



Perinatal Services BC
An agency of the Provincial Health Services Authority

Perinatal Health Report 2009/10 to 2013/14



Residents of Northern Health

Publication Information

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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 except the Crude Stillbirth Rate; pregnancies involving selective fetal reduction are retained.
- Mother's delivery record has a discharge date between April 1, 2009 and March 31, 2014.
- 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 2014 version of BC Stats' Geocoding Self Service translation file.
- Rates with numerators of 1-4 cases are not reported (NR).

Terms used in the Perinatal Health Report (see specifications on pages 95 and 96)

Delivery Admission

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

Delivery Episode of Care

- Total time woman spent in one or more hospitals, beginning from admission to hospital for delivery of a baby. Includes the Delivery Admission and all acute care episodes captured in the BCPDR where the woman was discharged from one hospital and admitted directly to a different hospital.

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.

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.

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.

Birth Episode of Care

- Total time baby spent in hospital between birth and discharge home. Includes the Birth Admission and all acute care episodes captured in the BCPDR where baby was discharged from one hospital and admitted directly to a different hospital.

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.

Post-Neonatal Admission

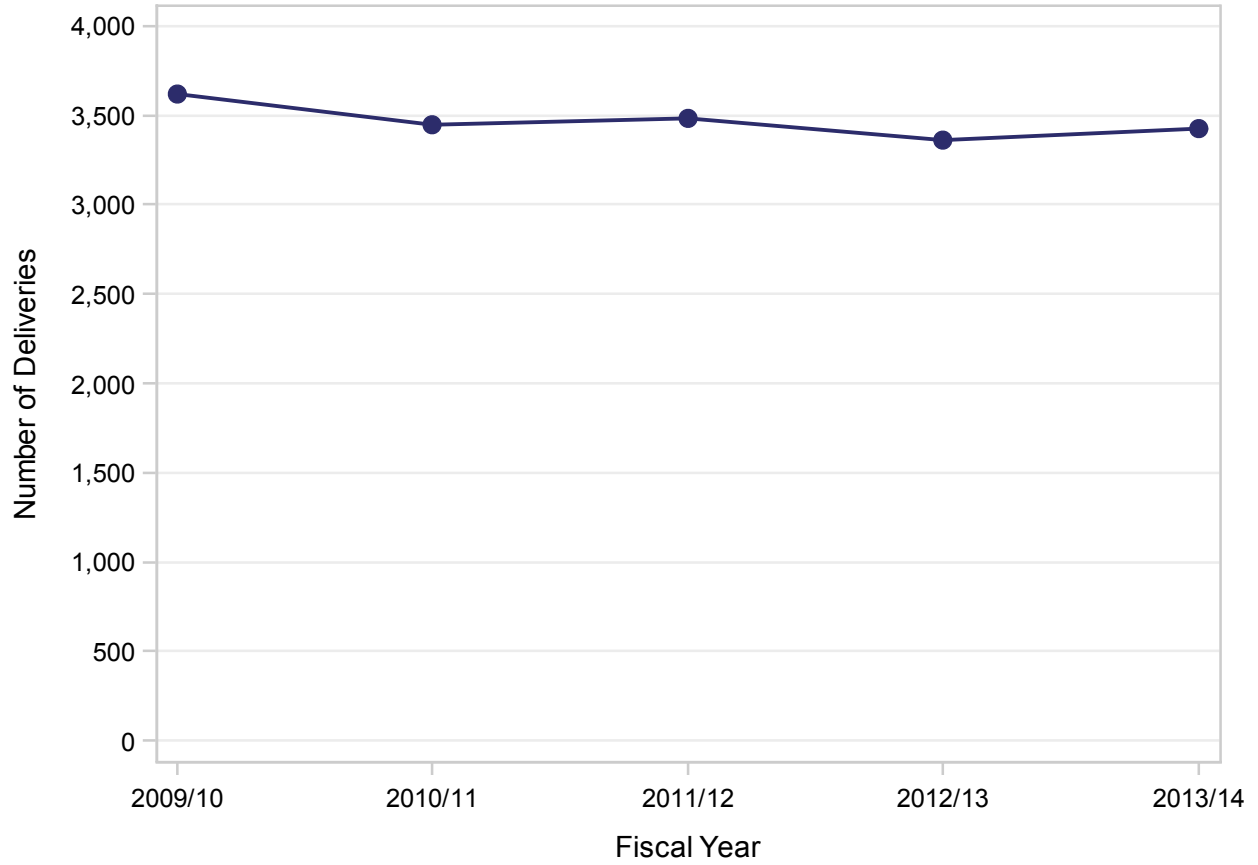
- Any record of post-birth baby care received by the BCPDR. Includes acute care episodes that are transfers from another hospital and admissions from home, up to 28 days after birth.

**Perinatal Health Report 2009/10 to 2013/14
Residents of Northern Health**

Section 1: Maternal Health

Total Deliveries

Residents of Northern Health: April 1, 2009 - March 31, 2014

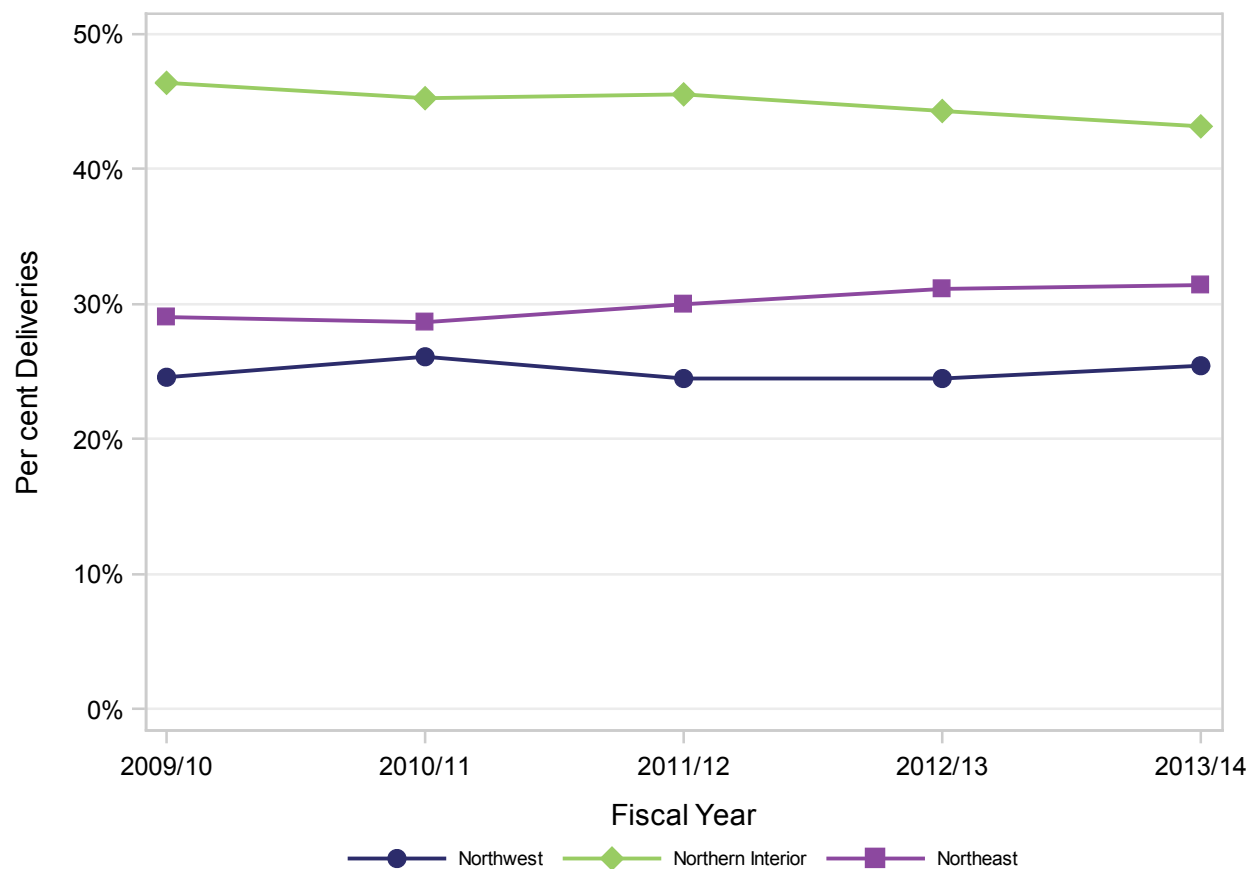


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Northern Health	3,621	3,448	3,487	3,363	3,424

Definitions and specifications begin on Page 84 of this document.

Deliveries by Resident Health Service Delivery Area

Residents of Northern Health: April 1, 2009 - March 31, 2014

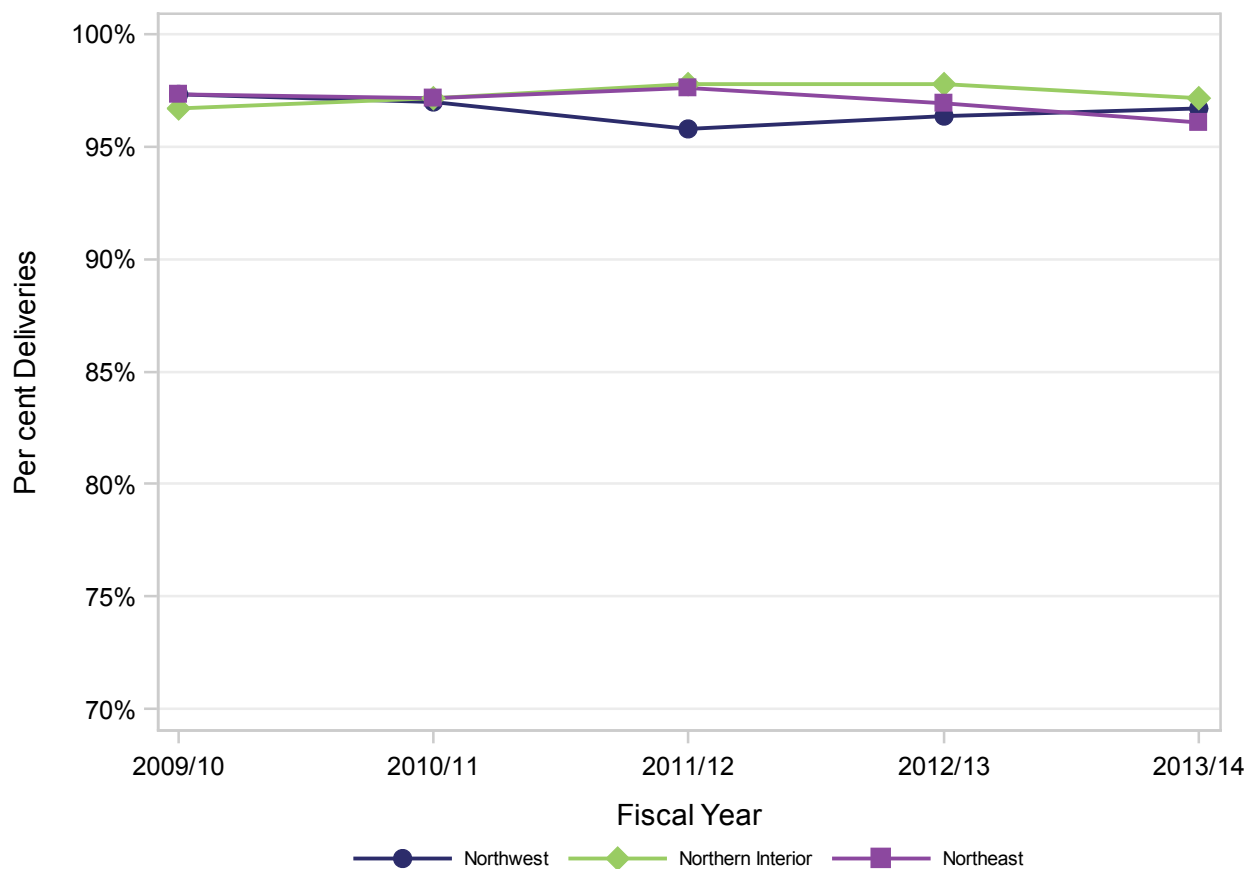


Health Service Delivery Area	Fiscal Year									
	2009/10		2010/11		2011/12		2012/13		2013/14	
	Count	Per cent	Count	Per cent	Count	Per cent	Count	Per cent	Count	Per cent
Northwest	890	24.6%	900	26.1%	855	24.5%	824	24.5%	871	25.4%
Northern Interior	1,680	46.4%	1,559	45.2%	1,587	45.5%	1,491	44.3%	1,479	43.2%
Northeast	1,051	29.0%	989	28.7%	1,045	30.0%	1,048	31.2%	1,074	31.4%

Definitions and specifications begin on Page 84 of this document.

Deliveries Within Home Health Authority

Residents of Northern Health: April 1, 2009 - March 31, 2014

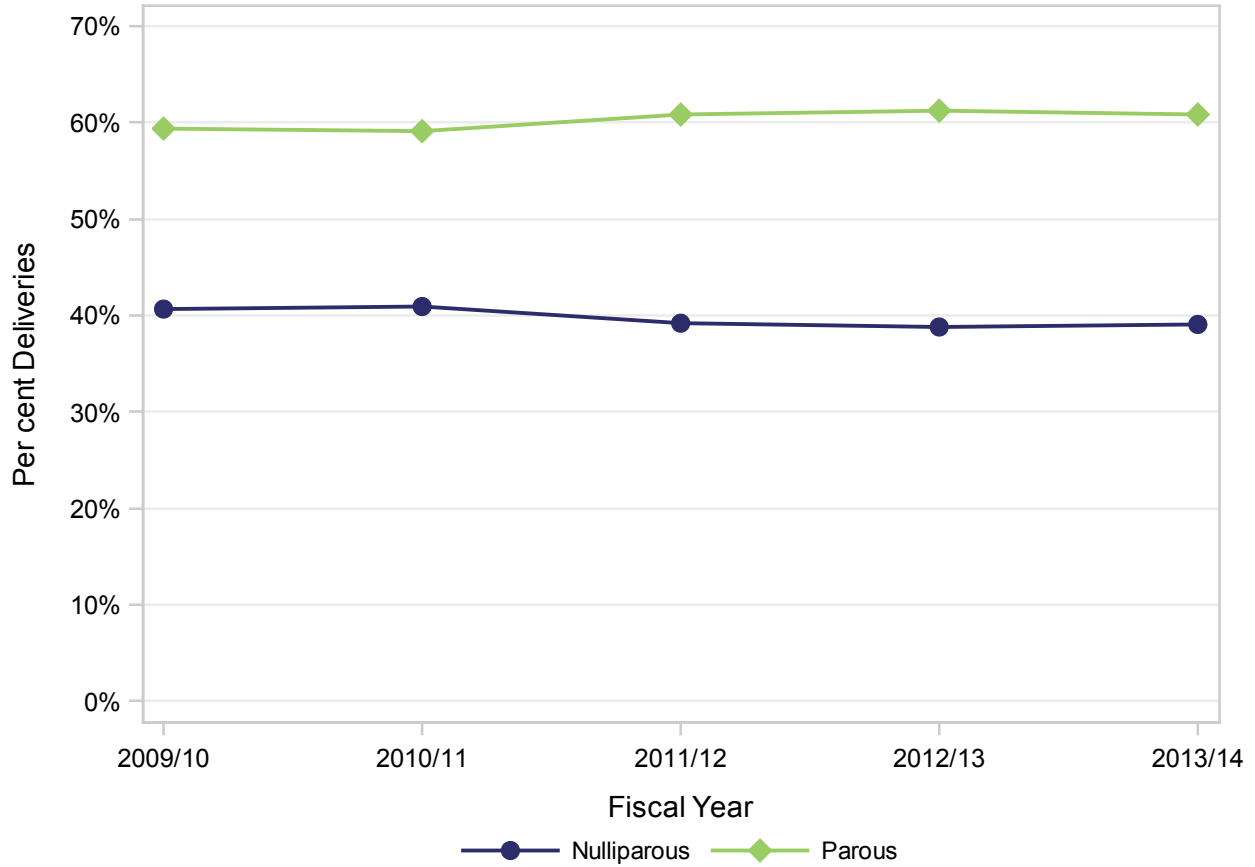


Health Service Delivery Area	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Northwest	97.3%	97.0%	95.8%	96.4%	96.7%
Northern Interior	96.7%	97.2%	97.8%	97.8%	97.2%
Northeast	97.3%	97.2%	97.6%	96.9%	96.1%

Definitions and specifications begin on Page 84 of this document.

Deliveries by Parity

Residents of Northern Health: April 1, 2009 - March 31, 2014



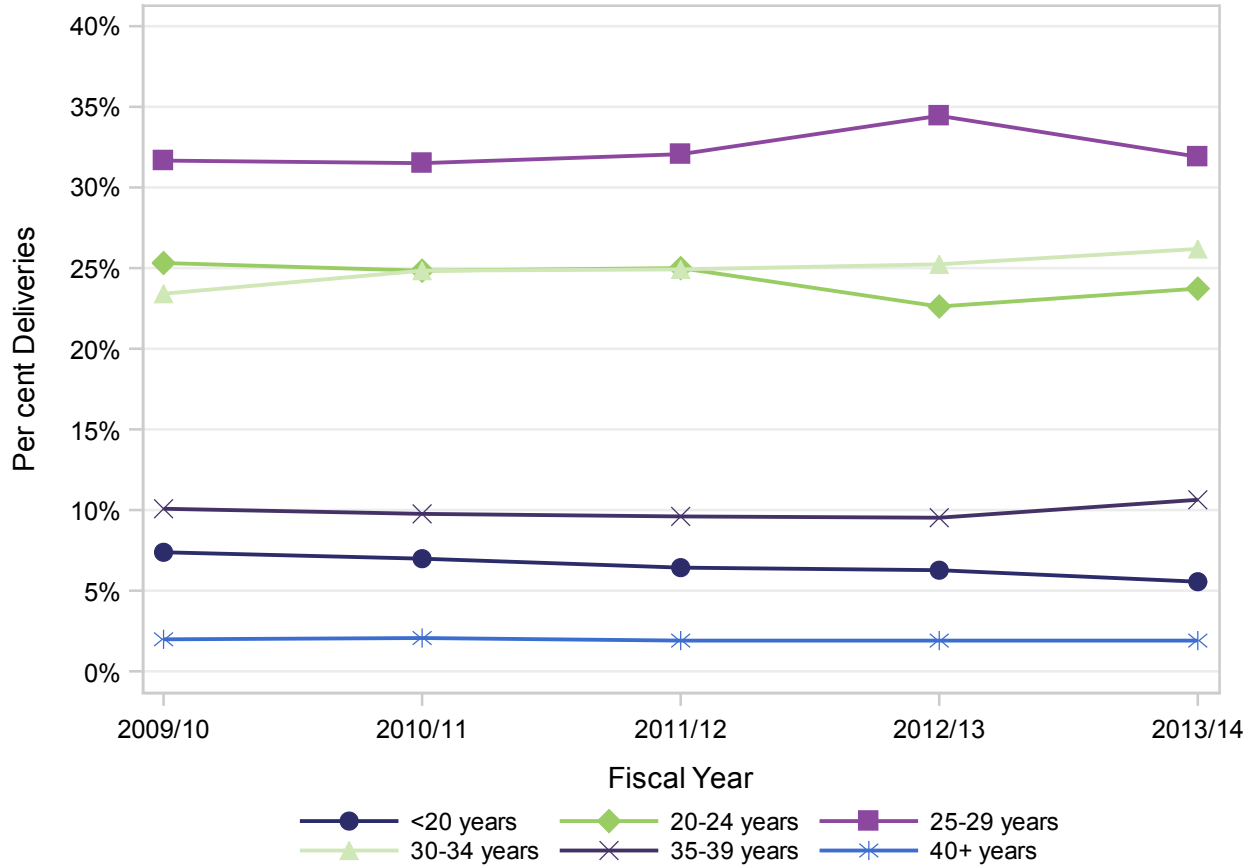
Average and Median Maternal Age at Delivery by Parity

Parity	Fiscal Year									
	2009/10		2010/11		2011/12		2012/13		2013/14	
	Average	Median	Average	Median	Average	Median	Average	Median	Average	Median
All	27.9	27.6	28.0	27.9	28.1	28.0	28.2	28.1	28.4	28.2
Nulliparous	25.6	25.2	25.9	25.4	25.7	25.3	26.1	26.0	26.4	26.2
Parous	29.5	29.1	29.5	29.3	29.6	29.4	29.5	29.3	29.6	29.5

Definitions and specifications begin on Page 84 of this document.

Maternal Age at Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

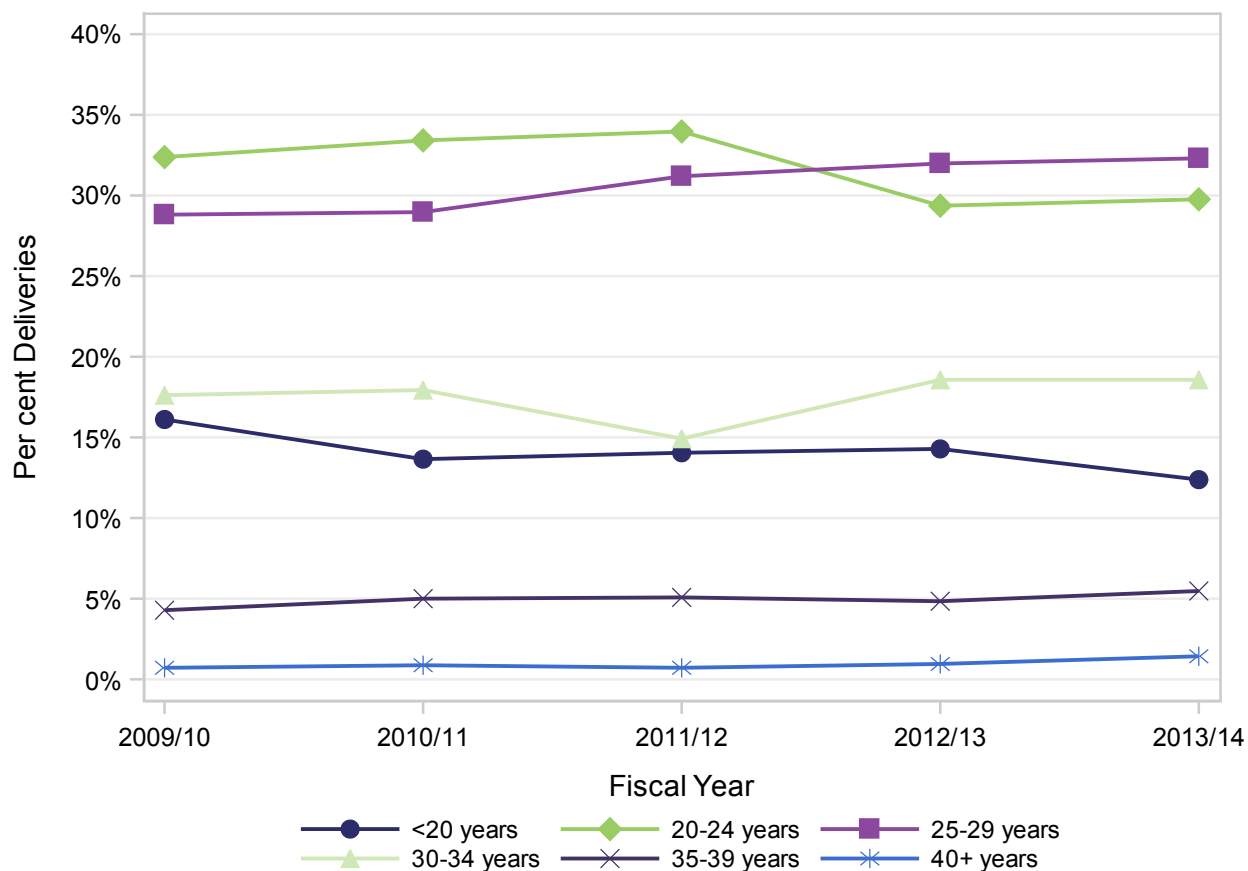


Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	7.4%	7.0%	6.5%	6.3%	5.6%
20-24 years	25.4%	24.8%	25.0%	22.6%	23.7%
25-29 years	31.7%	31.5%	32.1%	34.4%	31.9%
30-34 years	23.4%	24.8%	24.9%	25.2%	26.2%
35-39 years	10.1%	9.8%	9.6%	9.5%	10.7%
40+ years	2.0%	2.1%	2.0%	1.9%	1.9%

Definitions and specifications begin on Page 84 of this document.

Maternal Age at Delivery Nulliparous Women

Residents of Northern Health: April 1, 2009 - March 31, 2014

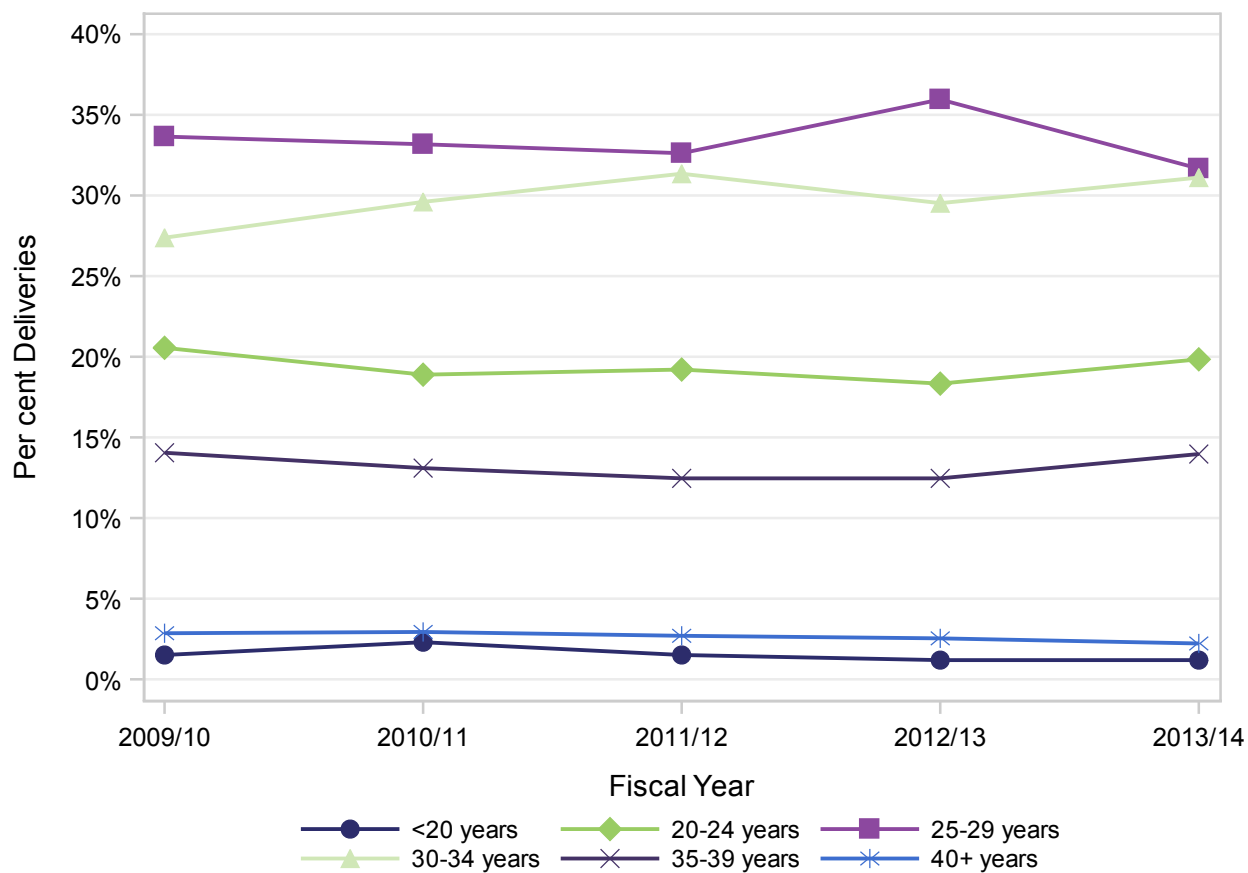


Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	16.1%	13.7%	14.1%	14.3%	12.4%
20-24 years	32.4%	33.4%	34.0%	29.3%	29.8%
25-29 years	28.8%	29.0%	31.2%	32.0%	32.3%
30-34 years	17.6%	18.0%	14.9%	18.5%	18.6%
35-39 years	4.3%	5.0%	5.1%	4.8%	5.5%
40+ years	0.7%	0.9%	0.7%	1.0%	1.4%

Definitions and specifications begin on Page 84 of this document.

