days) in NICU During	(nicu_ii + nicu_iii) for screen_source = "NB"	
Birth and Transfer Episode of Care	and "XF"	
Low 5 Minute Apgar Score	0 ≤ apgar_5_minutes < 7	

Gestational Age Algorithm

Gestational age at delivery is calculated using an algorithm consistent with that recommended by the Society of Obstetricians and Gynaecologists of Canada. The algorithm takes into account the last menstrual period (LMP), early ultrasound (EUS) before 20 weeks, newborn clinical exam, and chart documented estimate of gestational age. Accurate documentation of each of these on patient charts, including the estimated weeks and days gestation at early ultrasound, permits the most accurate calculation by PSBC.

Gestational age in completed weeks[§] based on LMP and EUS is calculated as follows:

- 1. If LMP* is recorded and there is no EUS, use GA from LMP.
- 2. If LMP is recorded, there is no EUS[^], but clinical exam of baby gives a GA at least 3 weeks different than LMP, use GA from newborn clinical exam.
- 3. If LMP is recorded and equal to GA in weeks from EUS at <14 weeks, use GA from LMP. If estimates are not equal, use GA from EUS.
- 4. If LMP is recorded and within 1 week of GA from EUS at 14-20 weeks, use GA from LMP. If difference is more than 1 week, use GA from EUS.
- 5. If LMP is not recorded but GA from EUS <20 weeks is recorded, use GA from EUS.
- 6. If LMP and EUS are not recorded, use GA from newborn clinical exam.
- 7. If LMP, EUS, and newborn clinical exam are not recorded, use GA from chart documentation.
- 8. If all are missing or out of range, GA is missing.
- [§] Completed weeks of gestation is a term used in the estimated age of the fetus calculated from the first day of the LMP or US. A completed week increments at 7-day intervals. For instance 37 completed weeks includes the time span from 37 weeks and 0 days to 37 weeks and 6 days.

* only LMP estimates of 15-45 weeks are considered. All others are treated as missing.

^ only GA estimates of 17-43 weeks from EUS are considered. All others are treated as missing.