Maternal Age at Delivery Parous Women

Residents of Northern Health: April 1, 2009 - March 31, 2014



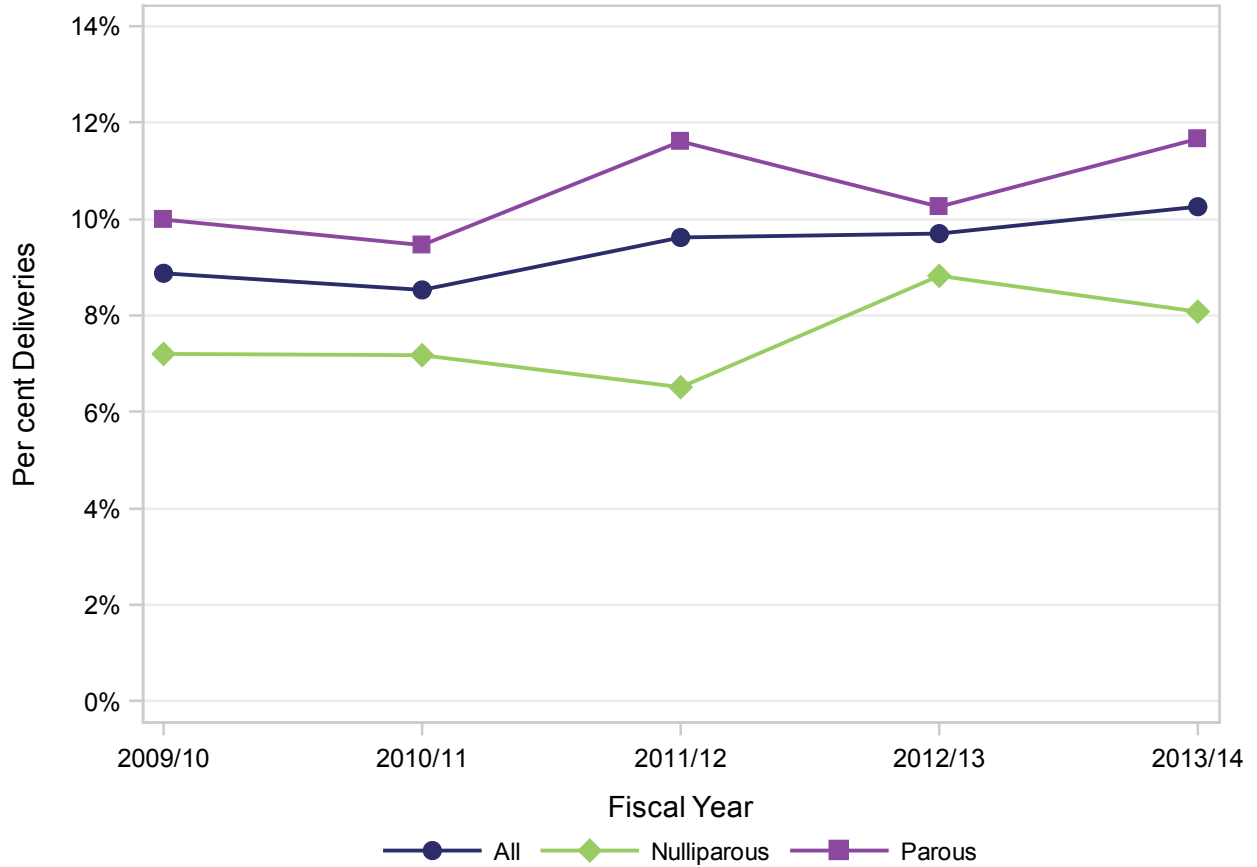
Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	1.5%	2.3%	1.6%	1.2%	1.2%
20-24 years	20.5%	18.9%	19.2%	18.3%	19.8%
25-29 years	33.7%	33.2%	32.6%	36.0%	31.7%
30-34 years	27.4%	29.6%	31.4%	29.5%	31.1%
35-39 years	14.0%	13.1%	12.5%	12.5%	14.0%
40+ years	2.9%	2.9%	2.7%	2.5%	2.3%

Definitions and specifications begin on Page 84 of this document.

Antenatal Care Visits

Residents of Northern Health: April 1, 2009 - March 31, 2014

Deliveries with <5 Antenatal Care Visits by Parity



Deliveries with <5 Antenatal Care Visits or Missing Number of Visits

	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<5 Visits	8.9%	8.5%	9.6%	9.7%	10.3%
Missing Visits	5.9%	5.2%	5.1%	7.9%	9.3%

Definitions and specifications begin on Page 84 of this document.

Pre-Pregnancy Body Mass Index (BMI)

Residents of Northern Health: April 1, 2009 - March 31, 2014

Distribution of Pre-Pregnancy BMI Among Deliveries With **Complete** Height and Weight



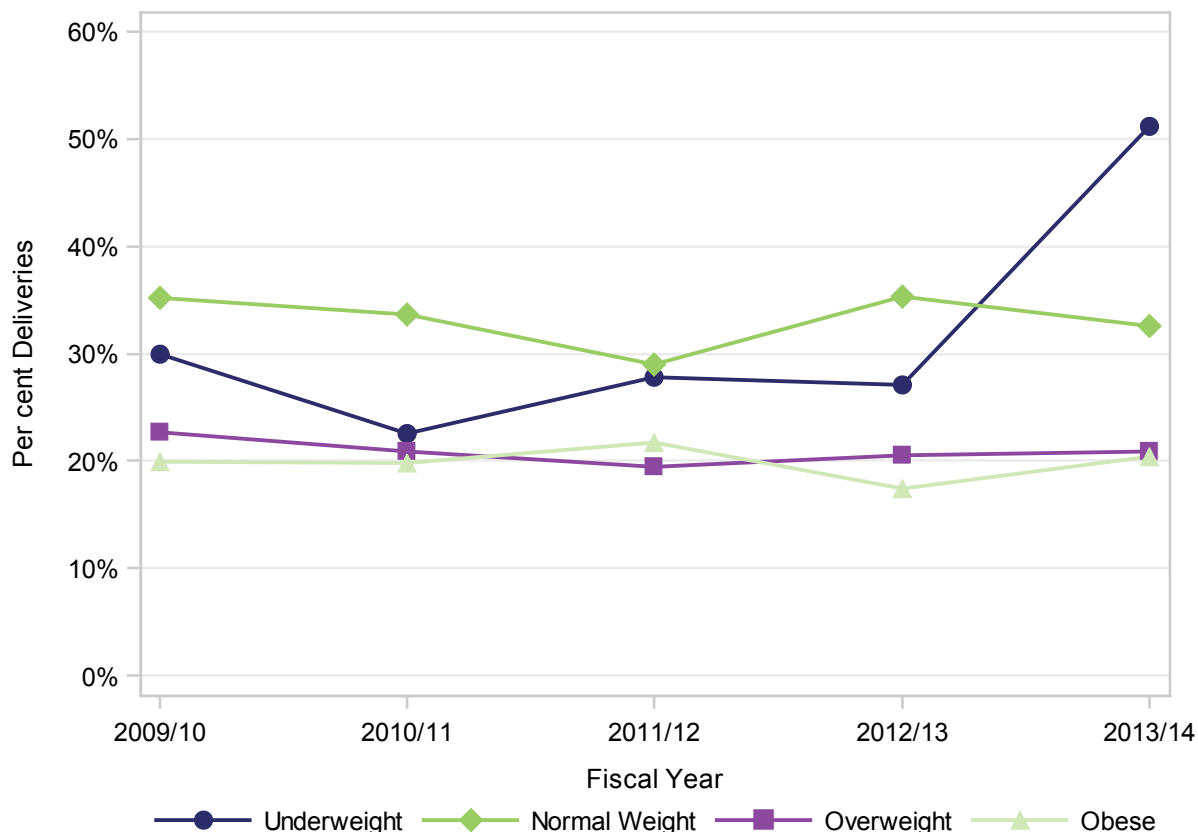
Distribution of Pre-Pregnancy BMI Among **ALL** Deliveries

BMI Category	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Underweight	1.4%	1.9%	1.8%	2.4%	2.2%
Normal Weight	22.6%	29.1%	28.9%	31.3%	32.6%
Overweight	12.7%	14.6%	15.5%	15.6%	16.2%
Obese	10.7%	13.0%	12.5%	14.2%	14.5%
BMI Missing	52.6%	41.3%	41.3%	36.4%	34.4%

Definitions and specifications begin on Page 84 of this document.

Appropriate* Weight Gain During Pregnancy by Pre-Pregnancy Body Mass Index (BMI)

Residents of Northern Health: April 1, 2009 - March 31, 2014



BMI Category	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Underweight	30.0%	22.5%	27.8%	27.1%	51.1%
Normal Weight	35.2%	33.6%	28.9%	35.3%	32.6%
Overweight	22.7%	20.9%	19.5%	20.5%	20.9%
Obese	19.9%	19.8%	21.7%	17.5%	20.4%

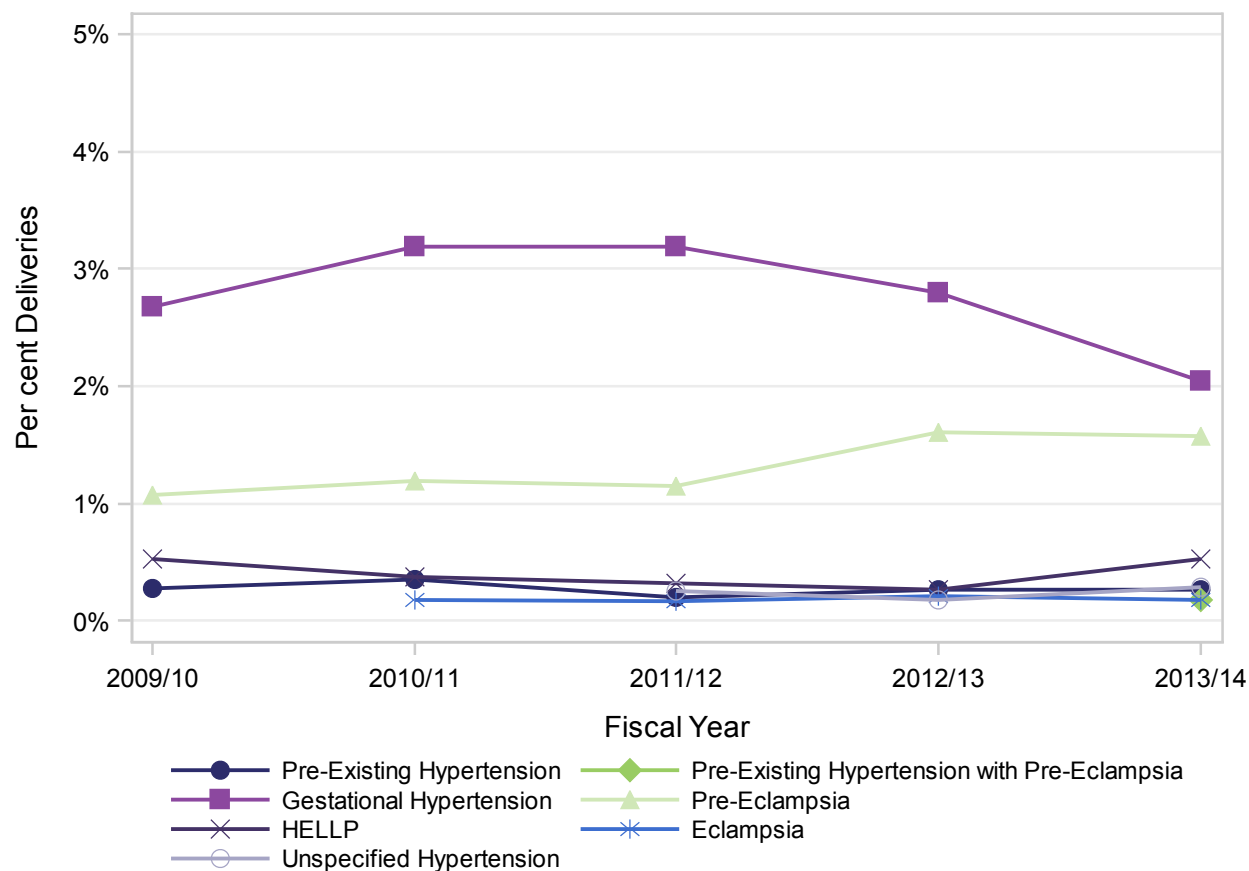
* As defined by the Institute of Medicine.

Data are limited to women with complete height and weight information (approximately 40% of deliveries).

Definitions and specifications begin on Page 84 of this document.

Hypertensive Disorders of Pregnancy

Residents of Northern Health: April 1, 2009 - March 31, 2014



Type of Hypertension	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
No Hypertension	95.1%	94.5%	94.6%	94.6%	94.9%
Pre-Existing Hypertension	0.3%	0.3%	0.2%	0.3%	0.3%
Pre-Existing Hypertension with Pre-Eclampsia	NR	NR	NR	NR	0.2%
Gestational Hypertension	2.7%	3.2%	3.2%	2.8%	2.0%
Pre-Eclampsia	1.1%	1.2%	1.1%	1.6%	1.6%
HELLP	0.5%	0.4%	0.3%	0.3%	0.5%
Eclampsia	NR	0.2%	0.2%	0.2%	0.2%
Unspecified Hypertension	NR	NR	0.3%	0.2%	0.3%

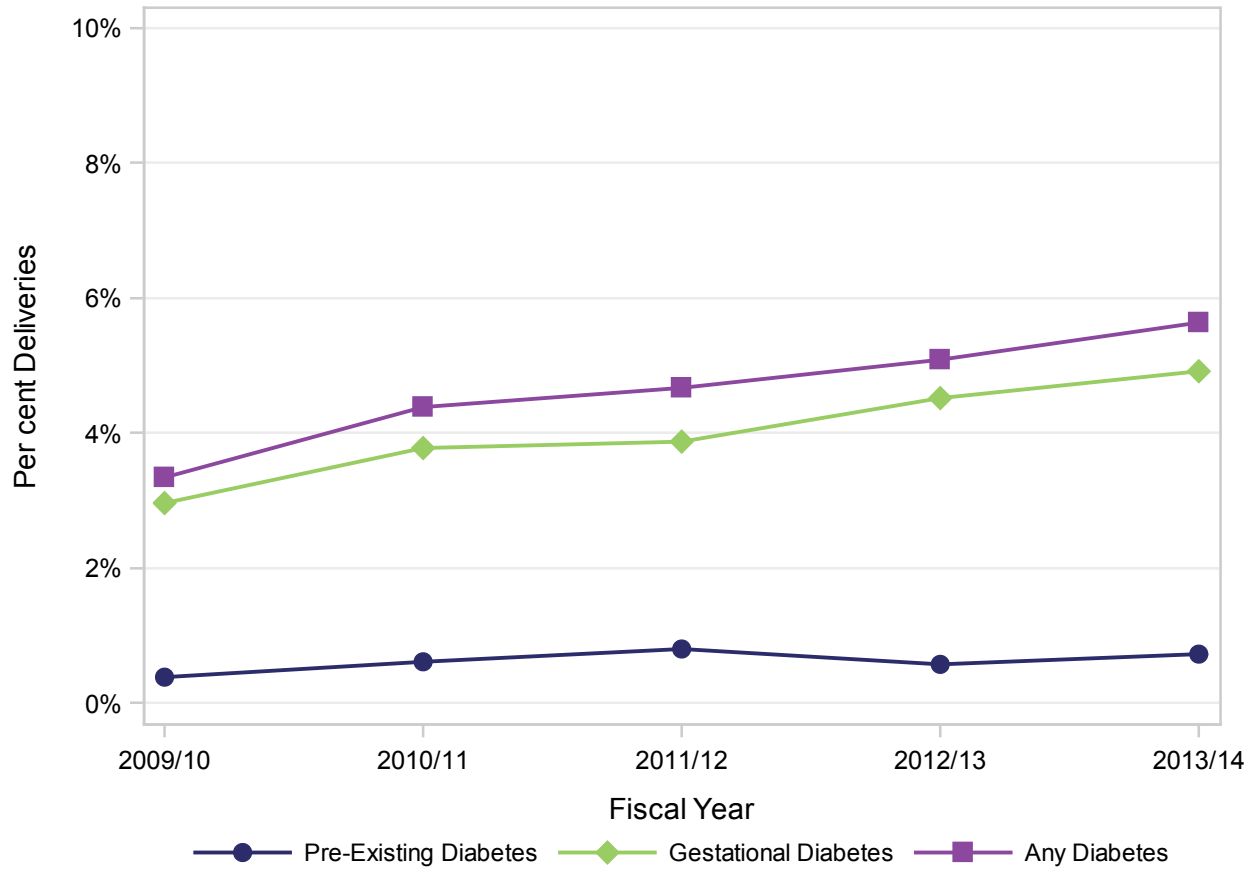
Diagnosis codes for hypertensive disorders of pregnancy, notably gestational hypertension and pre-eclampsia, changed effective April 1, 2012 discharges. This has caused a break in the trend for these two diagnoses.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Diabetes Mellitus in Pregnancy

Residents of Northern Health: April 1, 2009 - March 31, 2014

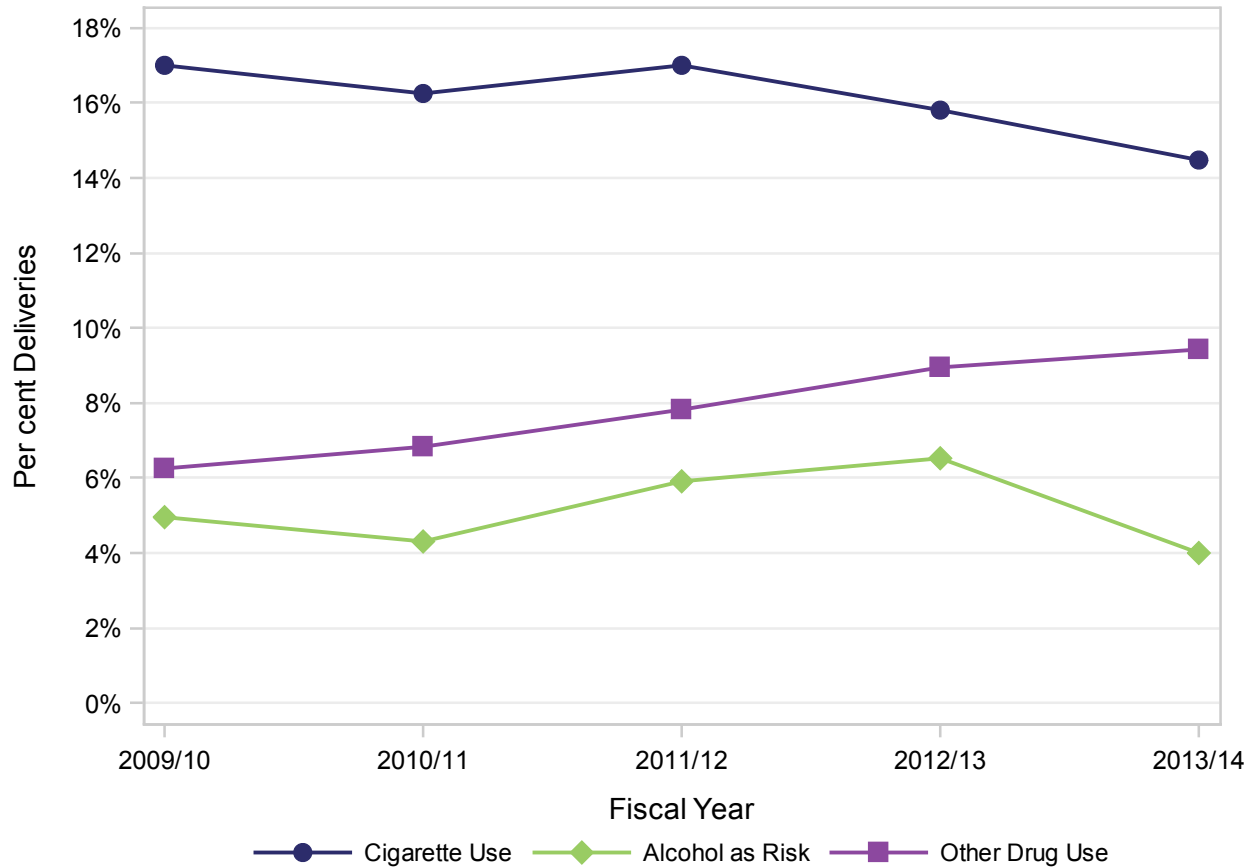


Type of Diabetes	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Pre-Existing Diabetes	0.4%	0.6%	0.8%	0.6%	0.7%
Gestational Diabetes	3.0%	3.8%	3.9%	4.5%	4.9%
Any Diabetes	3.3%	4.4%	4.7%	5.1%	5.6%

British Columbia adopted new diagnostic criteria for gestational diabetes in October 2010. This may cause a break in the trend for this diagnosis. Definitions and specifications begin on Page 84 of this document.

Substance Use During Pregnancy

Residents of Northern Health: April 1, 2009 - March 31, 2014

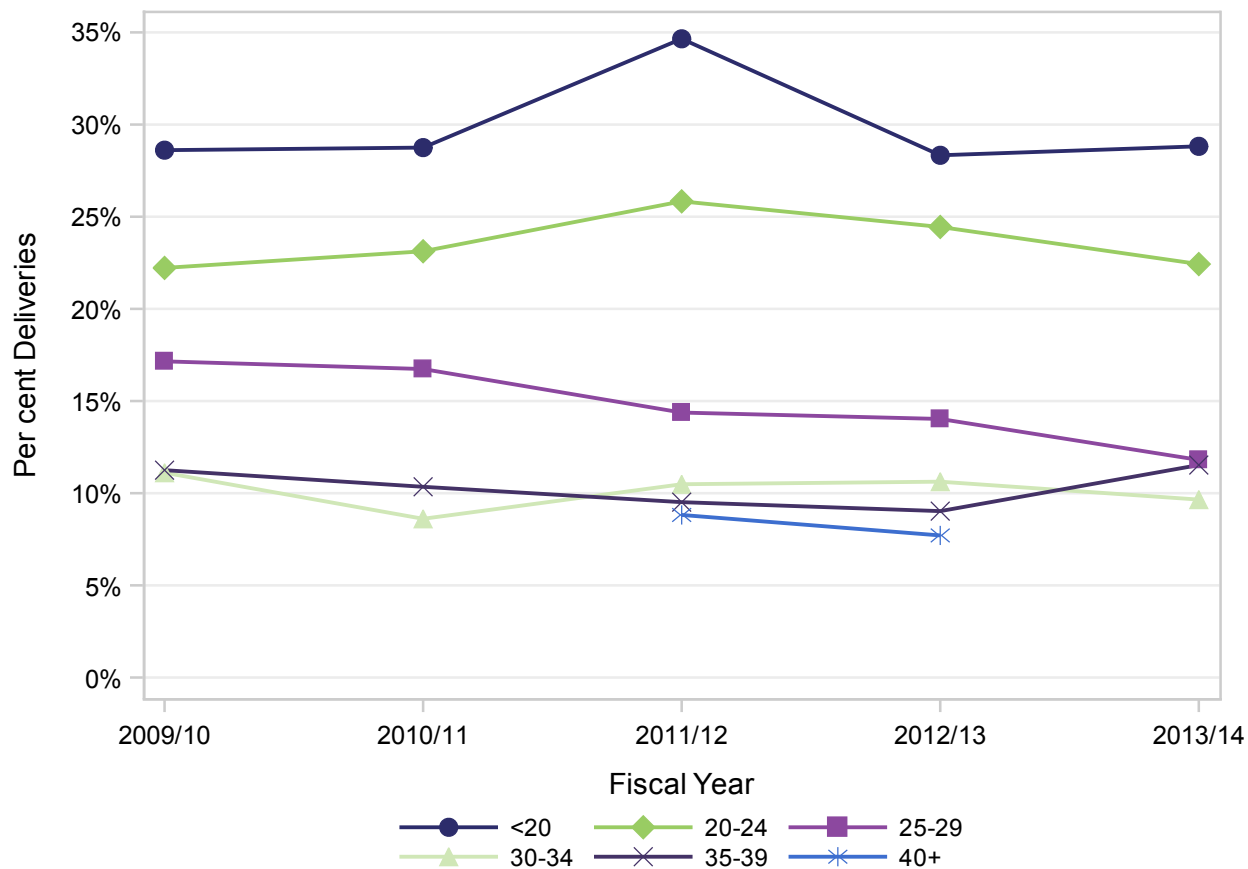


Substance	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Cigarette Use	17.0%	16.3%	17.0%	15.8%	14.5%
Alcohol as Risk	4.9%	4.3%	5.9%	6.5%	4.0%
Other Drug Use	6.3%	6.8%	7.8%	9.0%	9.4%

Definitions and specifications begin on Page 84 of this document.

Cigarette Use at Any Time During Pregnancy by Maternal Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

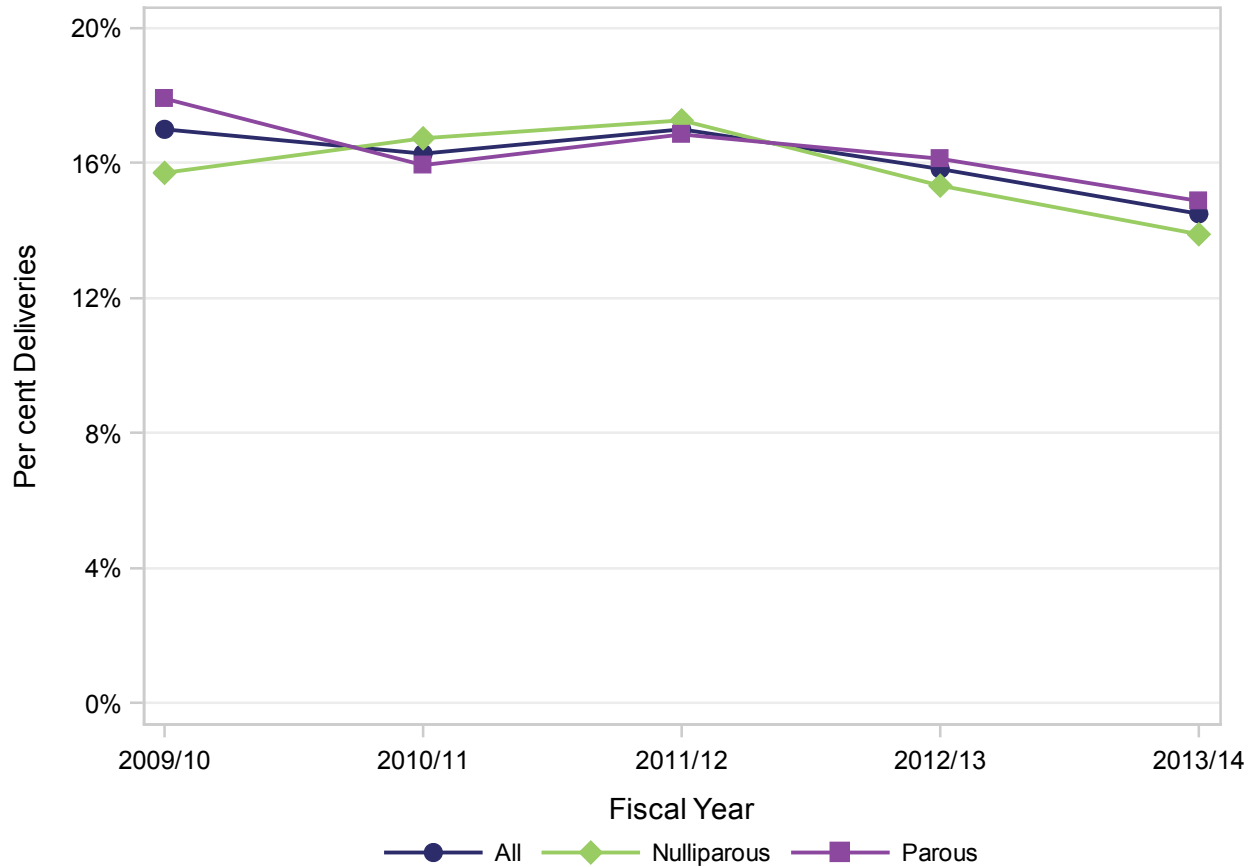


Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	28.6%	28.8%	34.7%	28.3%	28.8%
20-24 years	22.2%	23.1%	25.8%	24.5%	22.4%
25-29 years	17.2%	16.8%	14.4%	14.0%	11.8%
30-34 years	11.1%	8.6%	10.5%	10.6%	9.7%
35-39 years	11.2%	10.4%	9.6%	9.1%	11.5%
40+ years	NR	NR	8.8%	7.7%	NR

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

Cigarette Use at Any Time During Pregnancy by Parity

Residents of Northern Health: April 1, 2009 - March 31, 2014

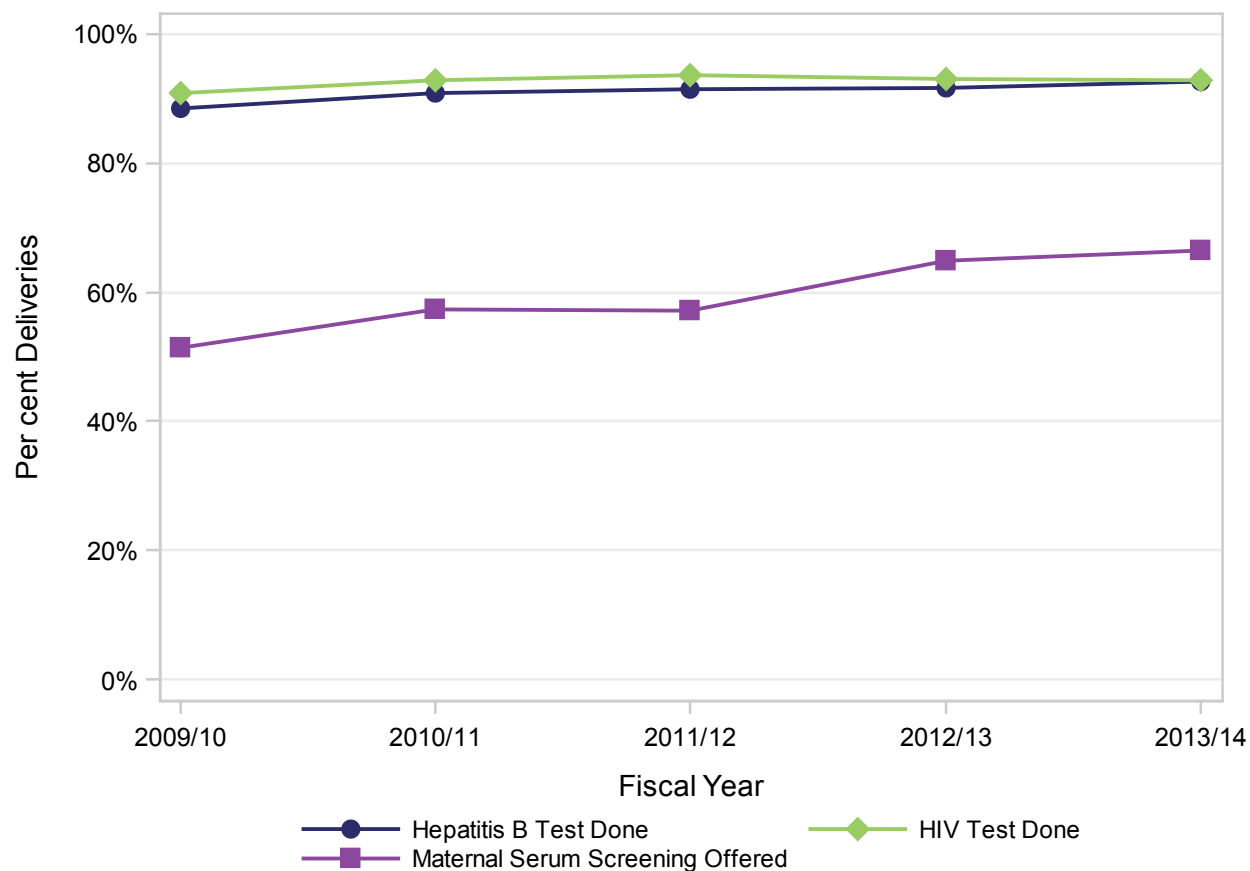


Parity	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
All	17.0%	16.3%	17.0%	15.8%	14.5%
Nulliparous	15.7%	16.7%	17.3%	15.3%	13.9%
Parous	17.9%	15.9%	16.8%	16.1%	14.9%

Definitions and specifications begin on Page 84 of this document.

Maternal Screening Tests

Residents of Northern Health: April 1, 2009 - March 31, 2014

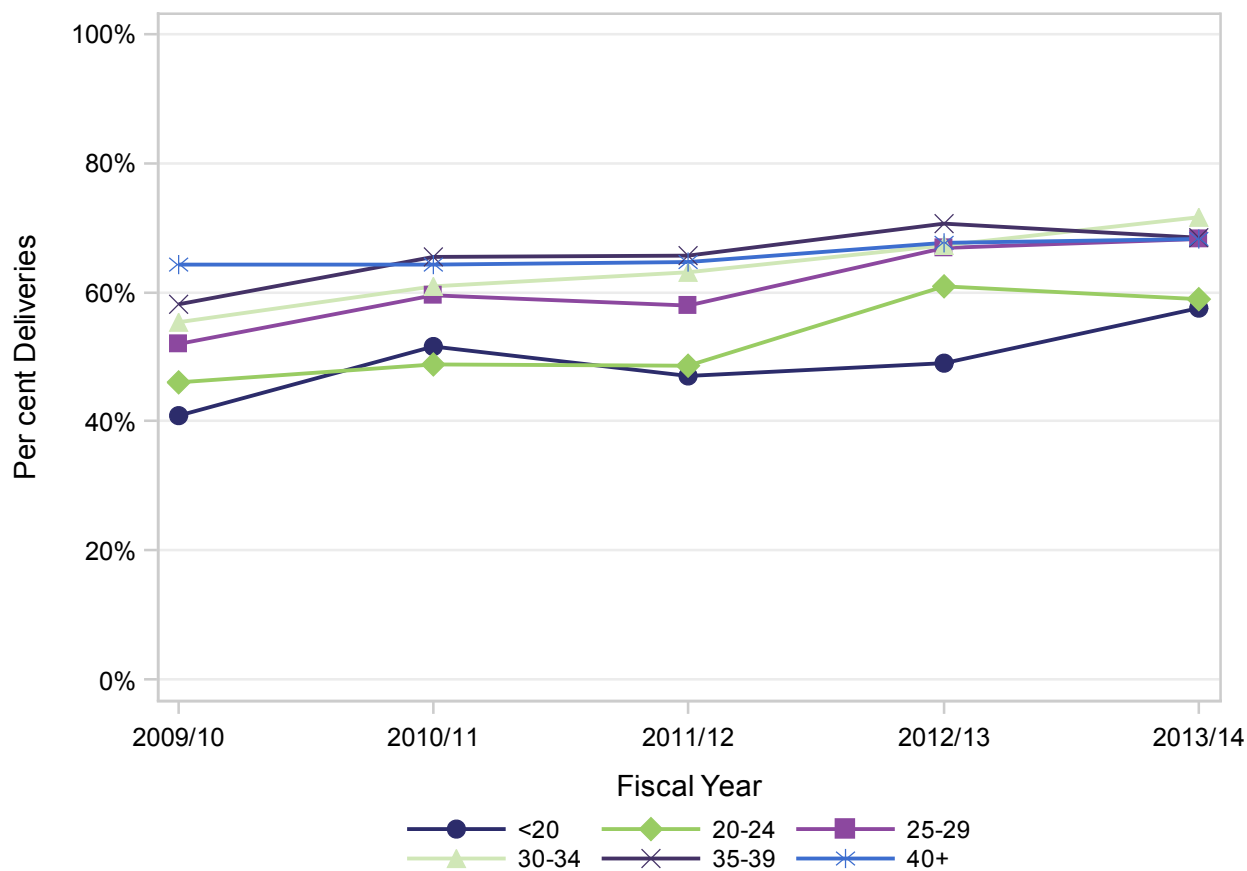


Type of Screening	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Hepatitis B Test Done	88.4%	91.0%	91.5%	91.7%	92.7%
HIV Test Done	90.9%	92.8%	93.5%	93.0%	92.9%
Maternal Serum Screening Offered	51.3%	57.3%	57.1%	64.9%	66.4%

Maternal serum screening refers to either private testing or testing offered through the BC Prenatal Genetic Screening Program. [Click here for information on the BC Prenatal Genetic Screening Program.](#) Definitions and specifications begin on Page 84 of this document.

Offer of Maternal Serum Screening by Maternal Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

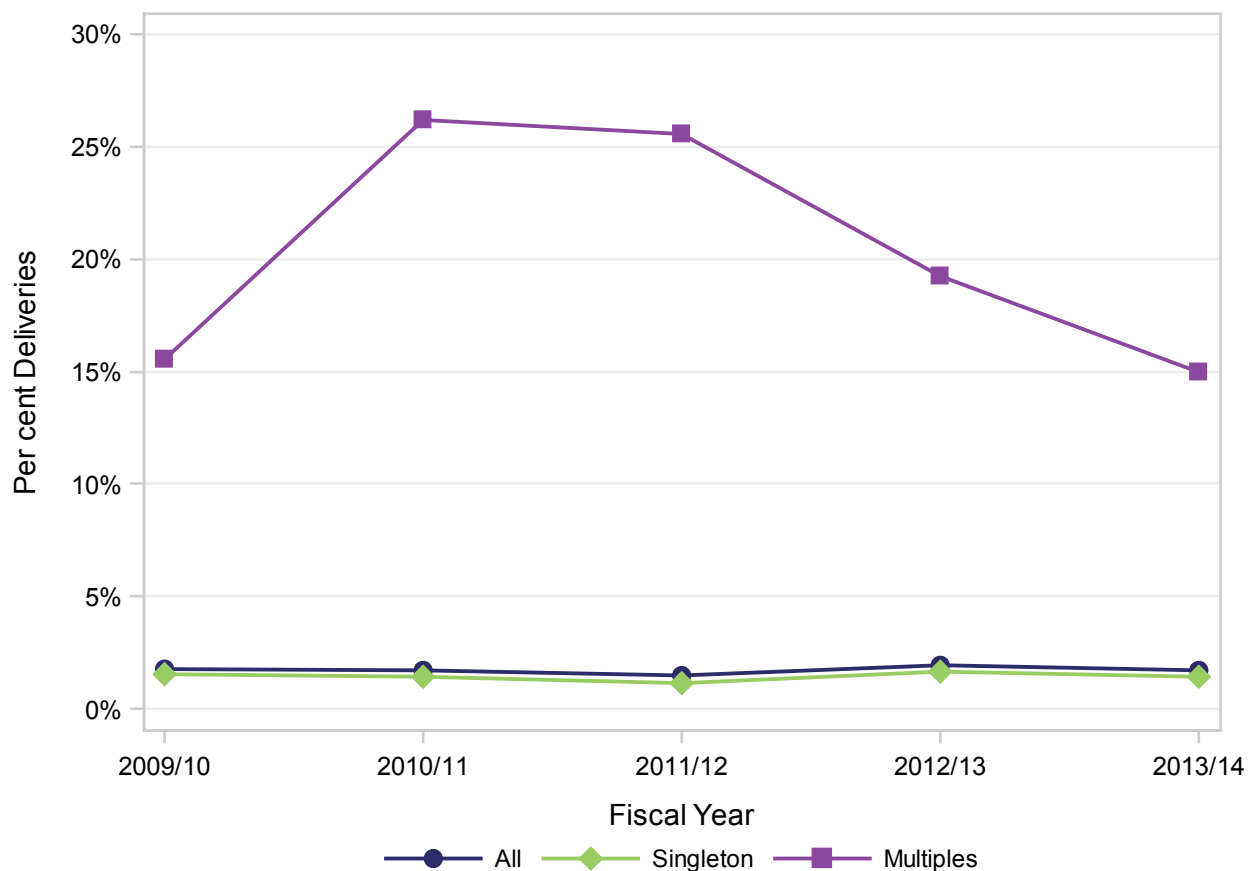


Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	40.9%	51.7%	47.1%	49.1%	57.6%
20-24 years	46.0%	48.8%	48.6%	60.9%	59.0%
25-29 years	52.0%	59.4%	58.0%	66.9%	68.2%
30-34 years	55.4%	60.9%	63.1%	67.3%	71.7%
35-39 years	58.1%	65.4%	65.7%	70.6%	68.5%
40+ years	64.4%	64.4%	64.7%	67.7%	68.2%

Maternal serum screening refers to either private testing or testing offered through the BC Prenatal Genetic Screening Program. [Click here for information on the BC Prenatal Genetic Screening Program.](#) Definitions and specifications begin on Page 84 of this document.

Use of Artificial Reproductive Technology by Plurality

Residents of Northern Health: April 1, 2009 - March 31, 2014

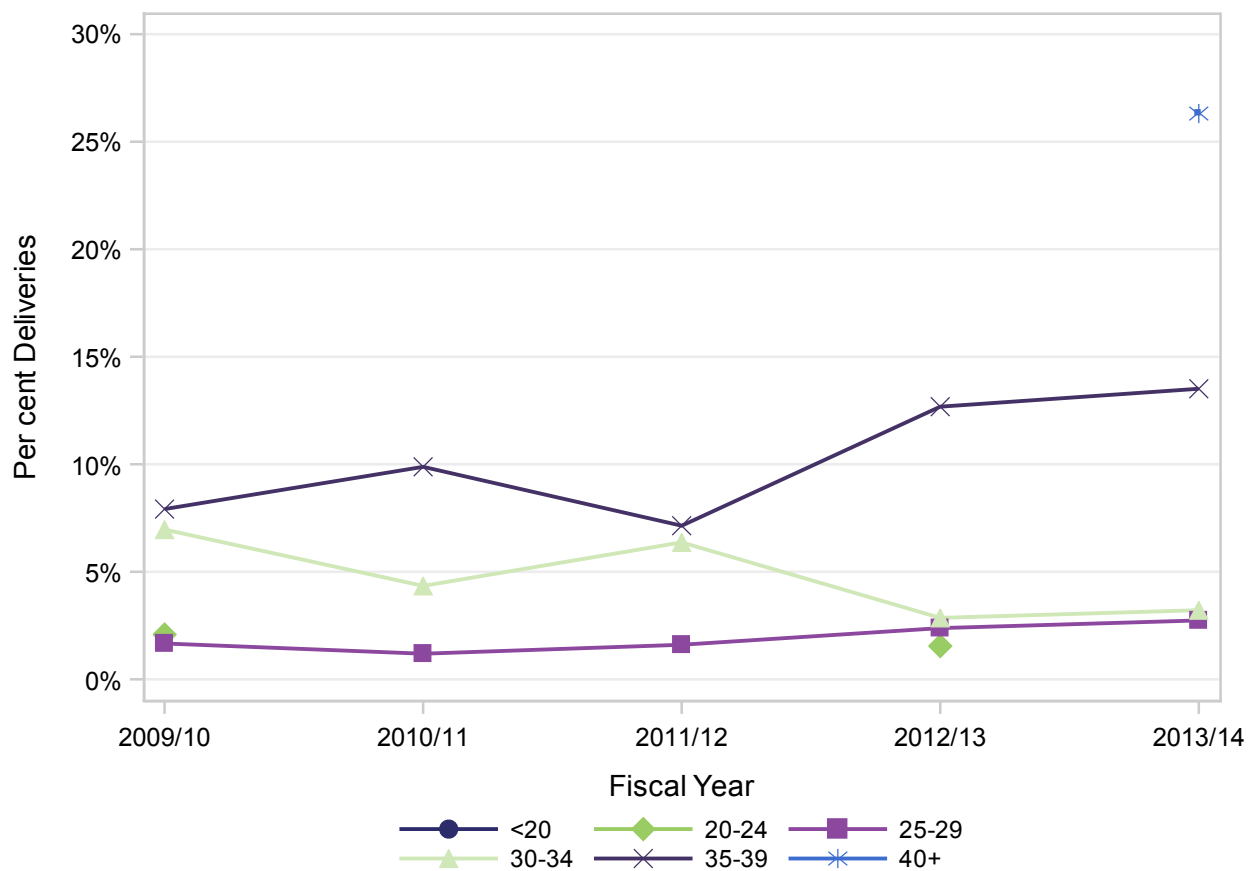


Plurality	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
All	1.8%	1.7%	1.5%	1.9%	1.7%
Singleton	1.6%	1.4%	1.1%	1.7%	1.5%
Multiples	15.5%	26.2%	25.5%	19.2%	15.0%

Definitions and specifications begin on Page 84 of this document.

Use of Artificial Reproductive Technology Nulliparous Women by Age

Residents of Northern Health: April 1, 2009 - March 31, 2014



Plurality	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	NR	NR	NR	NR	NR
20-24 years	2.1%	NR	NR	1.6%	NR
25-29 years	1.7%	1.2%	1.6%	2.4%	2.8%
30-34 years	6.9%	4.3%	6.4%	2.9%	3.2%
35-39 years	7.9%	9.9%	7.1%	12.7%	13.5%
40+ years	NR	NR	NR	NR	26.3%

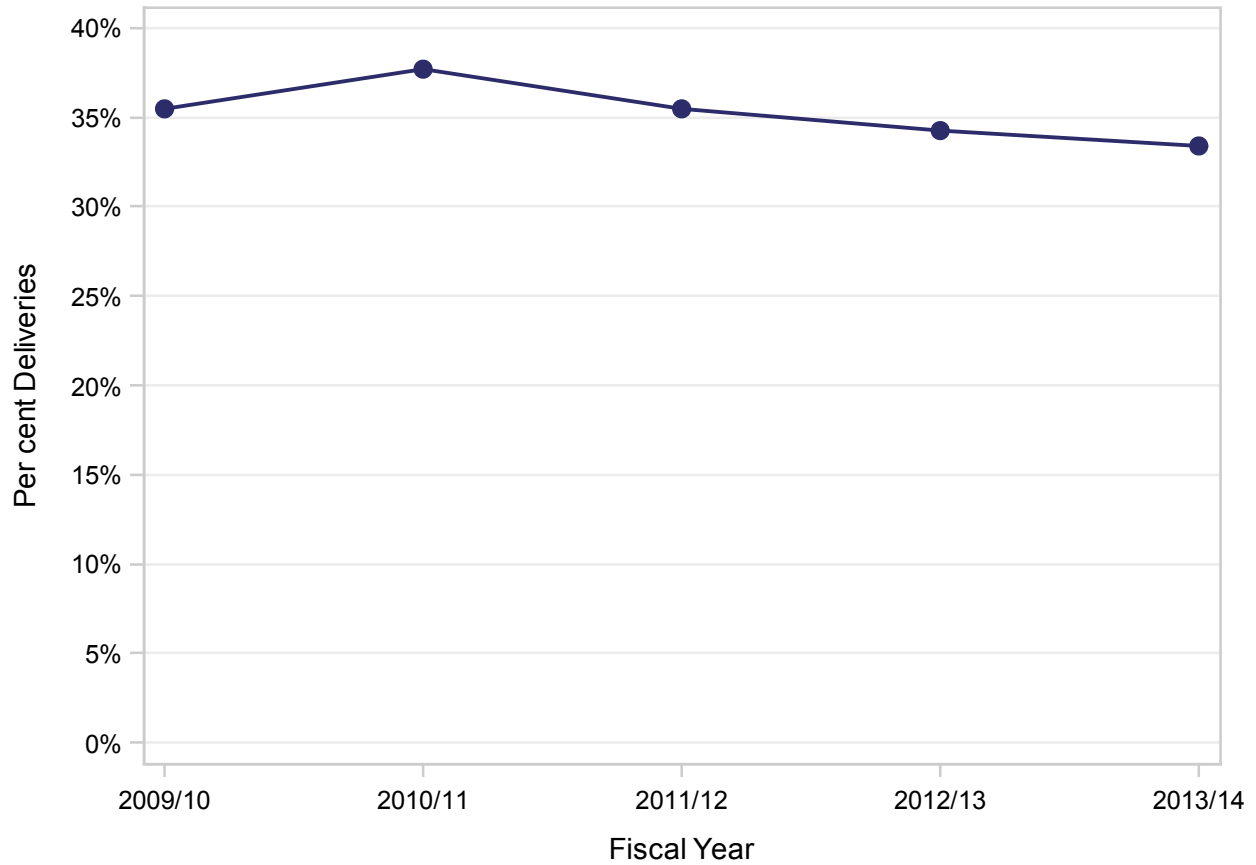
NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

**Perinatal Health Report 2009/10 to 2013/14
Residents of Northern Health**

Section 2: Labour and Delivery

Labour Augmentation

Residents of Northern Health: April 1, 2009 - March 31, 2014

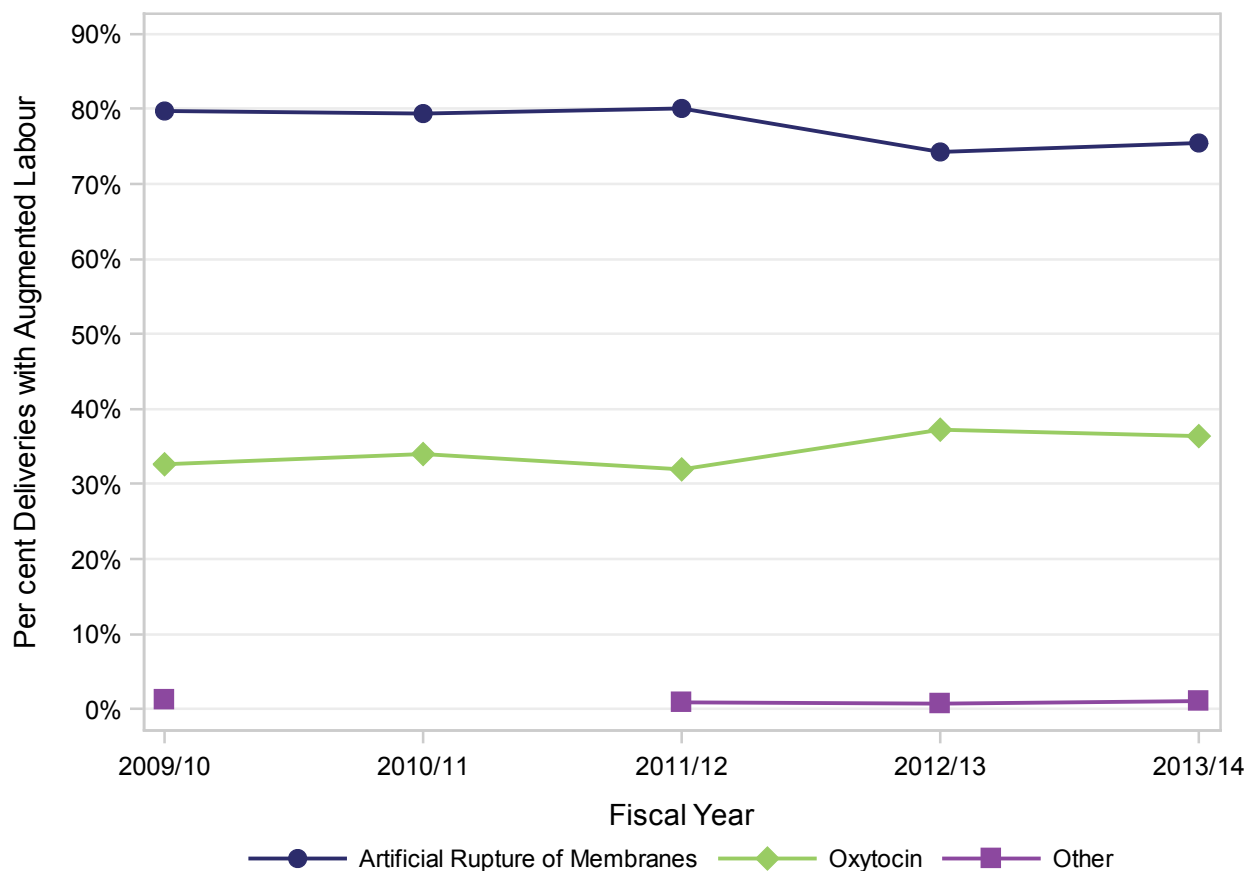


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Labour Augmentation	35.5%	37.7%	35.5%	34.3%	33.4%

Definitions and specifications begin on Page 84 of this document.

Method of Labour Augmentation

Residents of Northern Health: April 1, 2009 - March 31, 2014



Method of Labour Augmentation	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Artificial Rupture of Membranes	79.8%	79.4%	80.1%	74.3%	75.5%
Oxytocin	32.6%	34.0%	31.9%	37.3%	36.4%
Other	1.2%	NR	0.9%	0.8%	1.0%

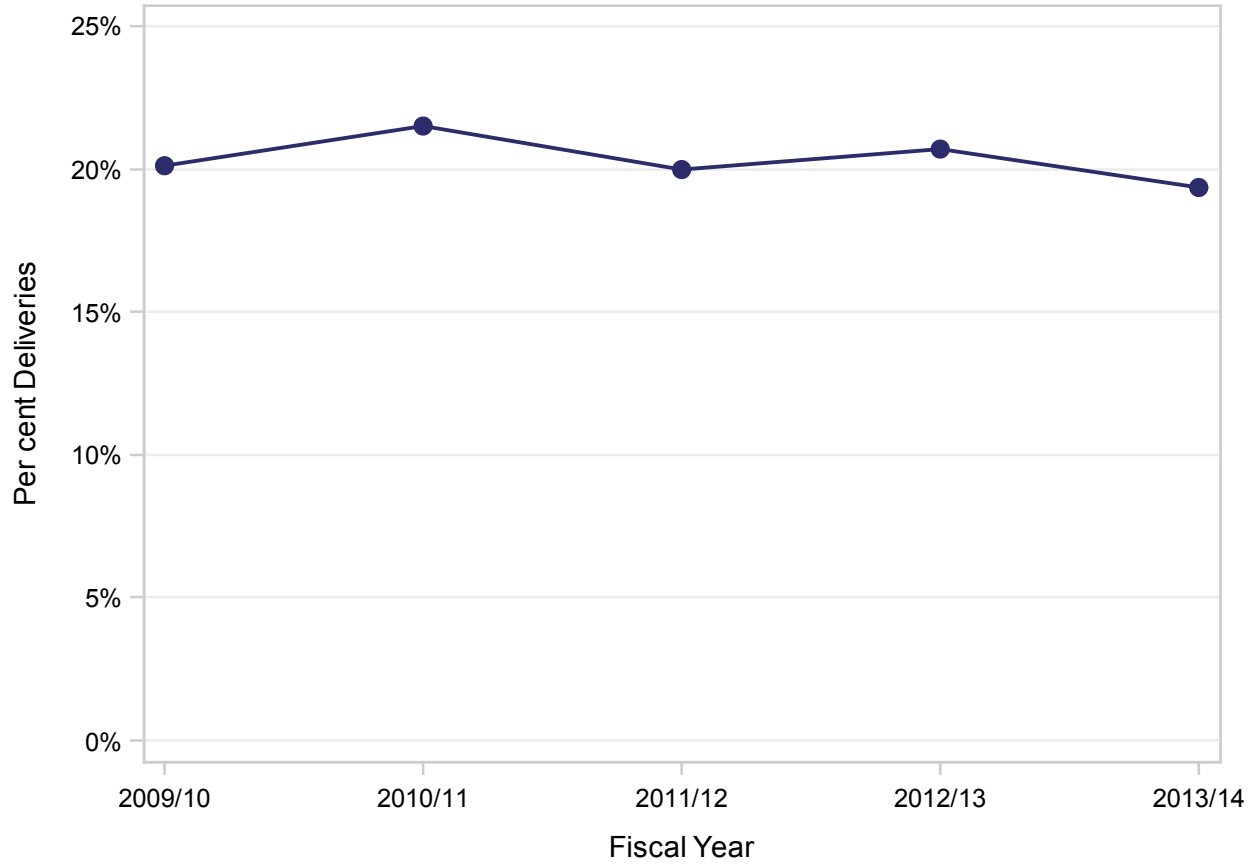
Multiple methods may be used.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Labour Induction

Residents of Northern Health: April 1, 2009 - March 31, 2014

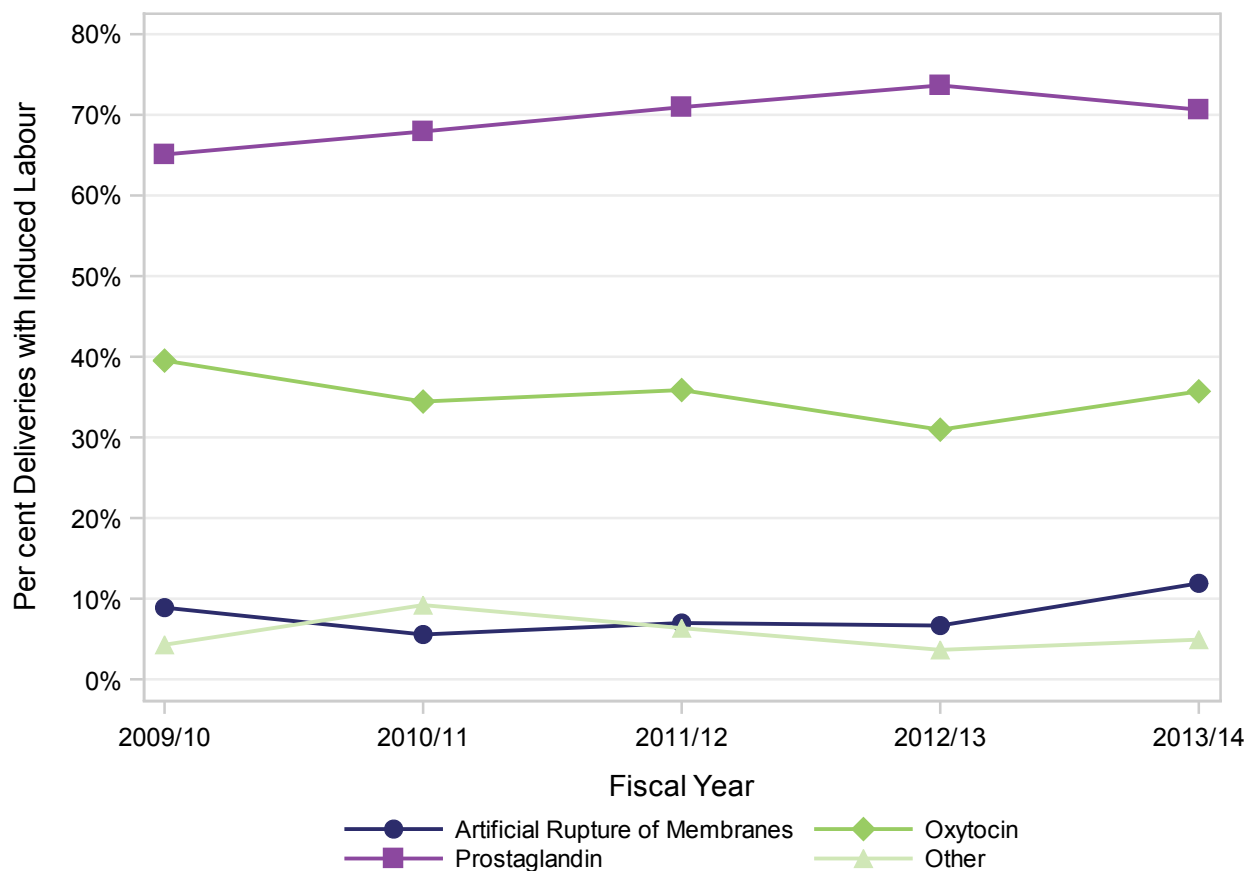


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Labour Induction	20.1%	21.5%	20.0%	20.7%	19.3%

Definitions and specifications begin on Page 84 of this document.

Method of Labour Induction

Residents of Northern Health: April 1, 2009 - March 31, 2014



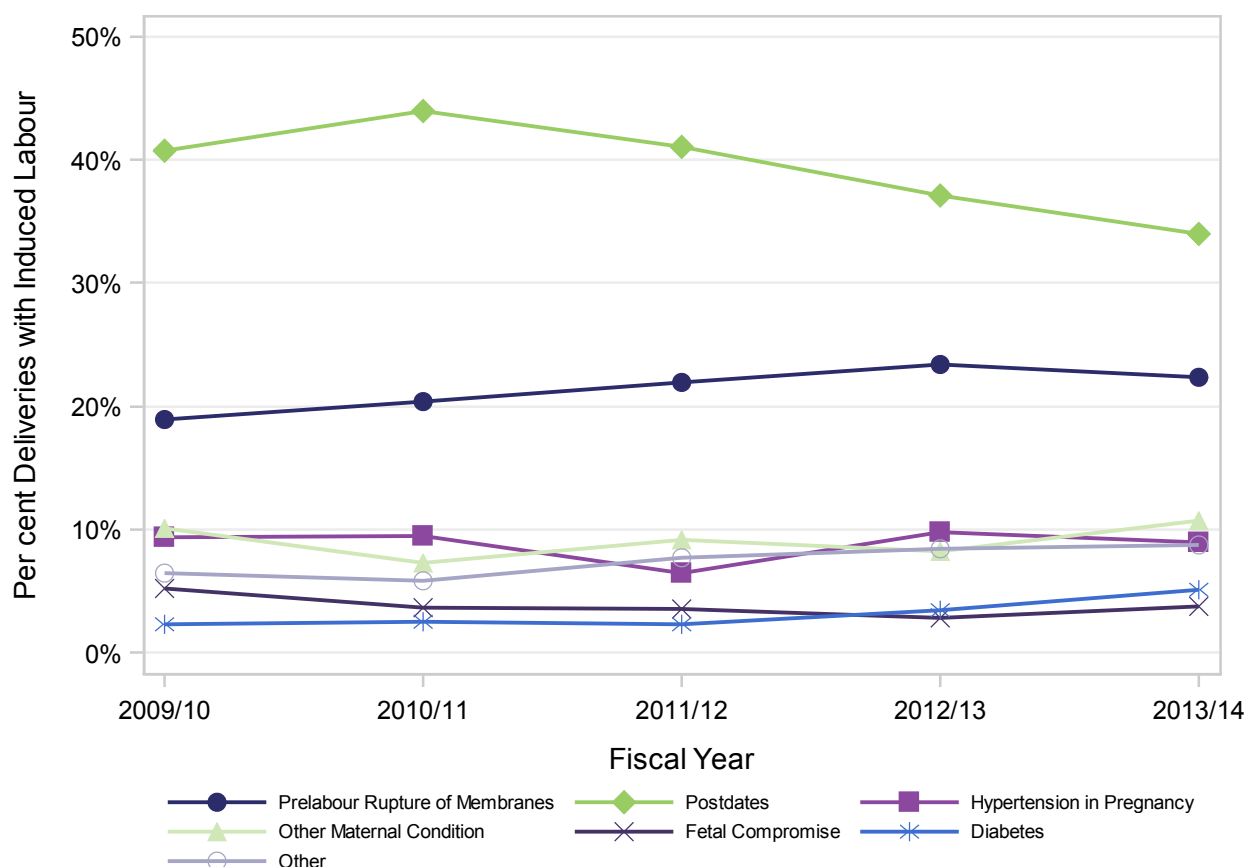
Method of Labour Induction	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Artificial Rupture of Membranes	8.9%	5.5%	7.0%	6.8%	11.9%
Oxytocin	39.5%	34.5%	35.9%	31.0%	35.6%
Prostaglandin	65.0%	67.9%	70.9%	73.6%	70.7%
Other	4.3%	9.3%	6.3%	3.7%	5.0%

Multiple methods may be used.

Definitions and specifications begin on Page 84 of this document.

Primary Indication for Labour Induction

Residents of Northern Health: April 1, 2009 - March 31, 2014



Primary Indication for Labour Induction	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Prelabour Rupture of Membranes	18.9%	20.4%	22.0%	23.4%	22.4%
Post Dates	40.7%	43.9%	41.0%	37.1%	34.0%
Hypertension in Pregnancy	9.3%	9.4%	6.5%	9.8%	8.9%
Other Maternal Condition	10.2%	7.3%	9.2%	8.2%	10.7%
Fetal Compromise	5.2%	3.6%	3.6%	2.9%	3.8%
Diabetes	2.3%	2.6%	2.3%	3.4%	5.1%
Fetal Demise	1.2%	1.9%	1.4%	1.6%	1.7%
Logistics	1.1%	1.3%	2.9%	1.4%	1.5%
Antepartum Hemorrhage	NR	NR	NR	NR	NR
Chorioamnionitis	NR	NR	NR	NR	NR
Other	6.4%	5.8%	7.7%	8.5%	8.8%
Unknown	4.3%	3.1%	2.4%	3.7%	3.2%

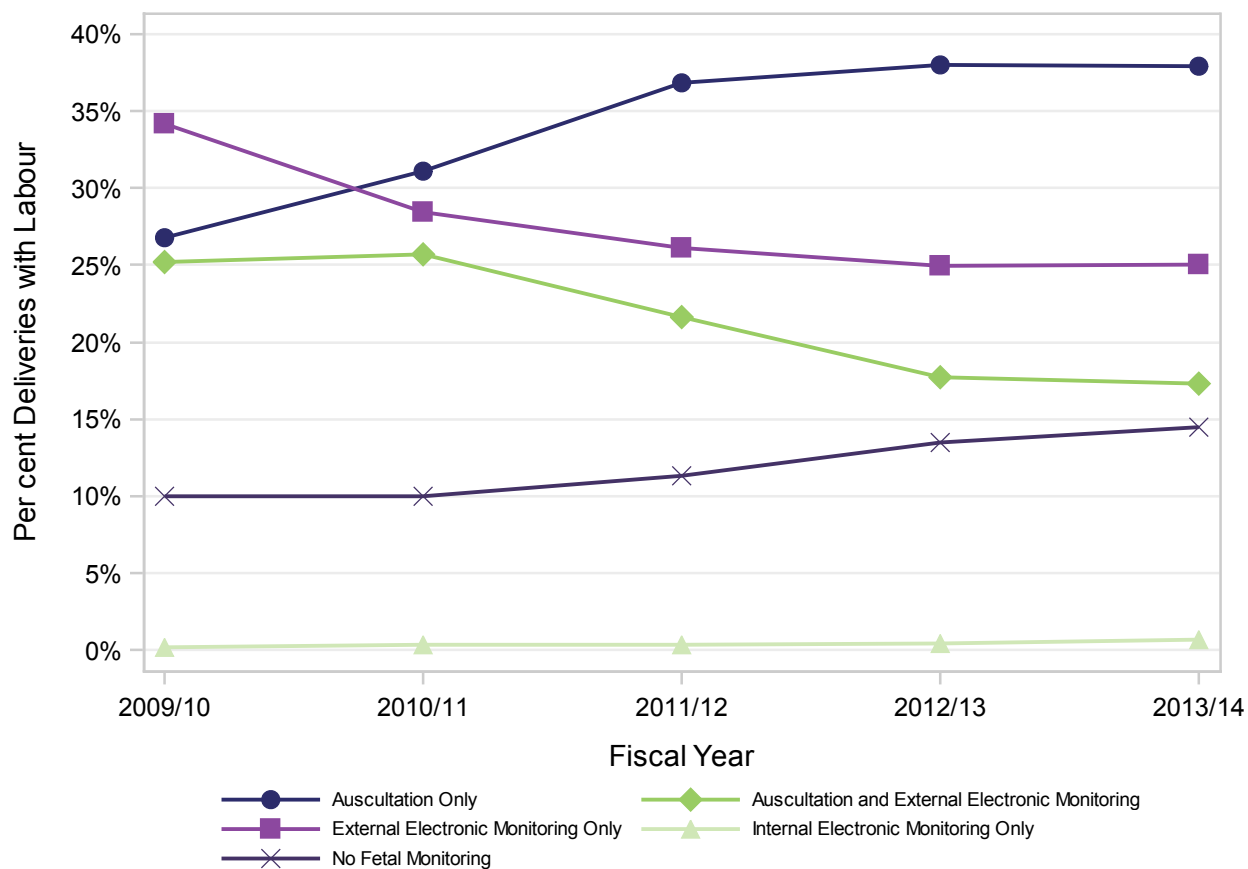
Selected indications are included in the figure; all indications are included in the table.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Method of Fetal Surveillance During Labour

Residents of Northern Health: April 1, 2009 - March 31, 2014

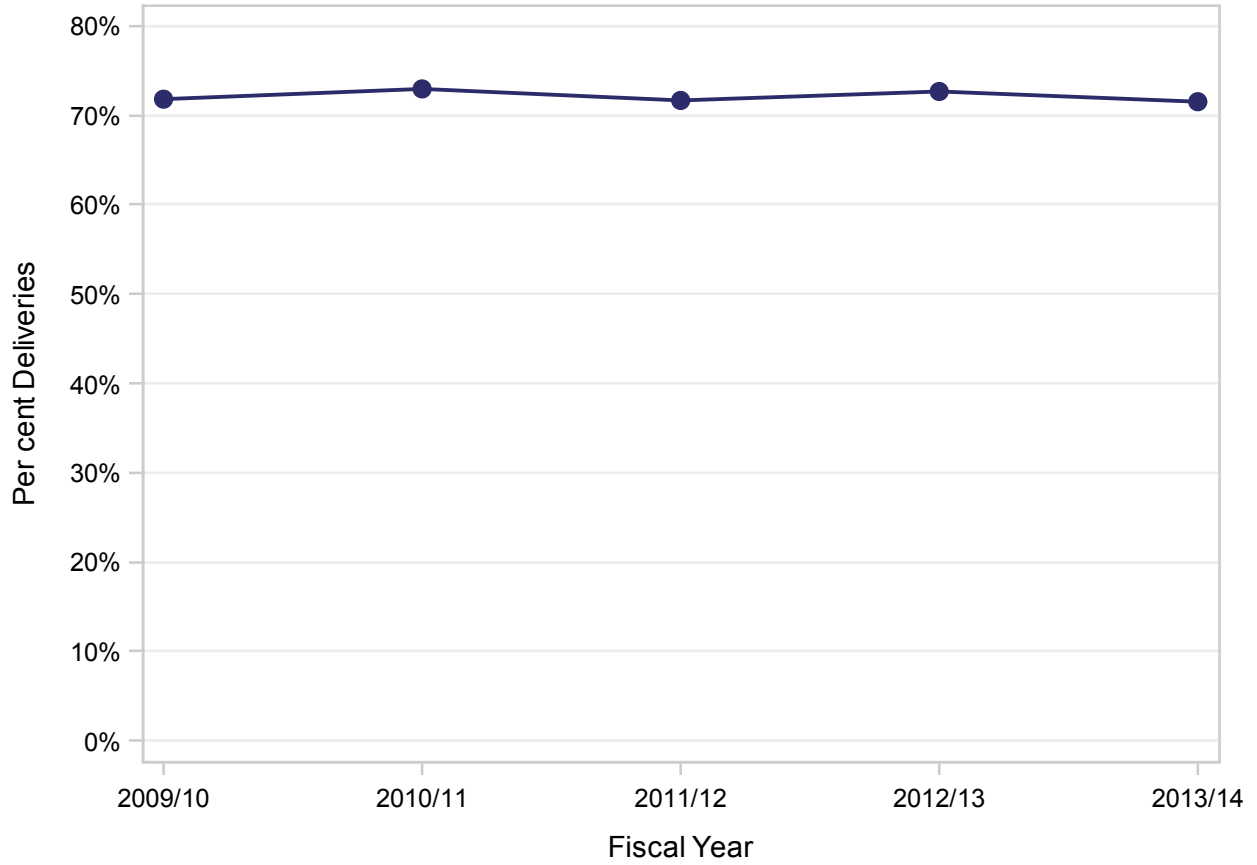


Method of Fetal Surveillance During Labour	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Auscultation Only	26.8%	31.1%	36.8%	38.0%	37.9%
Auscultation and External Electronic Monitoring	25.2%	25.7%	21.6%	17.7%	17.3%
External Electronic Monitoring Only	34.1%	28.4%	26.1%	25.0%	25.0%
Internal Electronic Monitoring Only	0.2%	0.4%	0.4%	0.5%	0.7%
No Fetal Monitoring	10.0%	10.0%	11.3%	13.5%	14.5%

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Vaginal Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

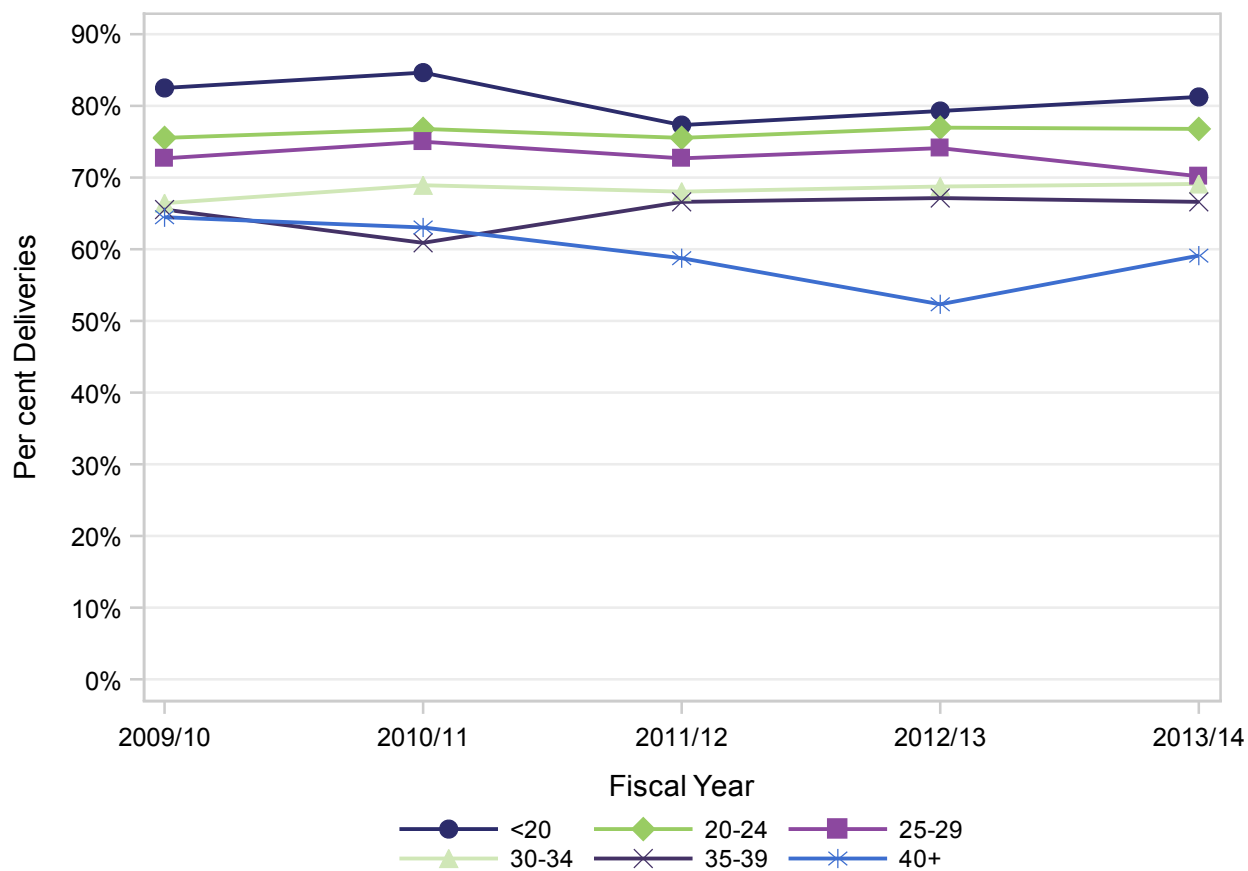


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Vaginal Delivery	71.8%	72.9%	71.7%	72.7%	71.5%

Definitions and specifications begin on Page 84 of this document.

Vaginal Delivery by Maternal Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

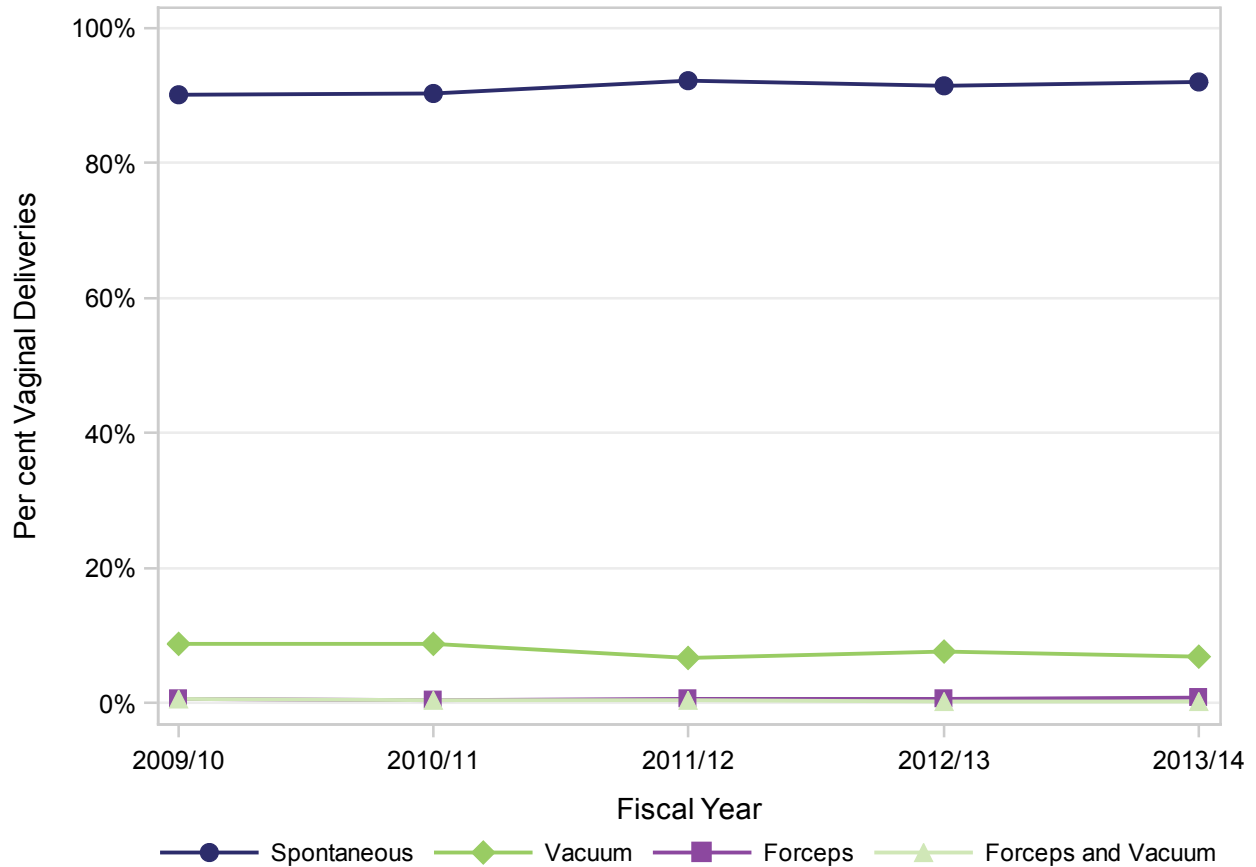


Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	82.5%	84.6%	77.3%	79.2%	81.2%
20-24 years	75.5%	76.8%	75.5%	77.0%	76.7%
25-29 years	72.7%	74.9%	72.6%	74.2%	70.2%
30-34 years	66.5%	68.9%	68.0%	68.8%	69.0%
35-39 years	65.5%	60.9%	66.6%	67.2%	66.6%
40+ years	64.4%	63.0%	58.8%	52.3%	59.1%

Definitions and specifications begin on Page 84 of this document.

Type of Vaginal Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

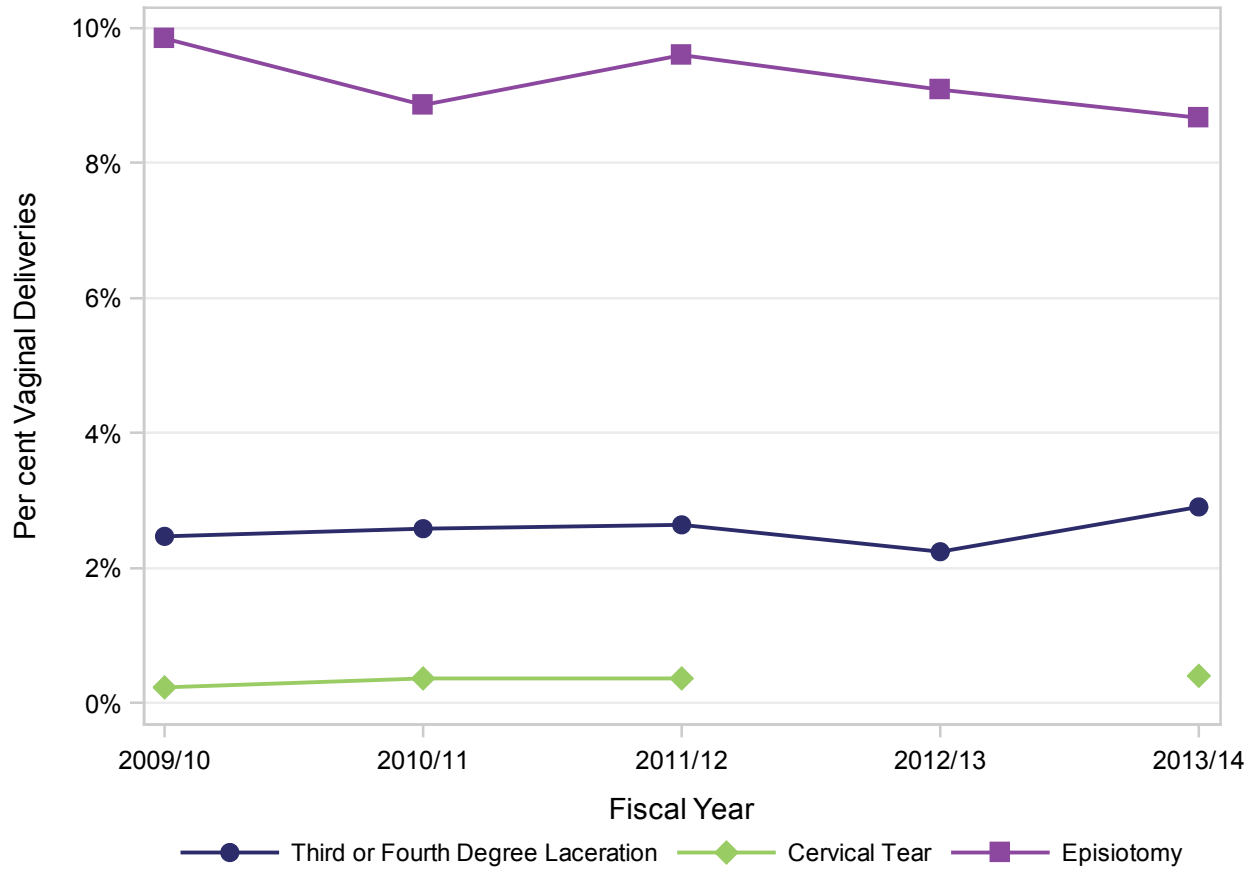


Type of Vaginal Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous	90.0%	90.3%	92.2%	91.4%	92.0%
Vacuum	8.8%	8.7%	6.8%	7.7%	6.9%
Forceps	0.5%	0.5%	0.6%	0.7%	0.8%
Forceps and Vacuum	0.6%	0.4%	0.4%	0.3%	0.3%

Definitions and specifications begin on Page 84 of this document.

Perineal Trauma

Residents of Northern Health: April 1, 2009 - March 31, 2014

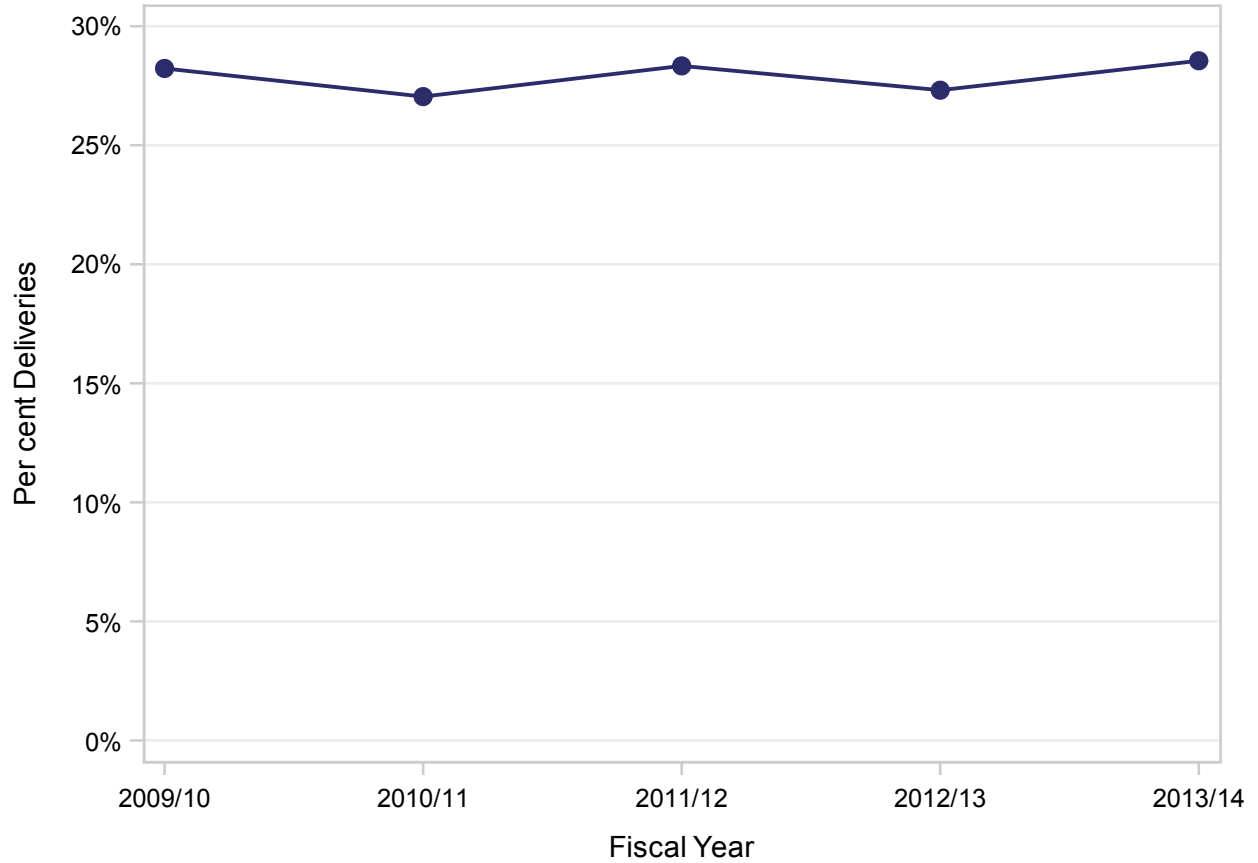


Perineal Trauma	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Third or Fourth Degree Laceration	2.5%	2.6%	2.6%	2.3%	2.9%
Cervical Tear	0.2%	0.4%	0.4%	NR	0.4%
Episiotomy	9.8%	8.9%	9.6%	9.1%	8.7%

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

Cesarean Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

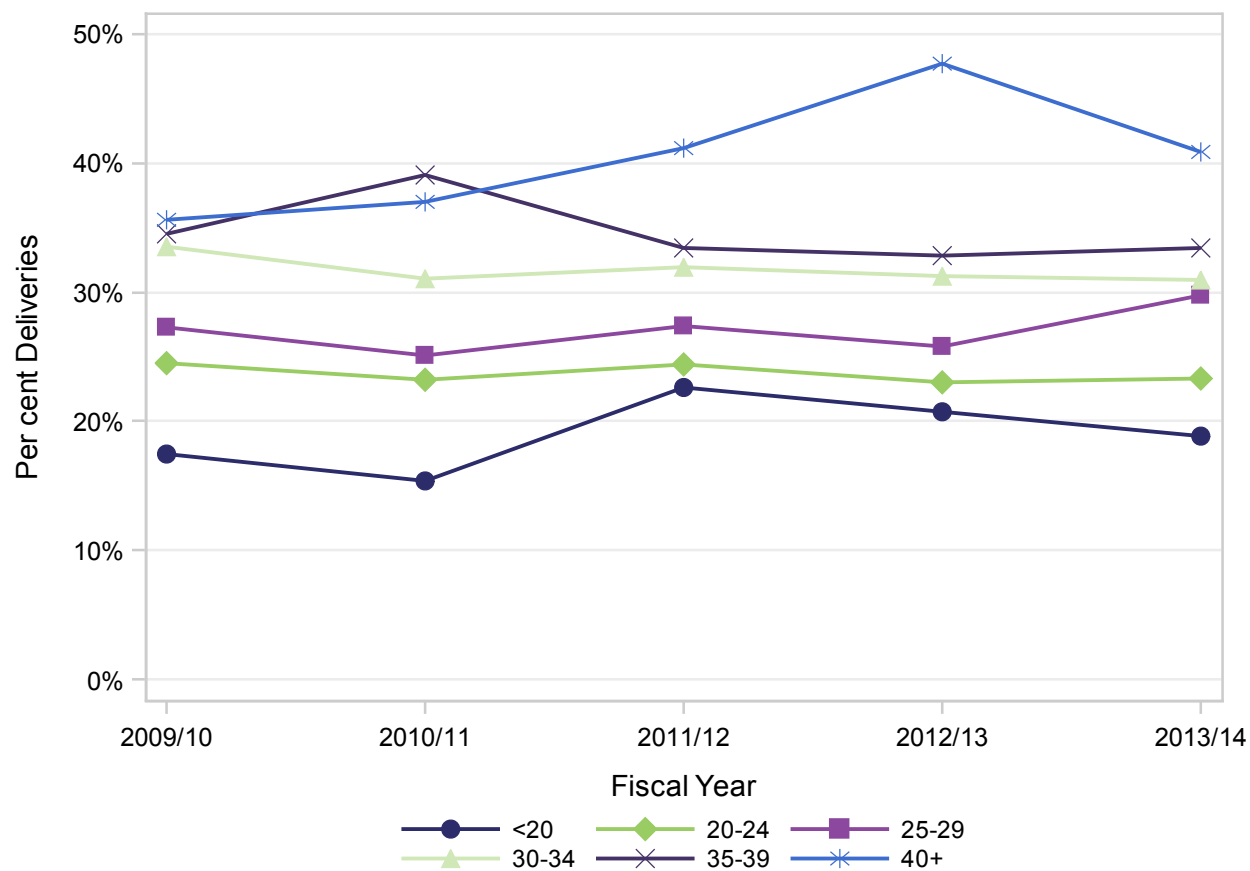


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Cesarean Delivery	28.2%	27.1%	28.3%	27.3%	28.5%

Definitions and specifications begin on Page 84 of this document.

Cesarean Delivery by Maternal Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

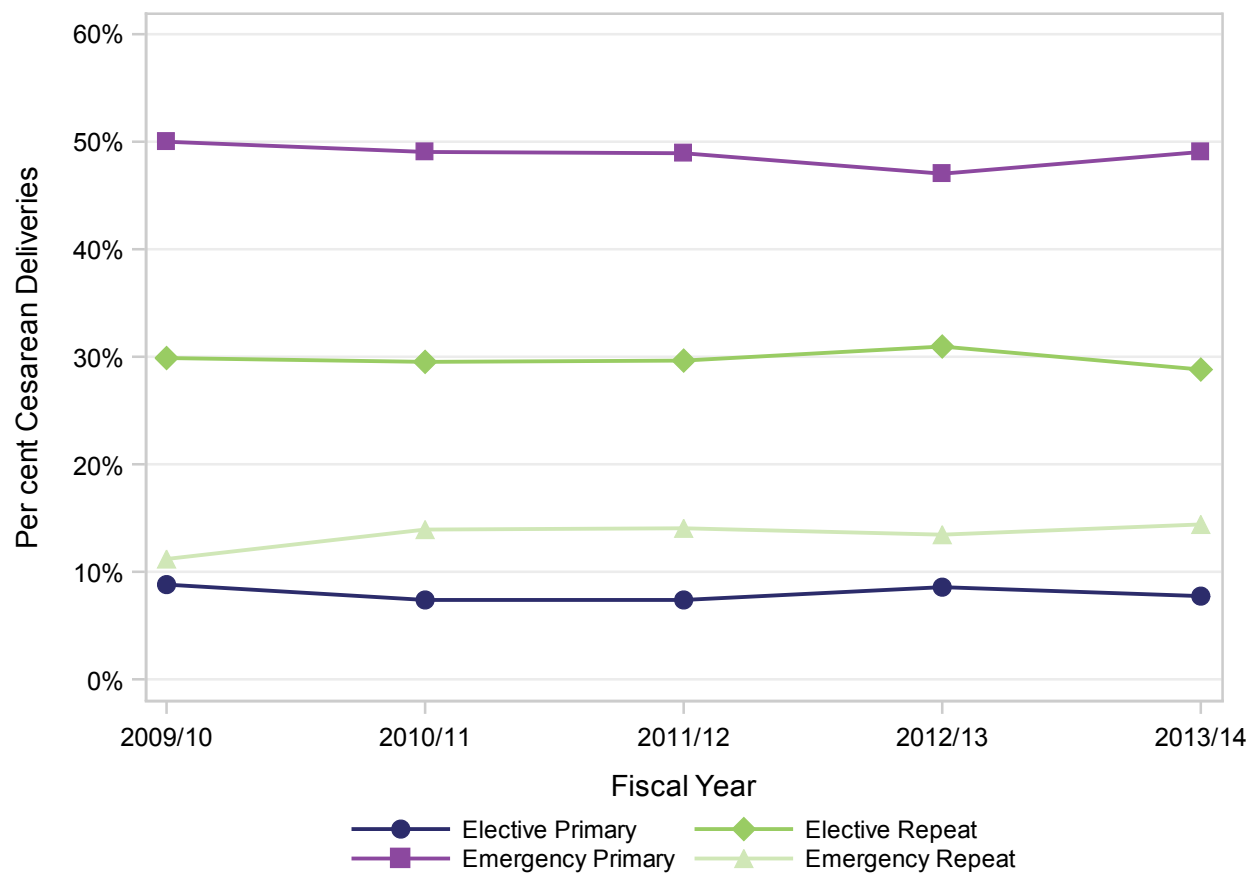


Maternal Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
<20 years	17.5%	15.4%	22.7%	20.8%	18.8%
20-24 years	24.5%	23.2%	24.5%	23.0%	23.3%
25-29 years	27.3%	25.1%	27.4%	25.8%	29.8%
30-34 years	33.5%	31.1%	32.0%	31.2%	31.0%
35-39 years	34.5%	39.1%	33.4%	32.8%	33.4%
40+ years	35.6%	37.0%	41.2%	47.7%	40.9%

Definitions and specifications begin on Page 84 of this document.

Type of Cesarean Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

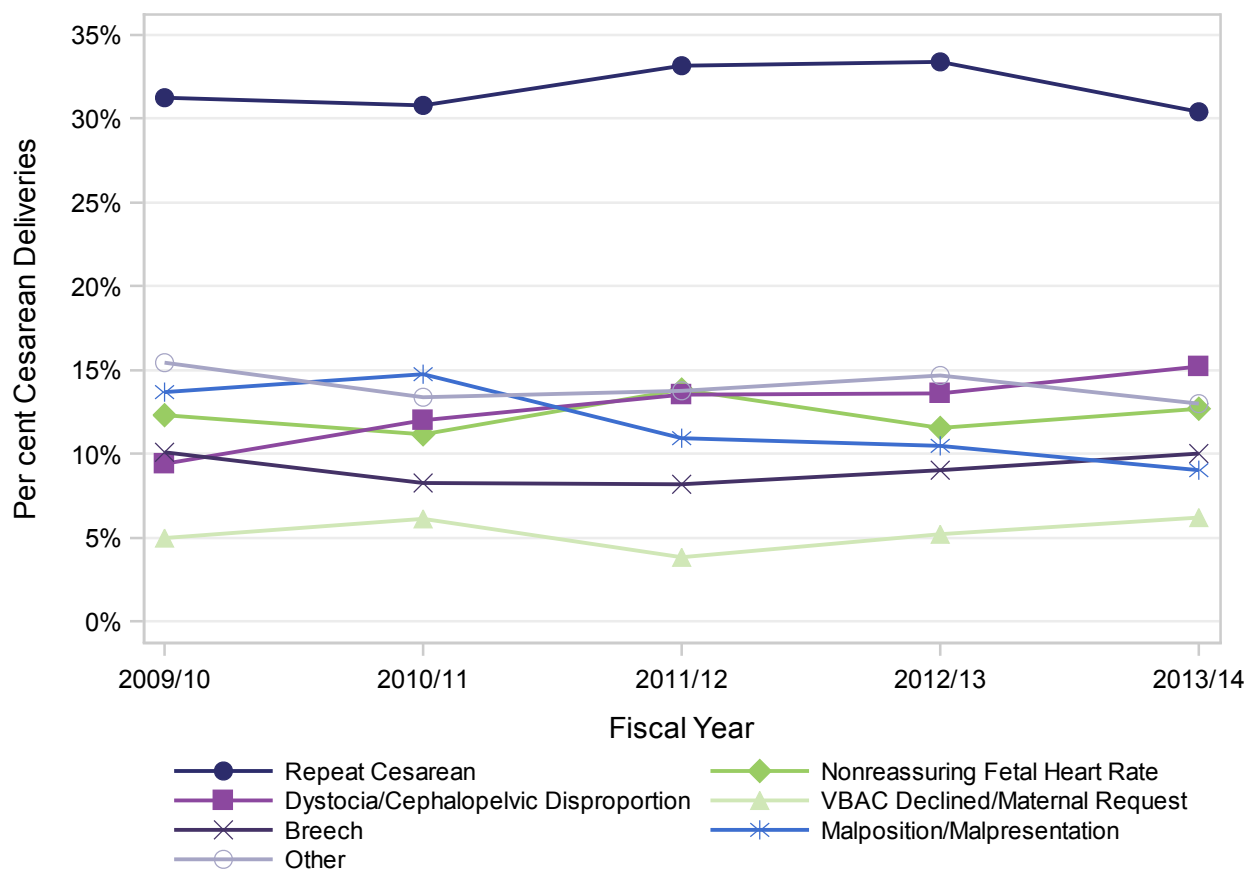


Type of Cesarean Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Elective Primary	8.8%	7.4%	7.4%	8.6%	7.8%
Elective Repeat	29.9%	29.6%	29.6%	30.9%	28.8%
Emergency Primary	50.0%	49.1%	48.9%	47.0%	49.0%
Emergency Repeat	11.3%	13.9%	14.1%	13.5%	14.4%

Definitions and specifications begin on Page 84 of this document.

Primary Indication for Cesarean Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014



Primary Indication for Cesarean Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Repeat Cesarean	31.2%	30.8%	33.2%	33.4%	30.4%
Nonreassuring Fetal Heart Rate	12.3%	11.1%	13.9%	11.5%	12.7%
Dystocia/Cephalopelvic Disproportion	9.4%	12.0%	13.5%	13.6%	15.3%
VBAC Declined/Maternal Request	5.0%	6.1%	3.8%	5.2%	6.2%
Breech	10.1%	8.3%	8.2%	9.0%	10.0%
Malposition/Malpresentation	13.7%	14.8%	10.9%	10.4%	9.0%
Placenta Previa	1.1%	1.5%	1.4%	0.7%	1.2%
Abruptio Placenta	1.1%	1.3%	1.0%	0.8%	1.0%
Active Herpes	0.5%	0.6%	NR	NR	1.0%
Other	15.5%	13.4%	13.8%	14.7%	13.0%
Unknown	NR	NR	NR	NR	NR

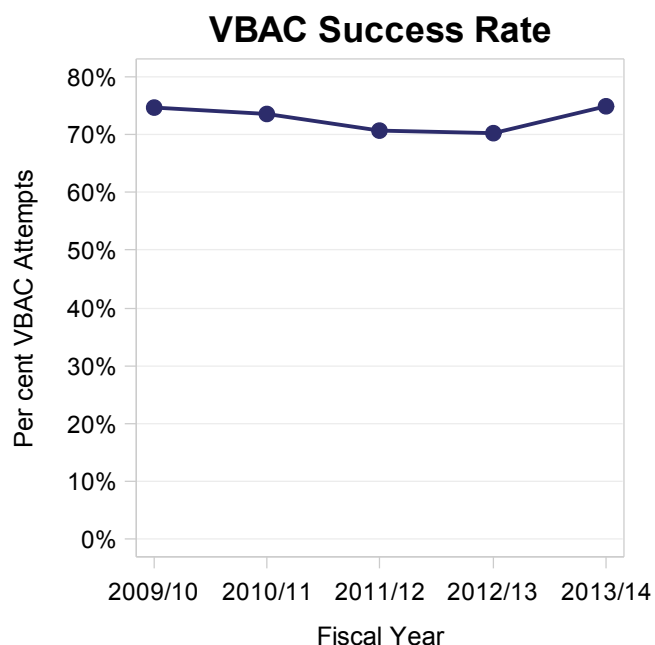
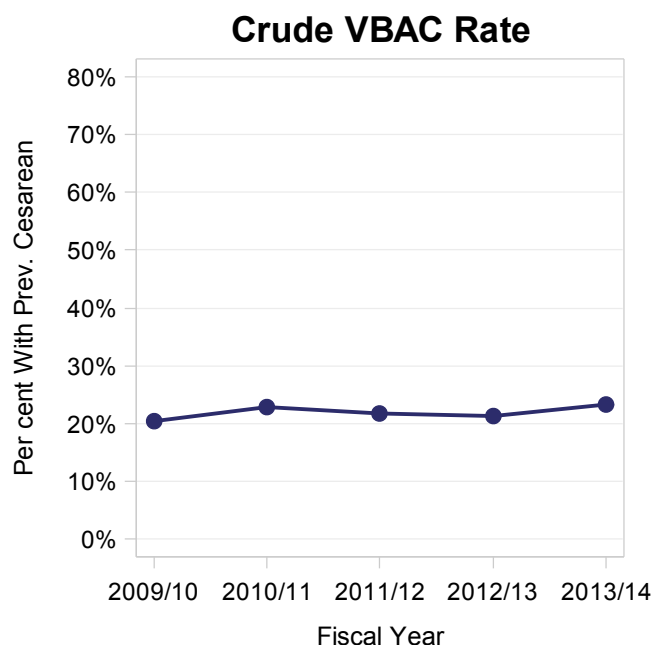
Selected indications are included in the figure; all indications are included in the table.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Vaginal Birth After Cesarean (VBAC)

Residents of Northern Health: April 1, 2009 - March 31, 2014



Vaginal Birth After Cesarean (VBAC)

	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Crude VBAC Rate	20.3%	22.8%	21.7%	21.4%	23.3%
VBAC Eligible Rate	71.3%	71.9%	73.0%	73.6%	73.3%
VBAC Attempted Rate	37.8%	42.1%	42.2%	41.4%	41.4%
VBAC Success Rate	74.6%	73.6%	70.6%	70.3%	74.9%

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

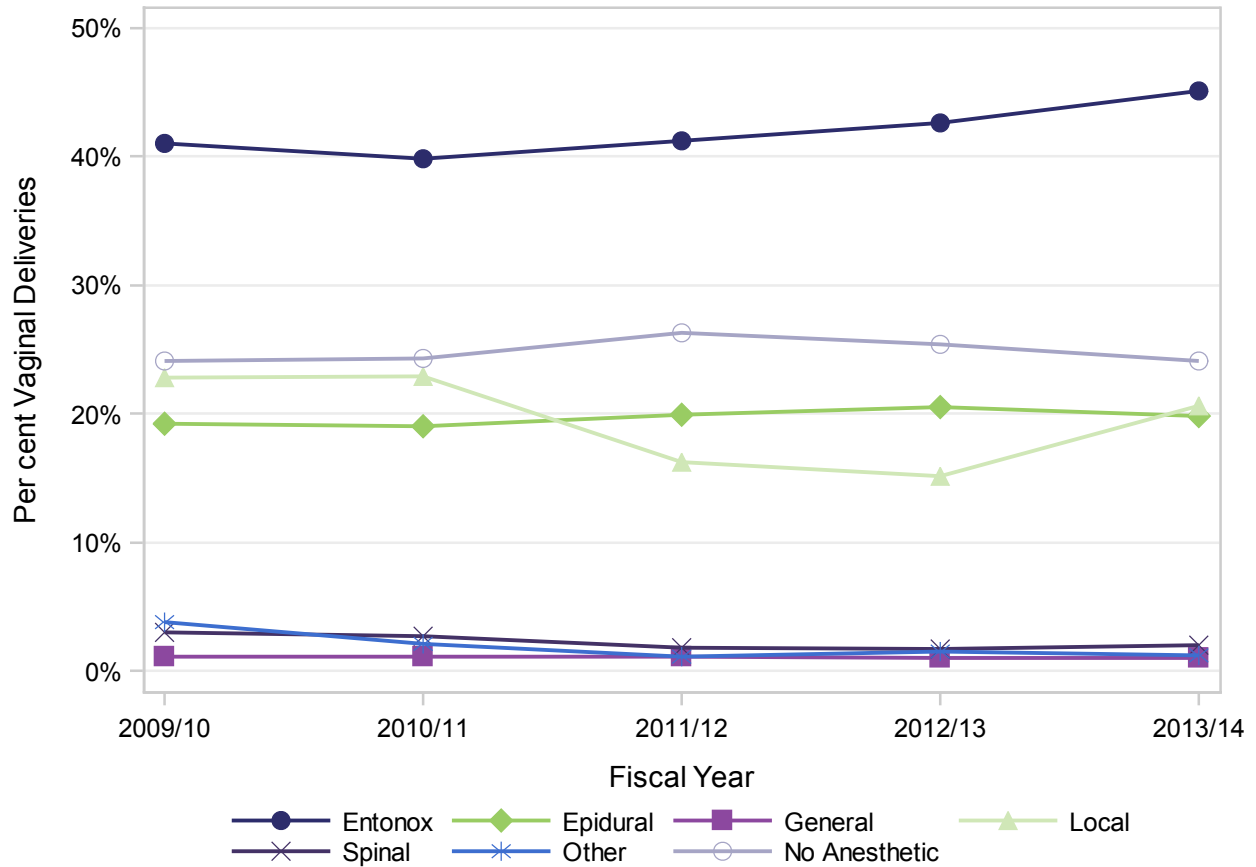
VBAC Attempted Rate: Women who attempted a VBAC / Women considered eligible for VBAC

VBAC Success Rate: Women with a vaginal delivery / Women who were eligible for and attempted VBAC

Definitions and specifications begin on Page 84 of this document.

Anesthesia or Analgesia During Labour and Delivery Vaginal Deliveries

Residents of Northern Health: April 1, 2009 - March 31, 2014

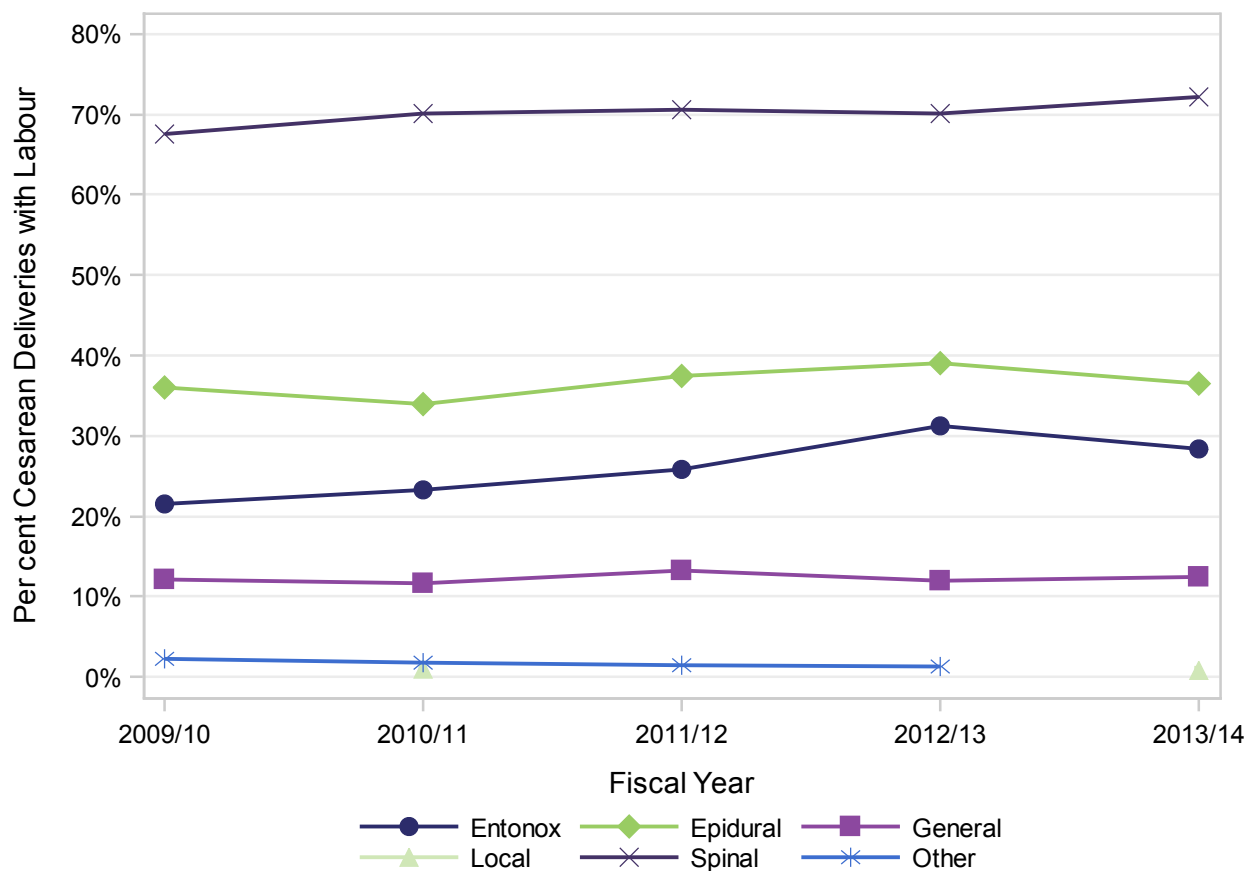


Anesthesia or Analgesia	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Entonox	41.0%	39.8%	41.2%	42.6%	45.2%
Epidural	19.2%	19.0%	19.9%	20.5%	19.8%
General	1.1%	1.2%	1.1%	1.0%	1.0%
Local	22.8%	22.9%	16.3%	15.2%	20.6%
Spinal	3.0%	2.7%	1.8%	1.8%	2.0%
Other	3.8%	2.1%	1.1%	1.5%	1.2%
No Anesthetic	24.1%	24.3%	26.3%	25.4%	24.1%

Multiple agents may be used.
Definitions and specifications begin on Page 84 of this document.

Anesthesia or Analgesia During Labour and Delivery Cesarean Deliveries with Labour

Residents of Northern Health: April 1, 2009 - March 31, 2014



Anesthesia or Analgesia	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Entonox	21.5%	23.2%	25.9%	31.2%	28.3%
Epidural	36.1%	34.0%	37.4%	39.1%	36.5%
General	12.2%	11.6%	13.3%	11.9%	12.4%
Local	NR	1.1%	NR	NR	0.9%
Spinal	67.6%	70.1%	70.6%	70.1%	72.2%
Other	2.3%	1.8%	1.4%	1.3%	NR

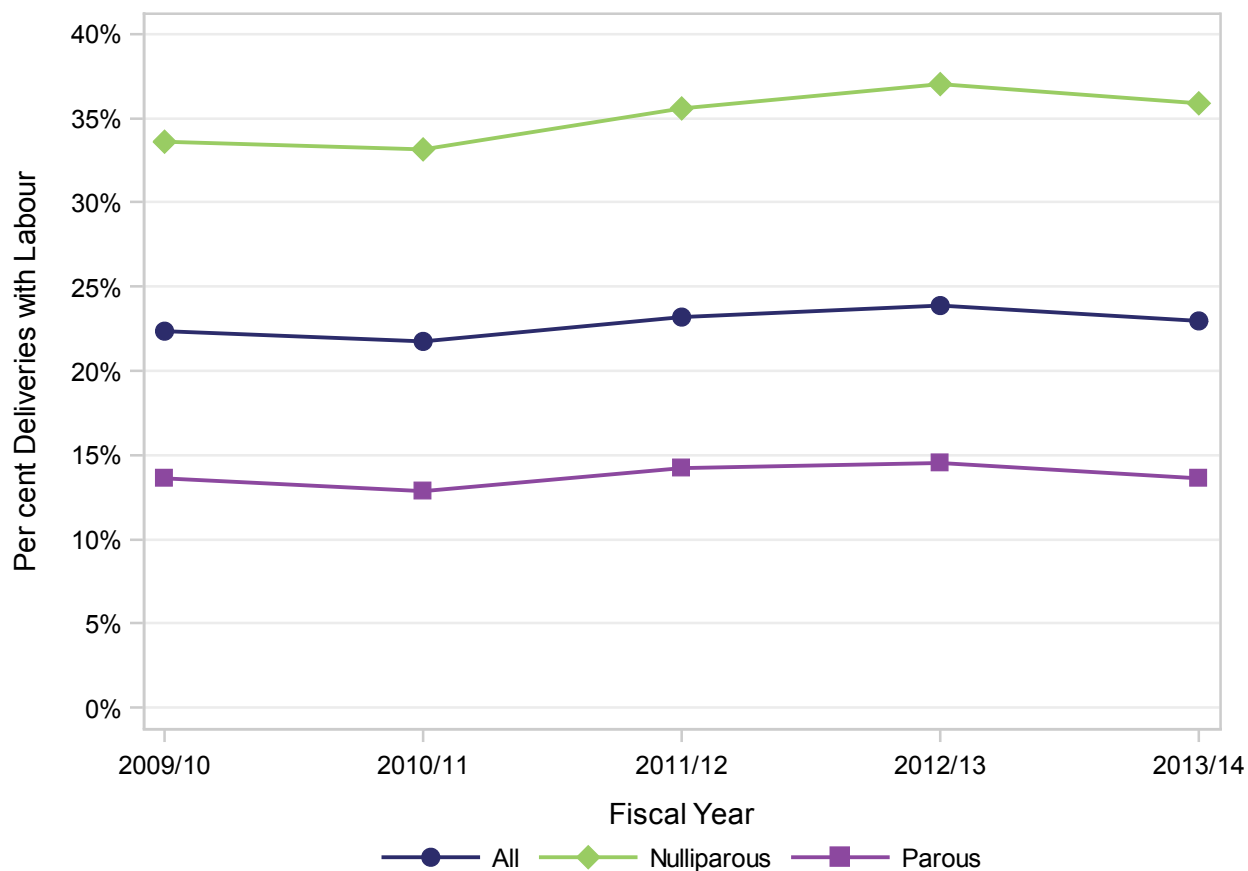
Multiple agents may be used.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

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Epidural Anesthesia or Analgesia During Labour and Delivery by Parity

Residents of Northern Health: April 1, 2009 - March 31, 2014

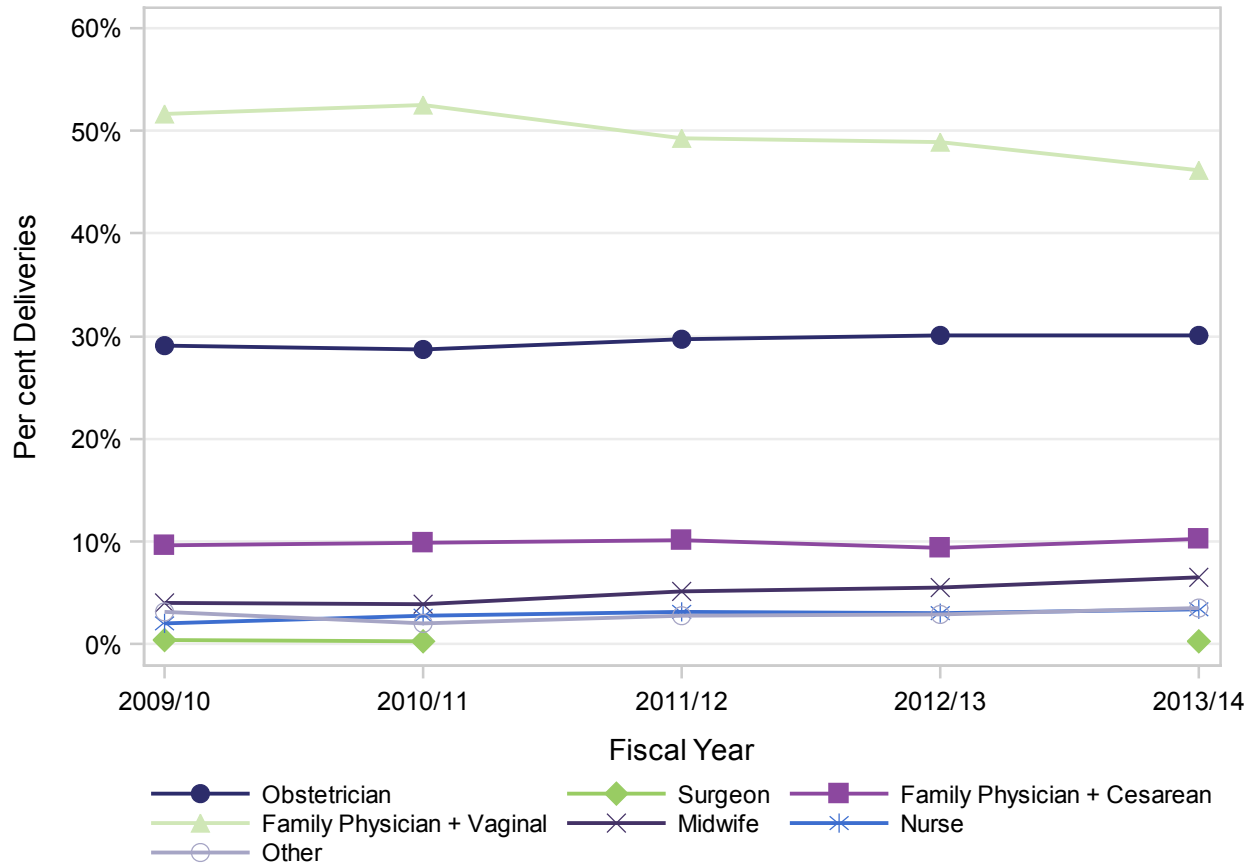


Parity	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
All	22.4%	21.8%	23.2%	23.9%	22.9%
Nulliparous	33.6%	33.2%	35.6%	37.0%	35.9%
Parous	13.6%	12.9%	14.2%	14.5%	13.6%

Definitions and specifications begin on Page 84 of this document.

Delivery Provider

Residents of Northern Health: April 1, 2009 - March 31, 2014



Delivery Provider	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Obstetrician	29.0%	28.7%	29.7%	30.1%	30.1%
Surgeon	0.4%	0.3%	NR	NR	0.3%
Family Physician + Cesarean	9.6%	9.8%	10.1%	9.4%	10.2%
Family Physician + Vaginal	51.6%	52.5%	49.2%	48.9%	46.2%
Midwife	4.0%	3.9%	5.2%	5.5%	6.5%
Nurse	2.1%	2.8%	3.1%	3.1%	3.4%
Other	3.1%	2.1%	2.8%	2.9%	3.5%

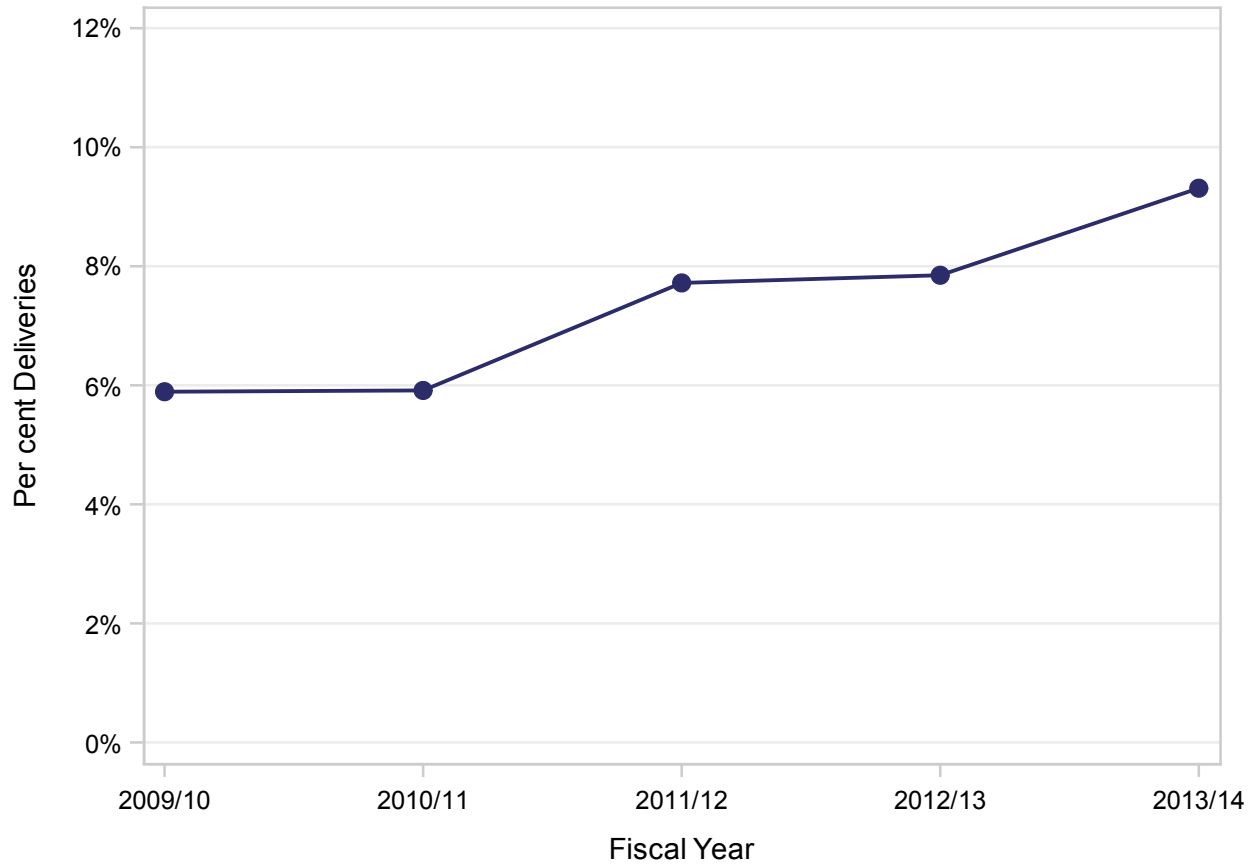
Describes the training of the provider who delivered the baby. This may not be the same type of health care professional who provided antenatal care.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

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Any Care Provided by a Registered Midwife

Residents of Northern Health: April 1, 2009 - March 31, 2014

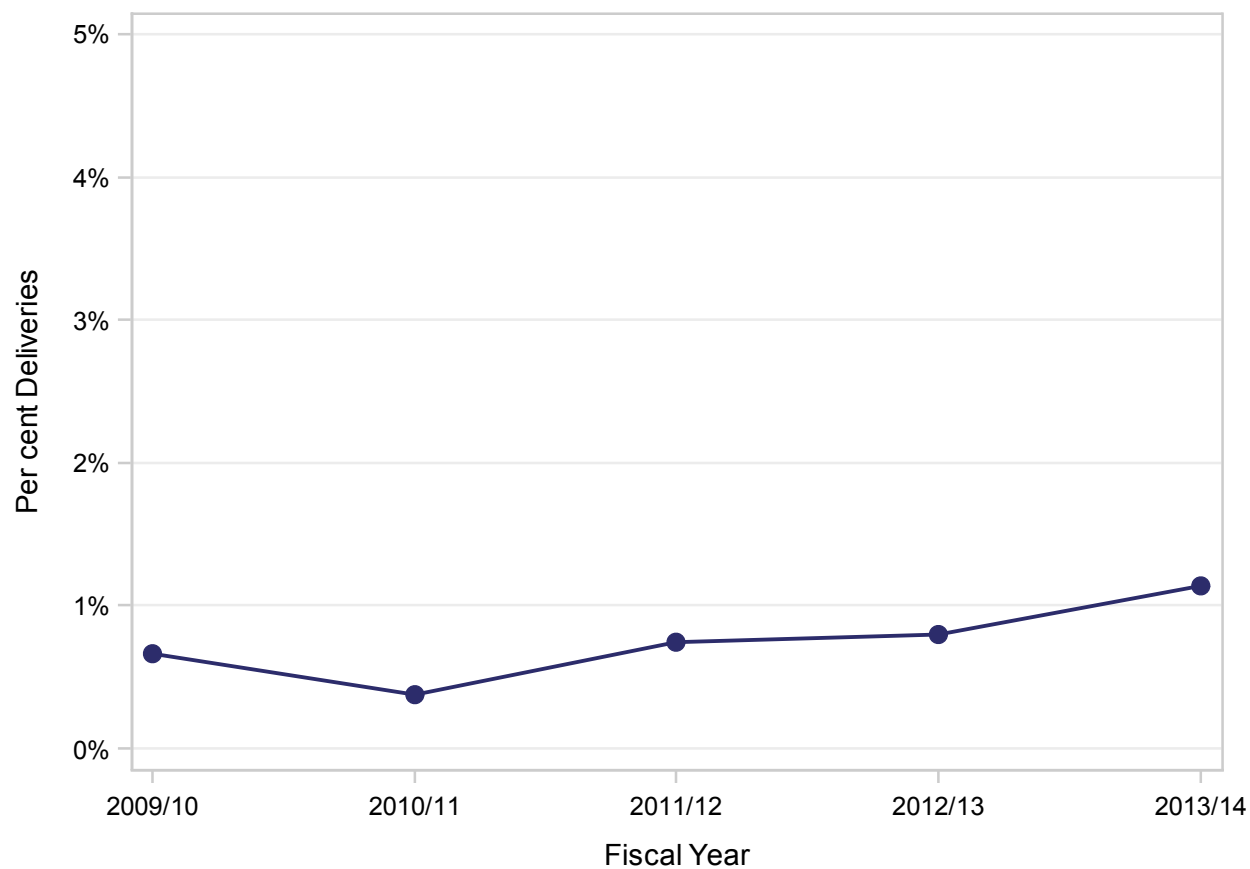


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Any Care by a Registered Midwife	5.9%	5.9%	7.7%	7.9%	9.3%

Indicates if a registered midwife was involved at any point in maternal or newborn care. May not be the provider who performs the delivery. Definitions and specifications begin on Page 84 of this document.

Deliveries at Home Attended by a Registered Midwife

Residents of Northern Health: April 1, 2009 - March 31, 2014



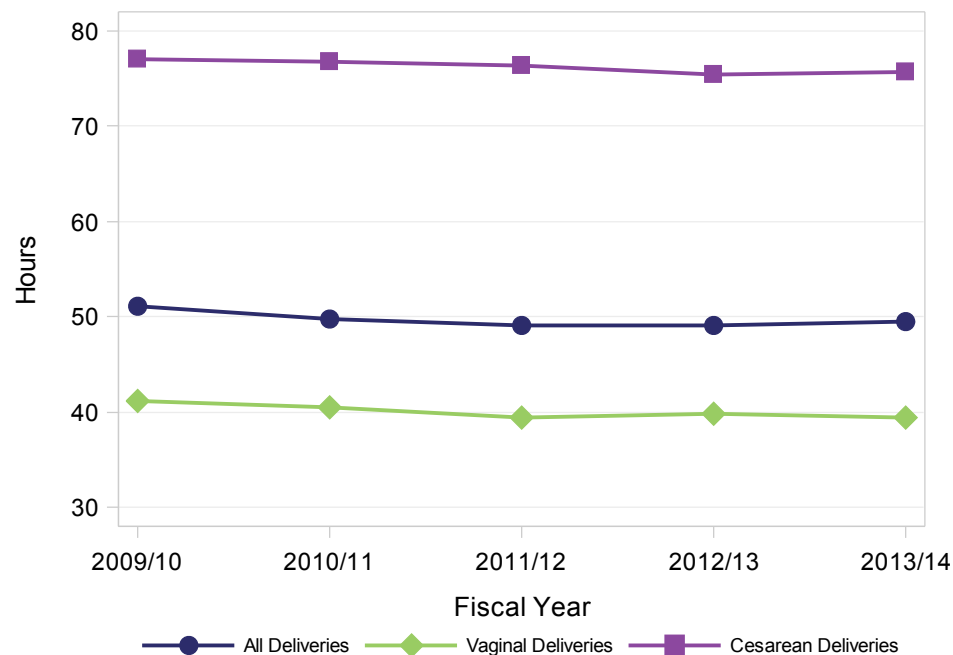
	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Deliveries at Home	0.7%	0.4%	0.7%	0.8%	1.1%

Includes deliveries at home where the woman was admitted to acute care within 24 hours.
Definitions and specifications begin on Page 84 of this document.

Length of Stay for the Delivery Episode of Care by Mode of Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

Median Total Length of Stay (Hours)



Median Antepartum, Postpartum, and Total Length of Stay for the Delivery Episode of Care

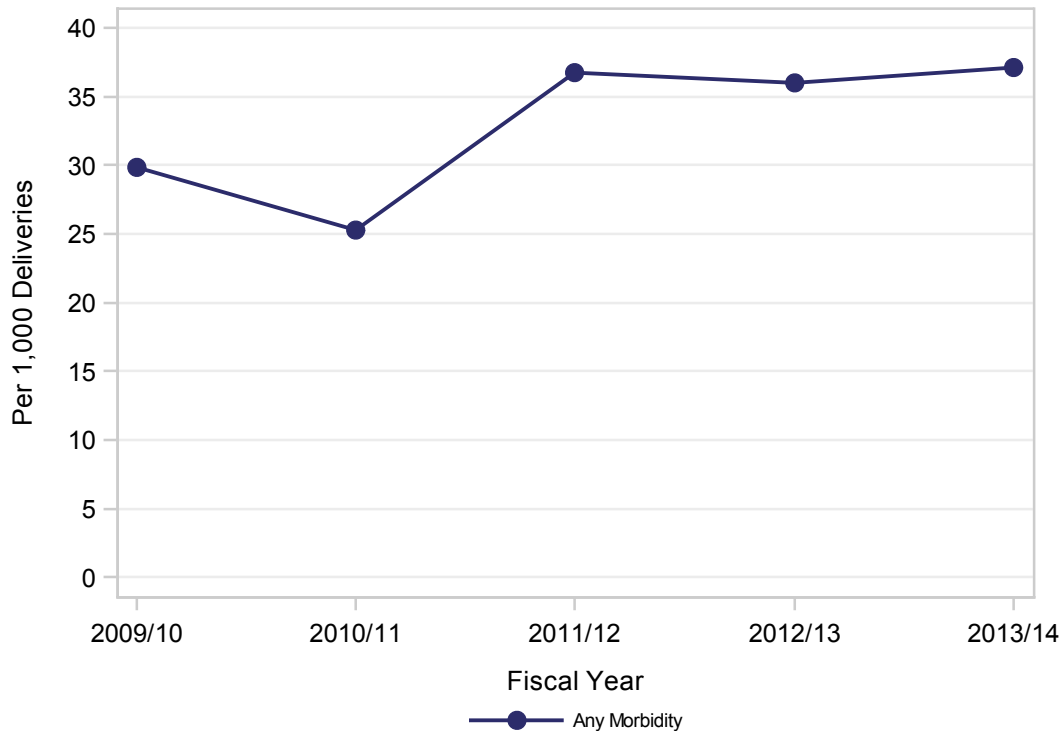
Mode of Delivery	Antepartum LOS (Hours)					Postpartum LOS (Hours)					Total LOS (Hours)				
	Fiscal Year					Fiscal Year					Fiscal Year				
	09/10	10/11	11/12	12/13	13/14	09/10	10/11	11/12	12/13	13/14	09/10	10/11	11/12	12/13	13/14
All Deliveries	3.9	3.7	3.6	3.6	3.5	43.6	42.3	42.3	41.5	42.5	51.2	49.7	49.1	49.1	49.5
Vaginal Deliveries	4.0	3.7	3.5	3.6	3.5	36.0	35.5	35.0	34.9	34.8	41.1	40.5	39.4	39.9	39.4
Cesarean Deliveries	3.6	3.6	3.8	3.5	3.6	70.9	70.8	69.1	66.6	67.1	77.0	76.8	76.3	75.4	75.7

Deliveries outside acute care facilities are excluded.

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Maternal Morbidity

Residents of Northern Health: April 1, 2009 - March 31, 2014



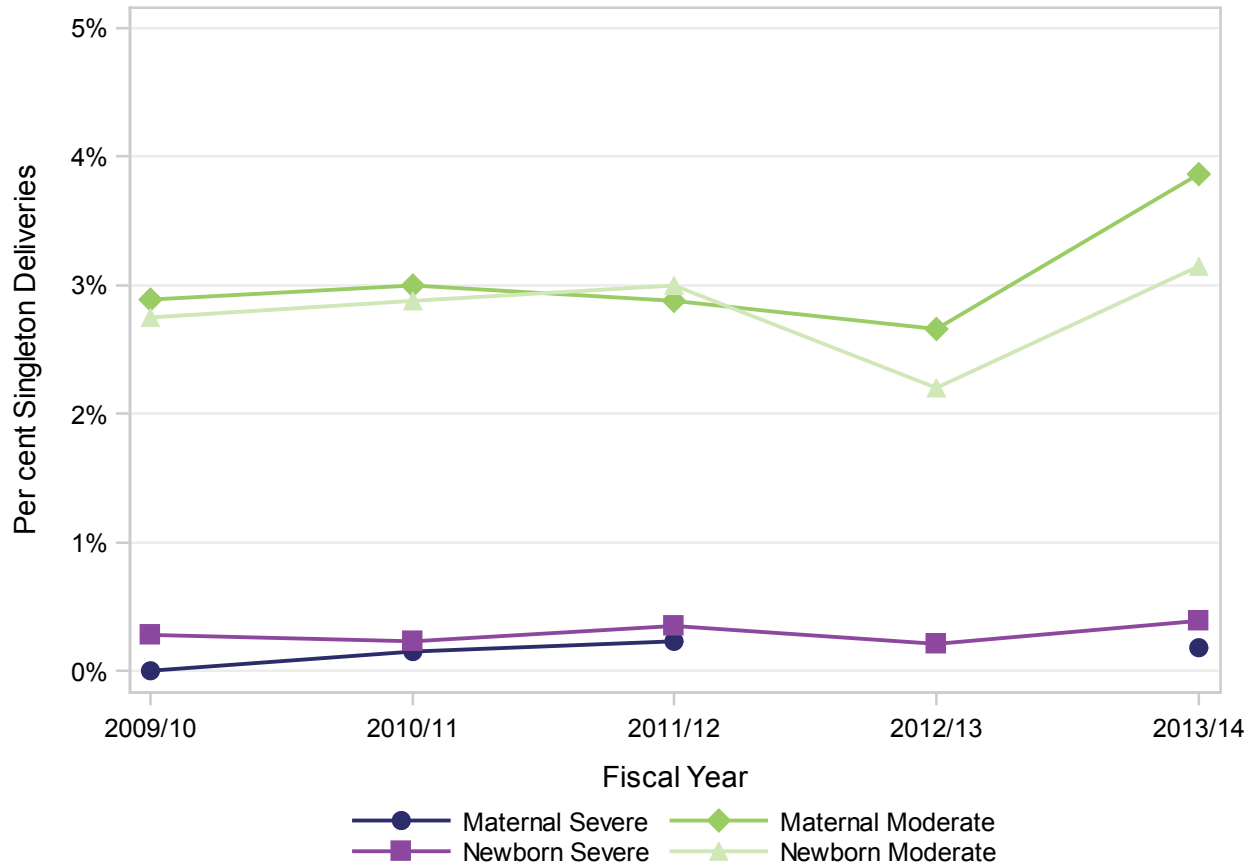
Specific Maternal Morbidities

Type of Morbidity	Fiscal Year				
	2009/10 per 1,000	2010/11 per 1,000	2011/12 per 1,000	2012/13 per 1,000	2013/14 per 1,000
Liver Complications	5.0	2.9	4.9	2.7	5.3
Postpartum Hemorrhage with Transfusion	5.5	7.0	7.2	5.4	9.9
Urinary Tract Infection	8.6	7.3	16.1	17.5	9.6
Sepsis	3.6	2.9	2.3	3.6	5.0
Wound Infection	4.4	1.5	4.3	2.7	3.8
HELLP	5.2	3.8	3.2	2.7	5.3
Anesthetic Complications	2.8	2.9	2.6	1.5	1.8
Antepartum Hemorrhage with Transfusion	NR	1.5	NR	1.8	2.9
Eclampsia	NR	2.0	1.7	2.1	2.0
Shock	NR	0.0	NR	0.0	NR
Pulmonary Embolism	0.0	NR	NR	1.5	NR
Postpartum Hemorrhage with Hysterectomy	0.0	0.0	NR	0.0	0.0
Stroke	NR	0.0	0.0	NR	0.0

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
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Adverse Outcome of Labour or Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

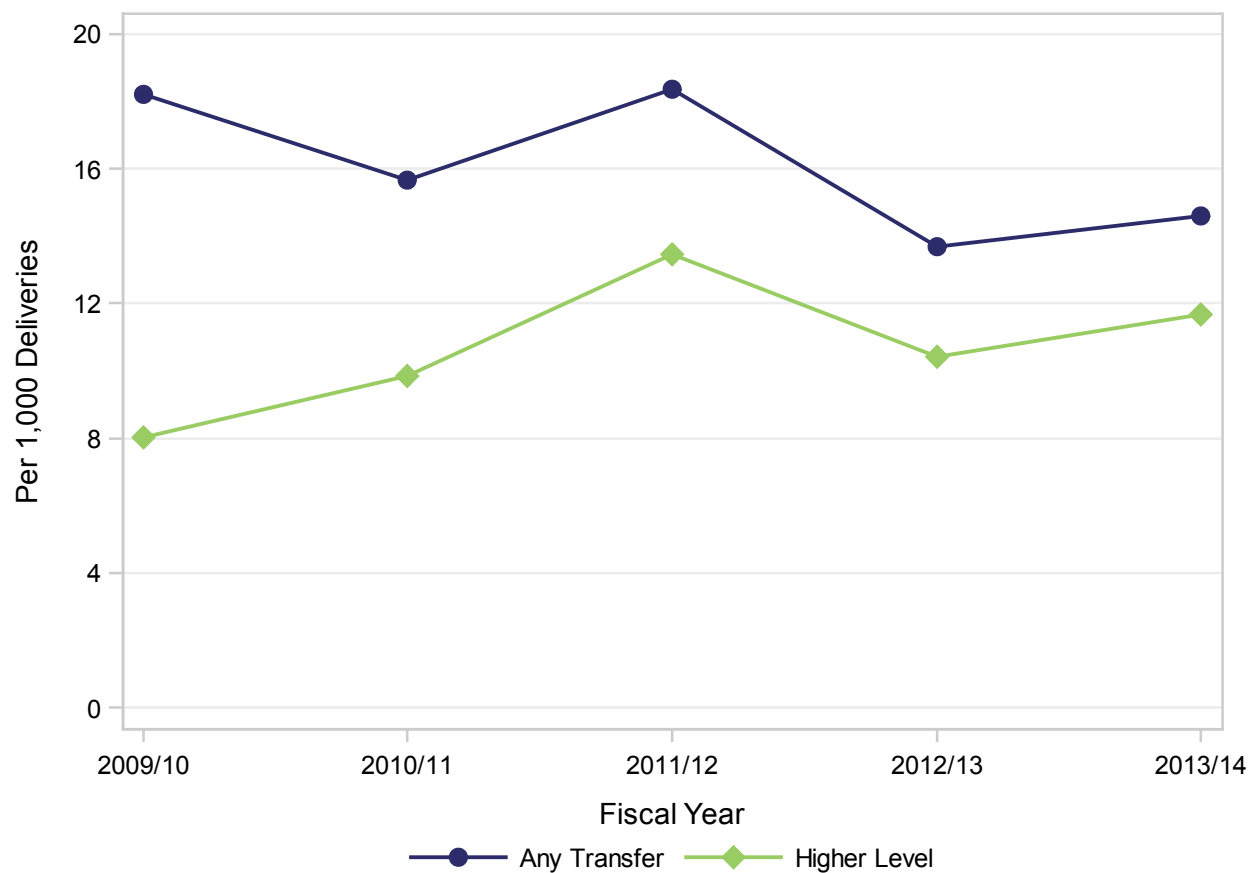


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Any Adverse Outcome	5.8%	6.0%	6.3%	5.0%	7.3%
Maternal Severe Adverse Outcome	0.0%	0.1%	0.2%	NR	0.2%
Maternal Moderate Adverse Outcome	2.9%	3.0%	2.9%	2.7%	3.9%
Neonatal Severe Adverse Outcome	0.3%	0.2%	0.3%	0.2%	0.4%
Neonatal Moderate Adverse Outcome	2.8%	2.9%	3.0%	2.2%	3.2%

Definitions and specifications begin on Page 84 of this document.

Maternal Hospital Transfers

Residents of Northern Health: April 1, 2009 - March 31, 2014



Type of Transfer	Fiscal Year				
	2009/10 per 1,000	2010/11 per 1,000	2011/12 per 1,000	2012/13 per 1,000	2013/14 per 1,000
Any Transfer	18.2	15.7	18.4	13.7	14.6
Higher Level	8.0	9.9	13.5	10.4	11.7

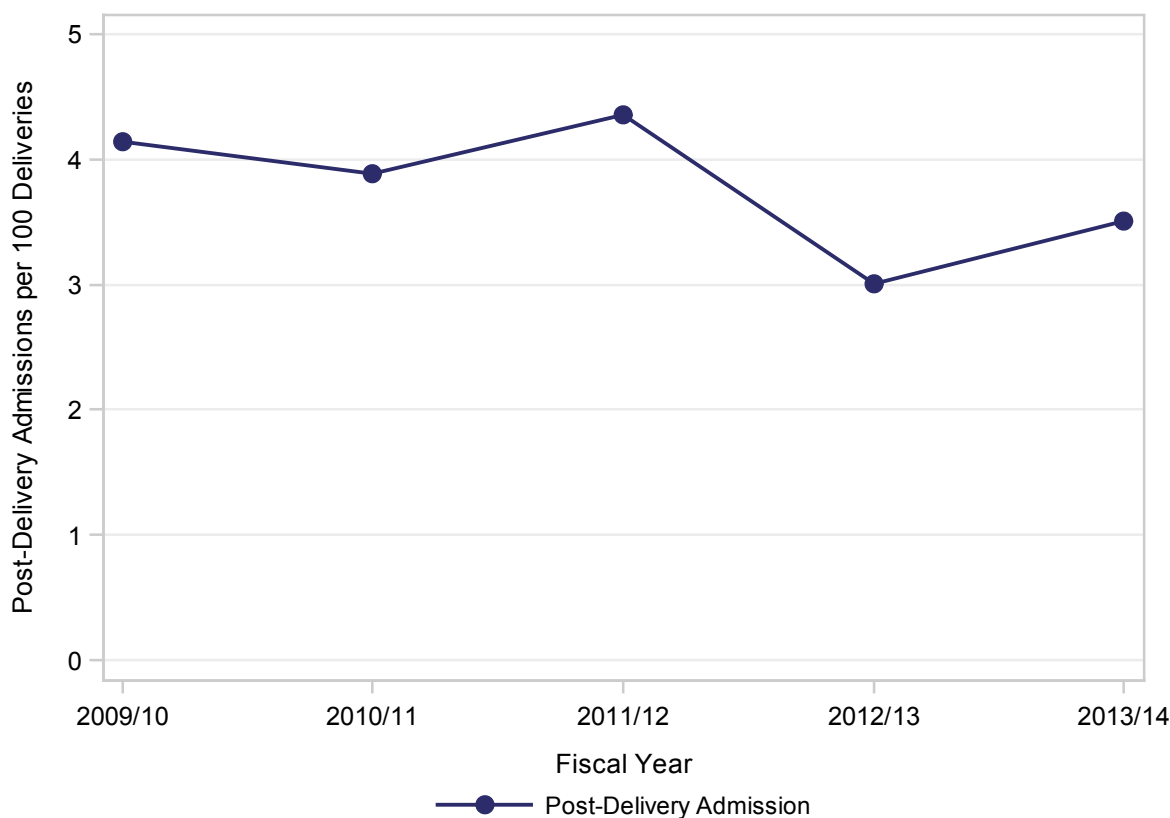
Women may be transferred to another hospital for either maternal or neonatal indications.

Includes transfers from an inpatient Delivery Admission directly to another acute care facility. Women who delivered at home and were subsequently admitted to acute care are not included.

Definitions and specifications begin on Page 84 of this document.

Post-Delivery Admissions

Residents of Northern Health: April 1, 2009 - March 31, 2014



Leading Diagnoses Associated with Post-Delivery Admissions Per cent Post-Delivery Admissions

Most Responsible Diagnosis	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Routine Postpartum Care	33.3%	21.6%	18.4%	19.8%	19.2%
Postpartum Hemorrhage	14.0%	14.2%	7.2%	9.9%	13.3%
Postpartum Infection	11.3%	7.5%	9.9%	13.9%	13.3%
Other Diseases Complicating Pregnancy	6.7%	7.5%	5.3%	5.0%	9.2%
Other Wound Issues	3.3%	6.0%	4.6%	8.9%	6.7%
Hypertension or Eclampsia	NR	8.2%	5.9%	NR	6.7%
Complications of Anesthesia	NR	NR	NR	0.0%	0.0%
Retained Placenta Without Hemorrhage	4.0%	NR	NR	NR	NR
Care of Breasts	NR	0.0%	NR	NR	NR
Pregnancy-Associated Mental Health	NR	NR	NR	NR	NR

Post-Delivery Admissions include inter-hospital transfers and readmissions from home.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

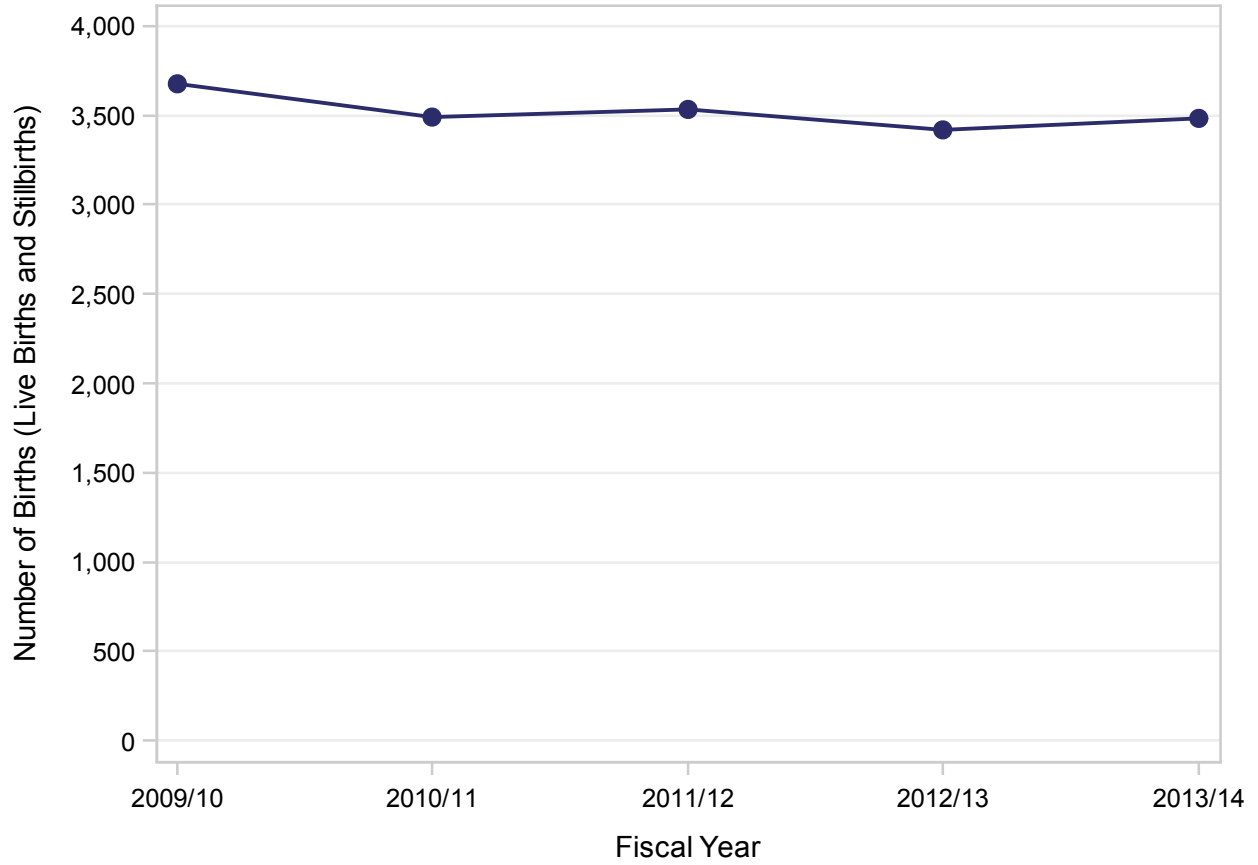
Definitions and specifications begin on Page 84 of this document.

**Perinatal Health Report 2009/10 to 2013/14
Residents of Northern Health**

Section 3: Newborn Health

Total Births

Residents of Northern Health: April 1, 2009 - March 31, 2014

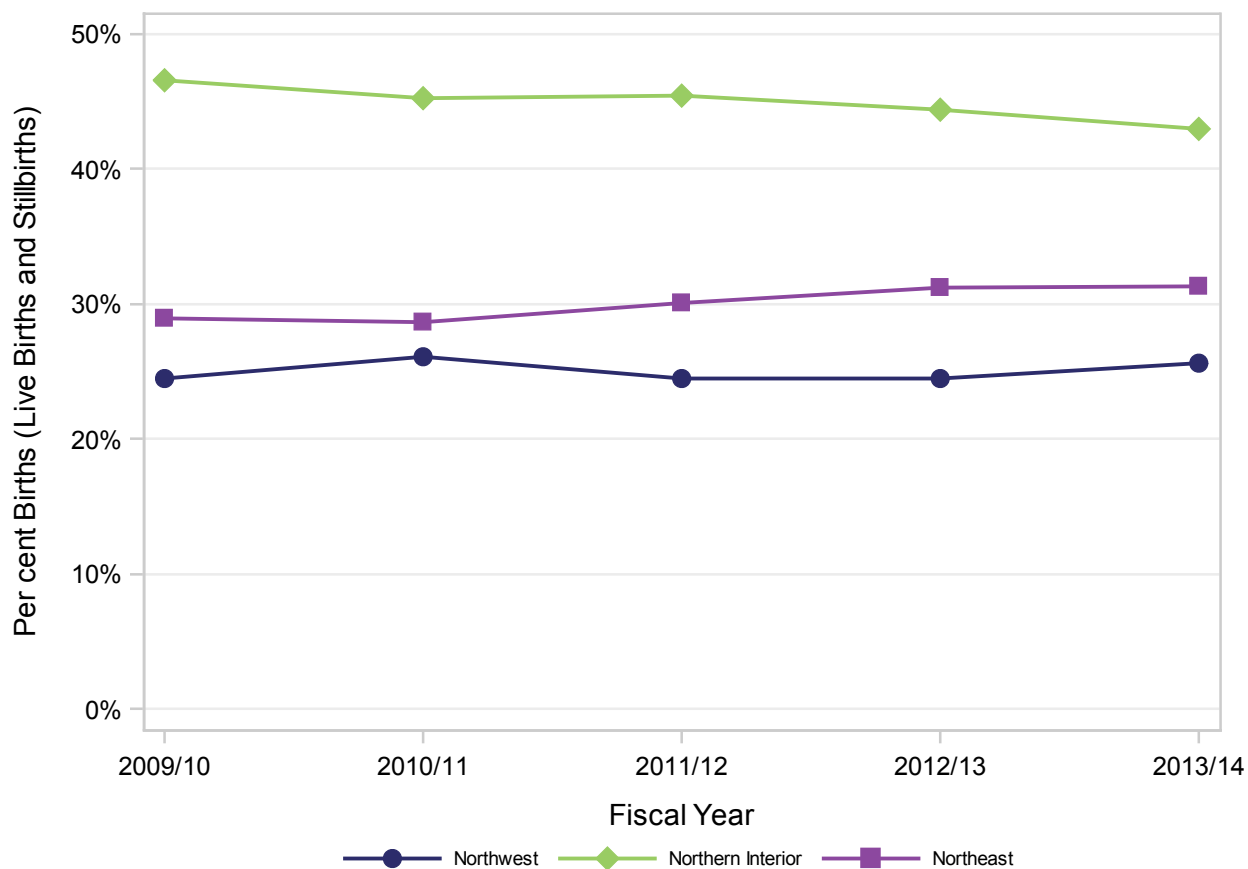


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Northern Health	3,680	3,490	3,535	3,416	3,485

Definitions and specifications begin on Page 84 of this document.

Total Births by Resident Health Service Delivery Area

Residents of Northern Health: April 1, 2009 - March 31, 2014

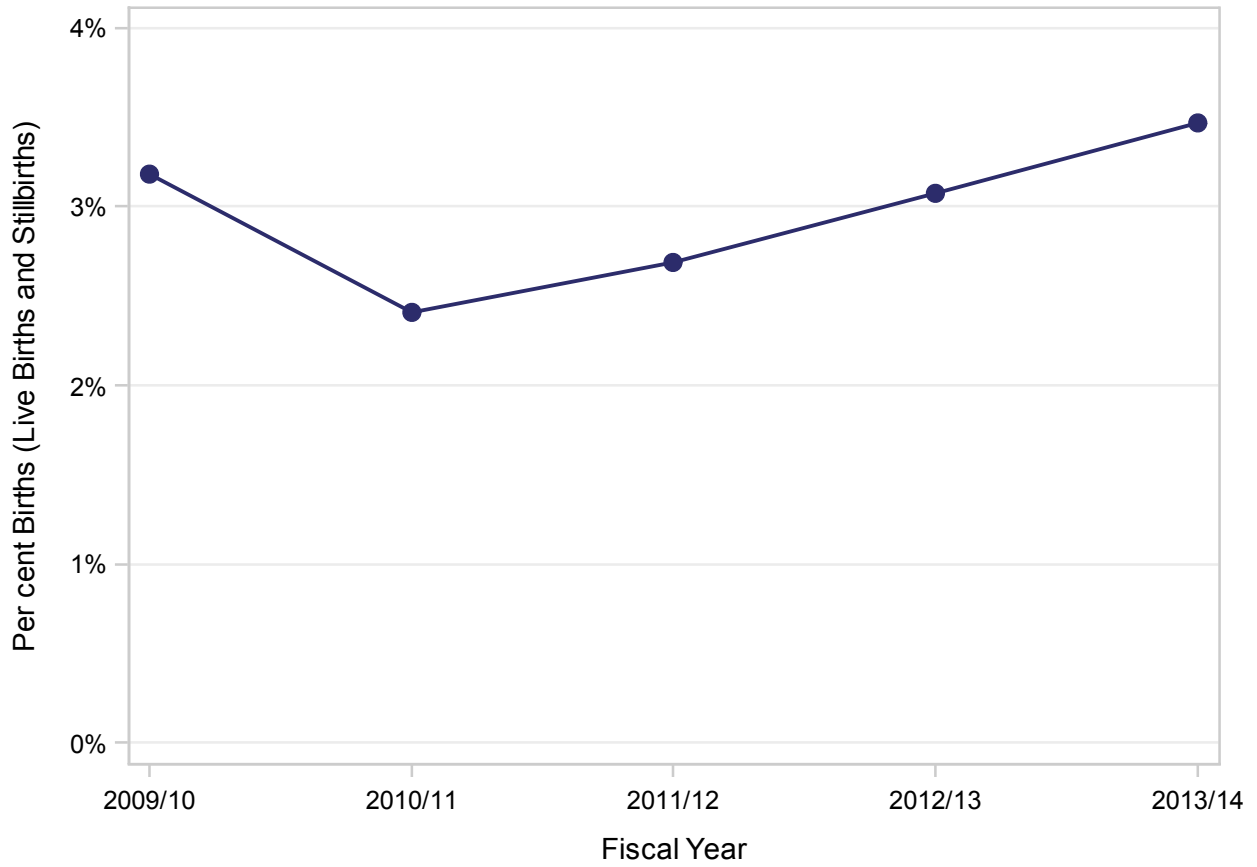


Health Service Delivery Area	Fiscal Year									
	2009/10		2010/11		2011/12		2012/13		2013/14	
	Count	Per cent	Count	Per cent	Count	Per cent	Count	Per cent	Count	Per cent
Northwest	901	24.5%	910	26.1%	865	24.5%	835	24.4%	894	25.7%
Northern Interior	1,715	46.6%	1,579	45.2%	1,606	45.4%	1,515	44.4%	1,499	43.0%
Northeast	1,064	28.9%	1,001	28.7%	1,064	30.1%	1,066	31.2%	1,092	31.3%

Definitions and specifications begin on Page 84 of this document.

Births Part of a Multiple Gestation

Residents of Northern Health: April 1, 2009 - March 31, 2014

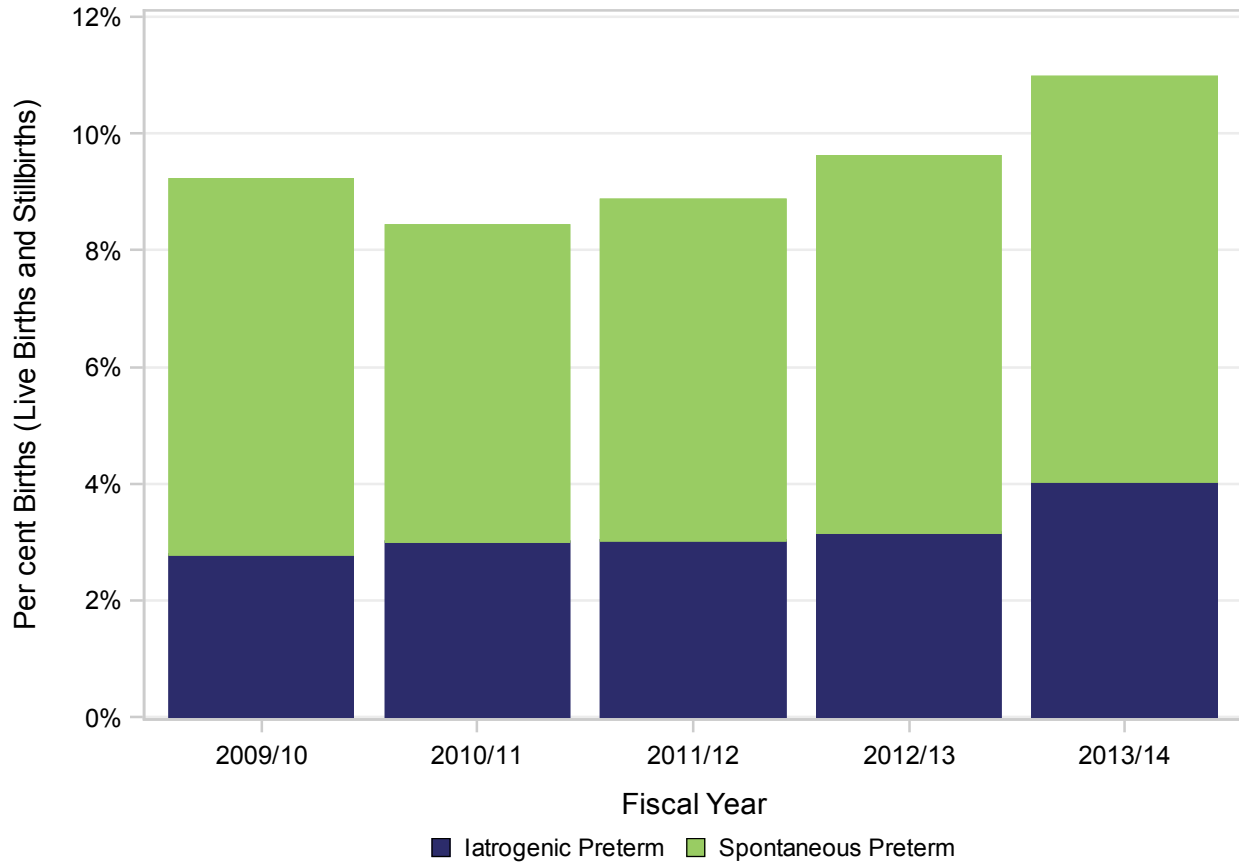


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Multiple Gestation	3.2%	2.4%	2.7%	3.1%	3.5%

Includes twin, triplet, and quadruplet births.
 Definitions and specifications begin on Page 84 of this document.

Preterm Birth

Residents of Northern Health: April 1, 2009 - March 31, 2014

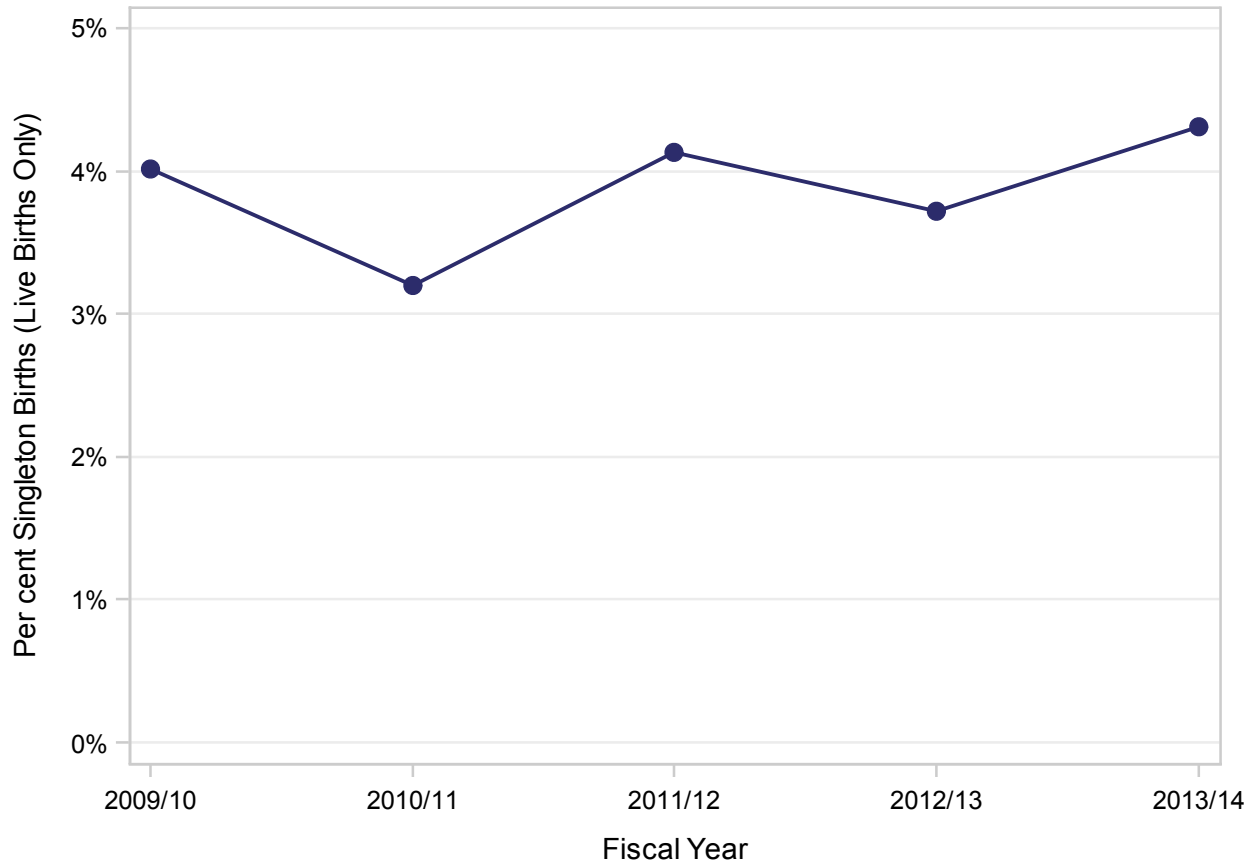


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Iatrogenic Preterm	2.8%	3.0%	3.0%	3.2%	4.0%
Spontaneous Preterm	6.4%	5.4%	5.8%	6.4%	6.9%
Total Preterm	9.2%	8.4%	8.9%	9.7%	11.0%

Definitions and specifications begin on Page 84 of this document.

Low Birthweight Singletons

Residents of Northern Health: April 1, 2009 - March 31, 2014

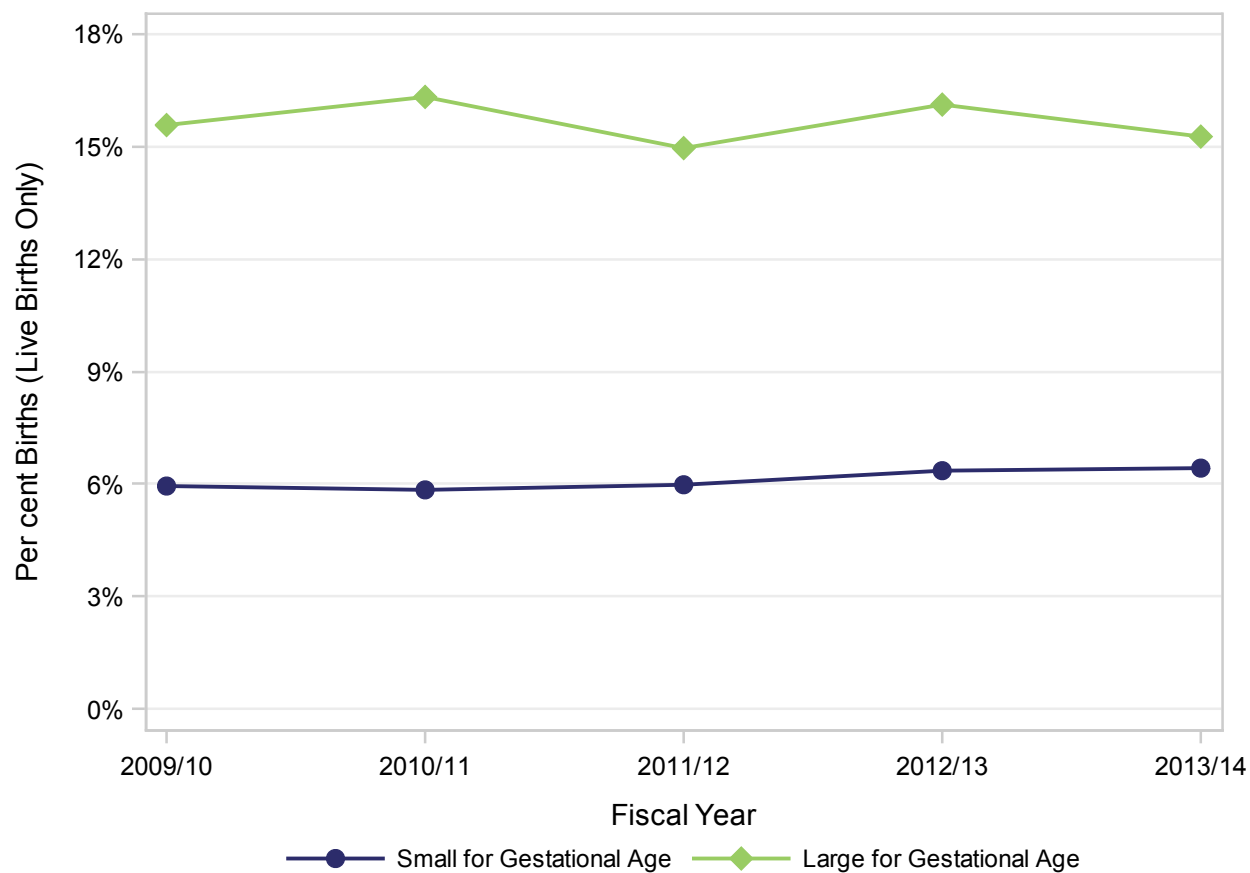


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Low Birthweight	4.0%	3.2%	4.1%	3.7%	4.3%

Definitions and specifications begin on Page 84 of this document.

Weight for Gestational Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

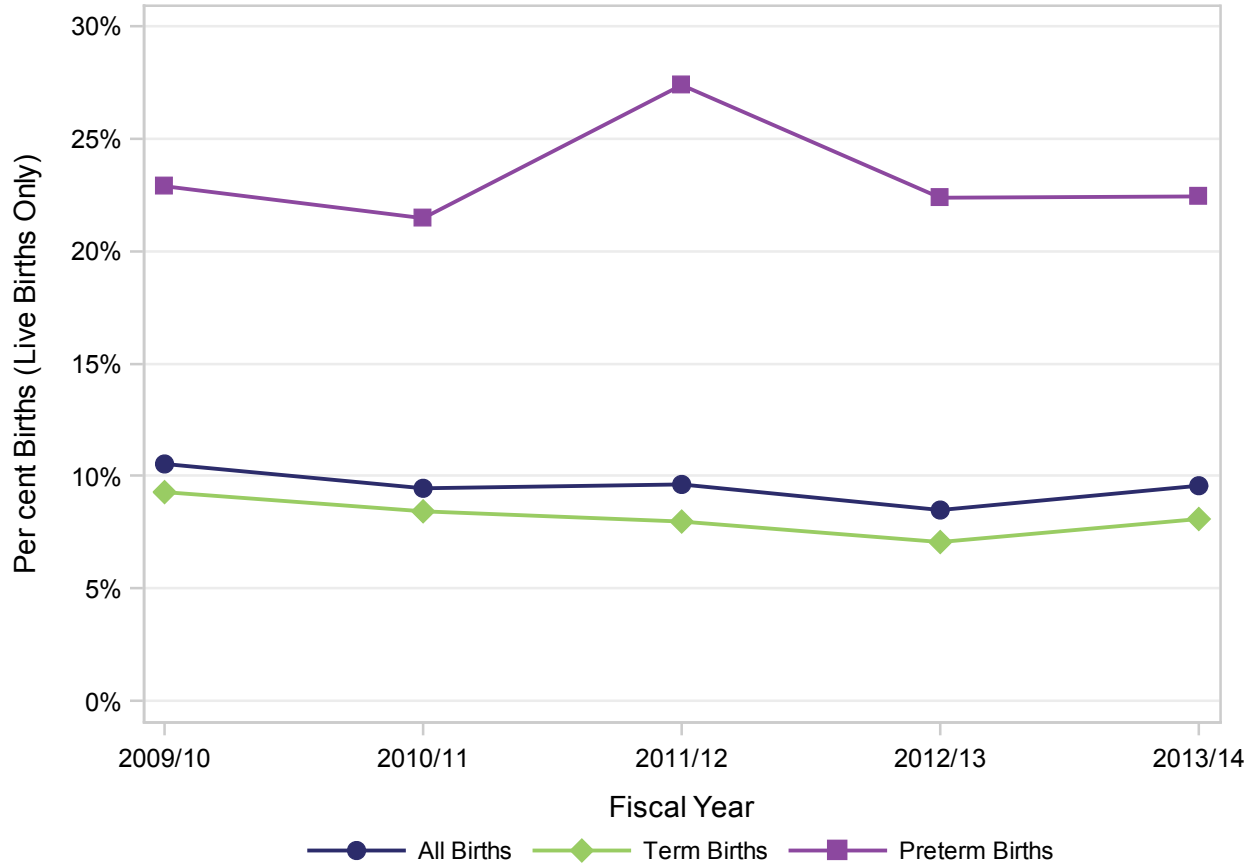


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Small for Gestational Age	6.0%	5.9%	6.0%	6.4%	6.4%
Large for Gestational Age	15.6%	16.3%	15.0%	16.1%	15.3%

Definitions and specifications begin on Page 84 of this document.

Newborn Resuscitation by Gestational Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

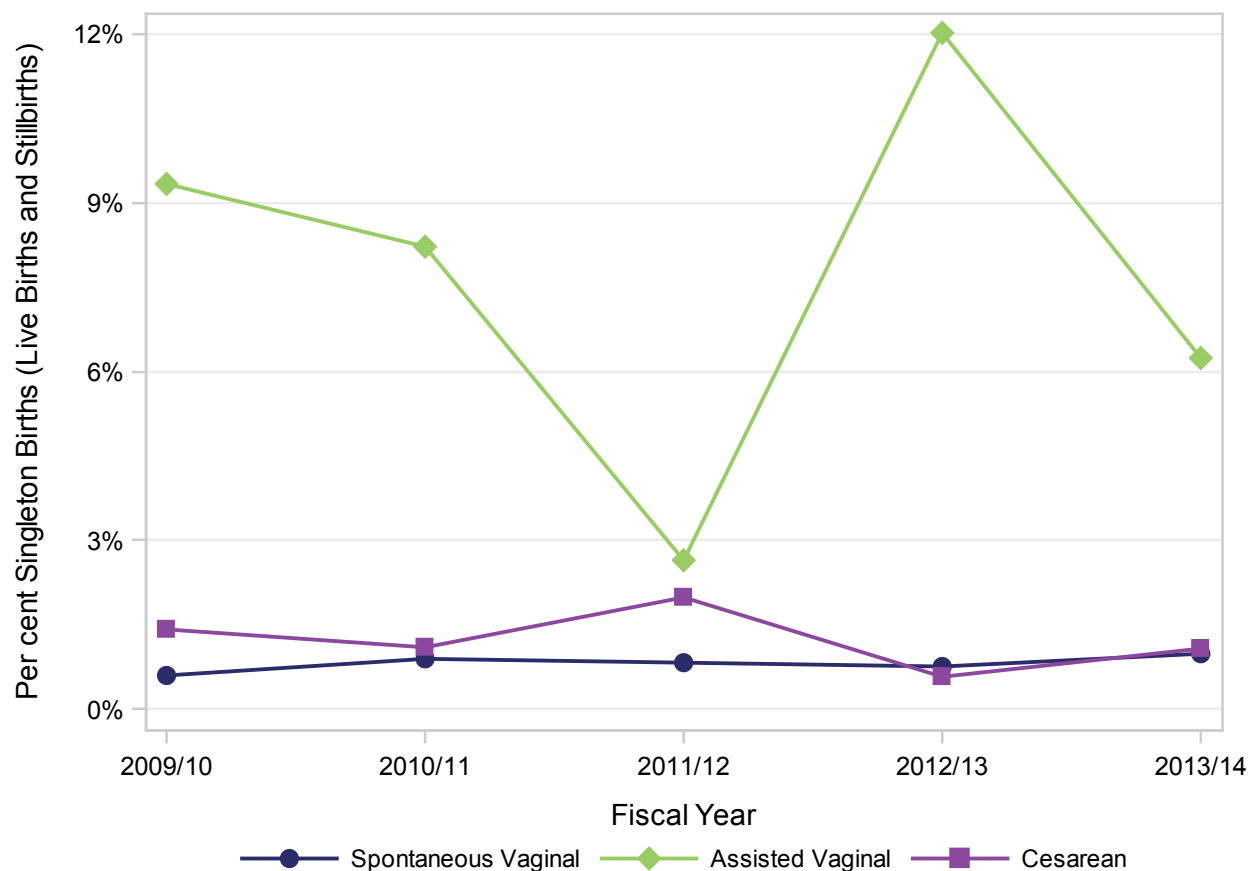


Gestational Age	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
All Births	10.4%	9.4%	9.5%	8.4%	9.5%
Term Births	9.3%	8.4%	8.0%	7.0%	8.0%
Preterm Births	22.4%	20.8%	26.2%	22.6%	21.8%

Definitions and specifications begin on Page 84 of this document.

Birth Injury by Mode of Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

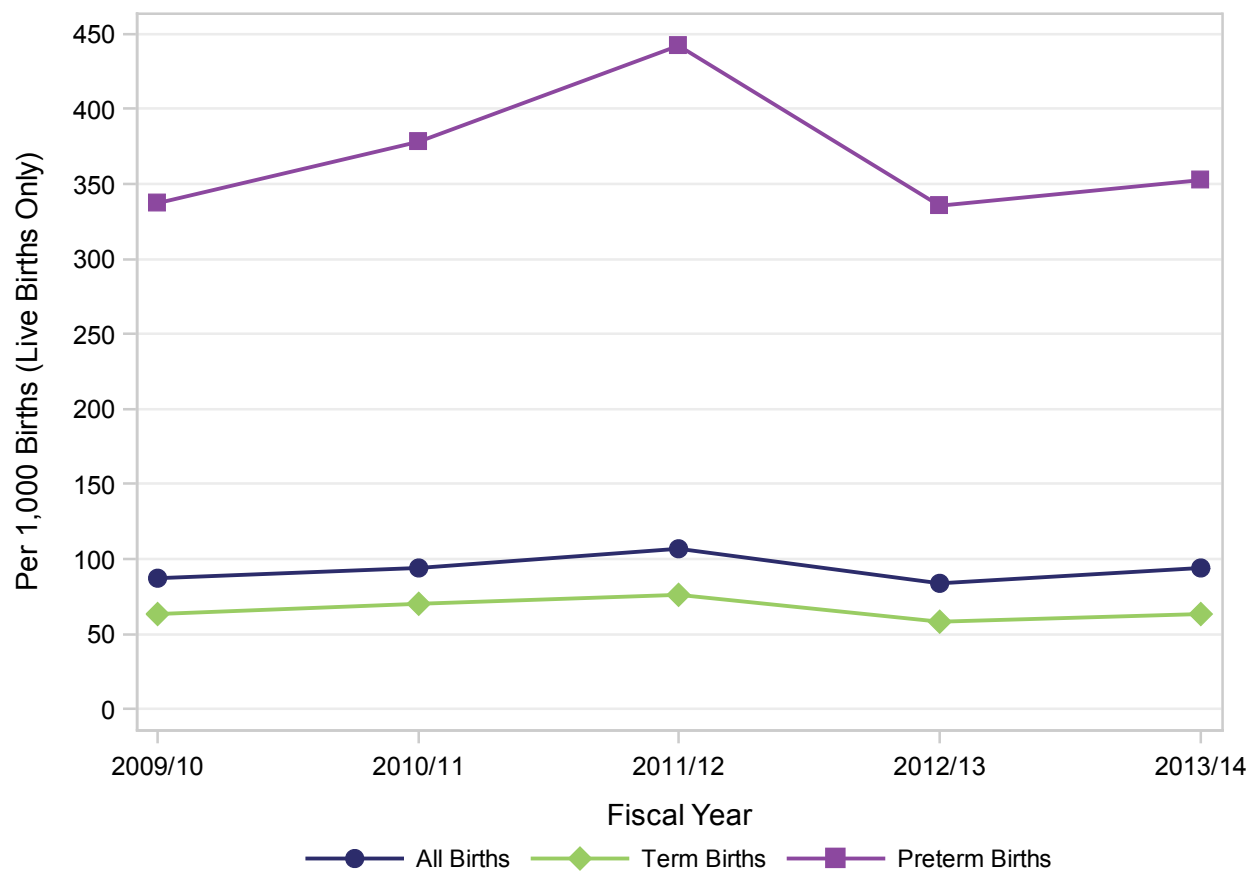


Mode of Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	0.6%	0.9%	0.8%	0.8%	1.0%
Assisted Vaginal	9.3%	8.2%	2.6%	12.0%	6.3%
Cesarean	1.4%	1.1%	2.0%	0.6%	1.1%

Definitions and specifications begin on Page 84 of this document.

Neonatal Morbidity by Gestational Age

Residents of Northern Health: April 1, 2009 - March 31, 2014

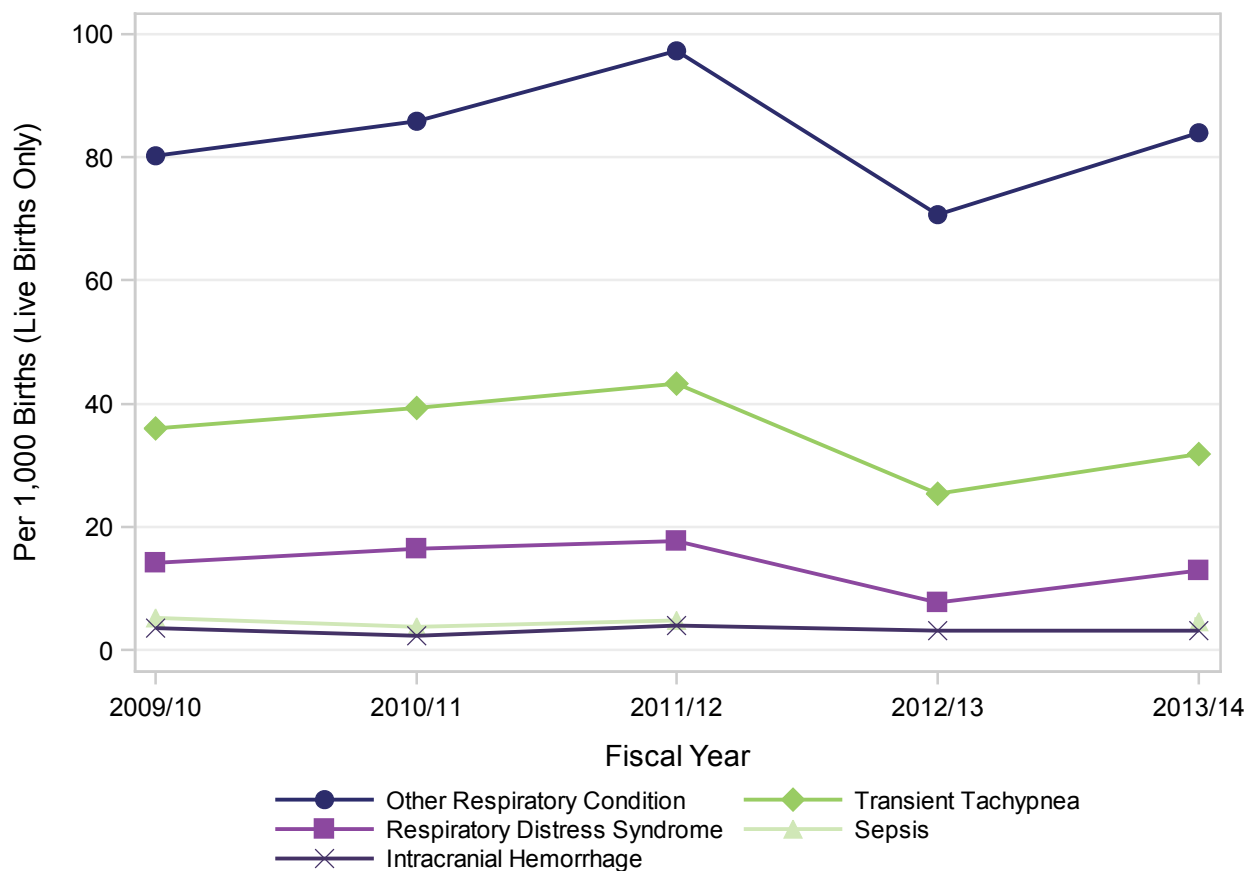


Gestational Age	Fiscal Year				
	2009/10 per 1,000	2010/11 per 1,000	2011/12 per 1,000	2012/13 per 1,000	2013/14 per 1,000
All Births	87.6	94.4	106.9	83.7	93.9
Term Births	63.3	69.9	75.9	58.1	63.3
Preterm Births	337.5	378.2	442.6	335.5	352.5

Definitions and specifications begin on Page 84 of this document.

Type of Neonatal Morbidity

Residents of Northern Health: April 1, 2009 - March 31, 2014

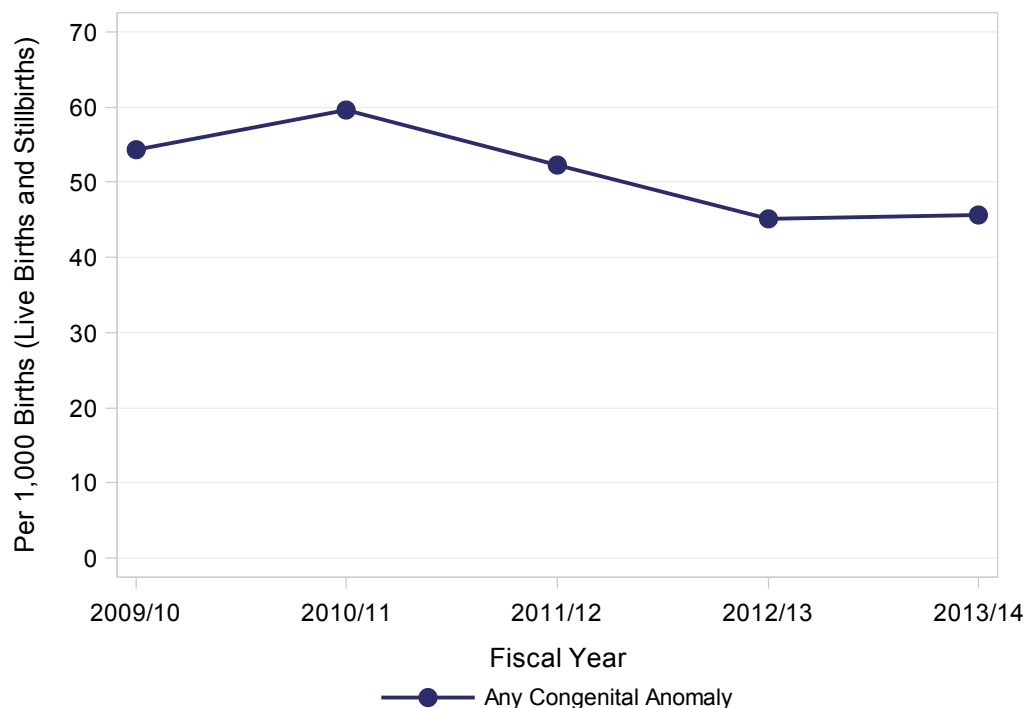


Type of Morbidity	Fiscal Year				
	2009/10 per 1,000	2010/11 per 1,000	2011/12 per 1,000	2012/13 per 1,000	2013/14 per 1,000
Other Respiratory Condition	80.2	85.8	97.2	70.7	84.1
Transient Tachypnea	36.0	39.3	43.3	25.3	31.8
Respiratory Distress Syndrome	14.3	16.5	17.7	7.7	13.0
Sepsis	5.2	3.8	4.8	NR	4.6
Intracranial Hemorrhage	3.6	2.3	4.0	3.2	3.2

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

Congenital Anomalies

Residents of Northern Health: April 1, 2009 - March 31, 2014



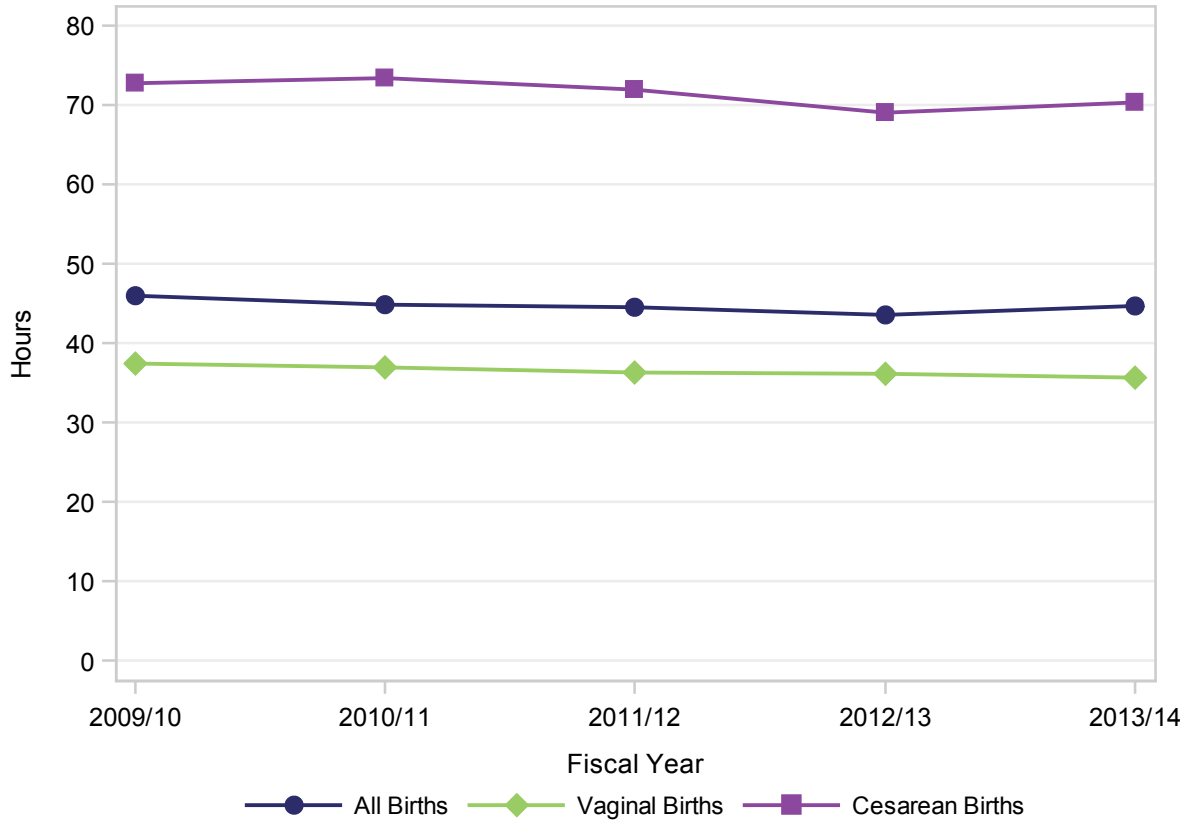
Specific Congenital Anomalies Per 1,000 Live Births and Stillbirths

Type of Congenital Anomaly	Fiscal Year				
	2009/10 per 1,000	2010/11 per 1,000	2011/12 per 1,000	2012/13 per 1,000	2013/14 per 1,000
Chromosomal	1.4	1.7	1.7	1.5	1.4
Circulatory System	12.2	12.6	14.1	7.6	14.3
Cleft Lip or Palate	1.4	2.3	NR	3.5	2.6
Digestive System	7.9	10.3	8.5	8.2	7.2
Eye, Ear, Face, or Neck	1.6	3.2	3.1	1.8	2.0
Genital Organs	5.7	10.3	6.2	3.2	2.6
Musculoskeletal System	17.7	17.2	12.4	14.1	12.1
Nervous System	3.3	2.3	1.7	1.5	2.0
Respiratory System	NR	1.4	2.3	NR	NR
Urinary System	4.3	3.4	4.0	4.7	2.6
Other Specific Anomaly	9.8	4.0	5.1	5.0	5.7

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

Median Length of Stay (Hours) for the Birth Episode of Care Live Births by Mode of Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014



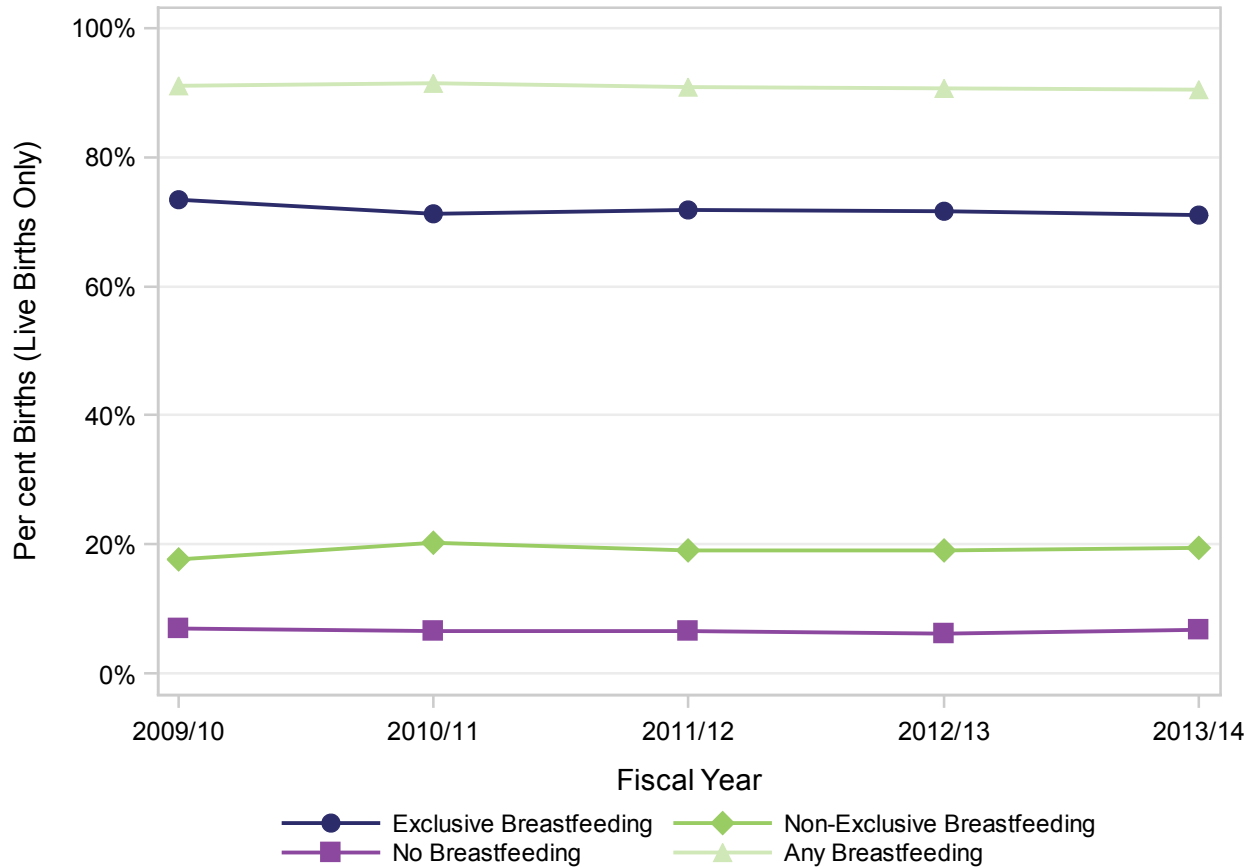
	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
All Births	46.0	44.8	44.5	43.6	44.6
Vaginal Births	37.5	36.9	36.3	36.1	35.7
Cesarean Births	72.8	73.3	72.0	69.1	70.3

Delivery method is based on maternal information. Multifetal pregnancies where any newborn was born by cesarean are included in the Cesarean births category.

Definitions and specifications begin on Page 84 of this document.

Breastfeeding During the Birth Admission

Residents of Northern Health: April 1, 2009 - March 31, 2014

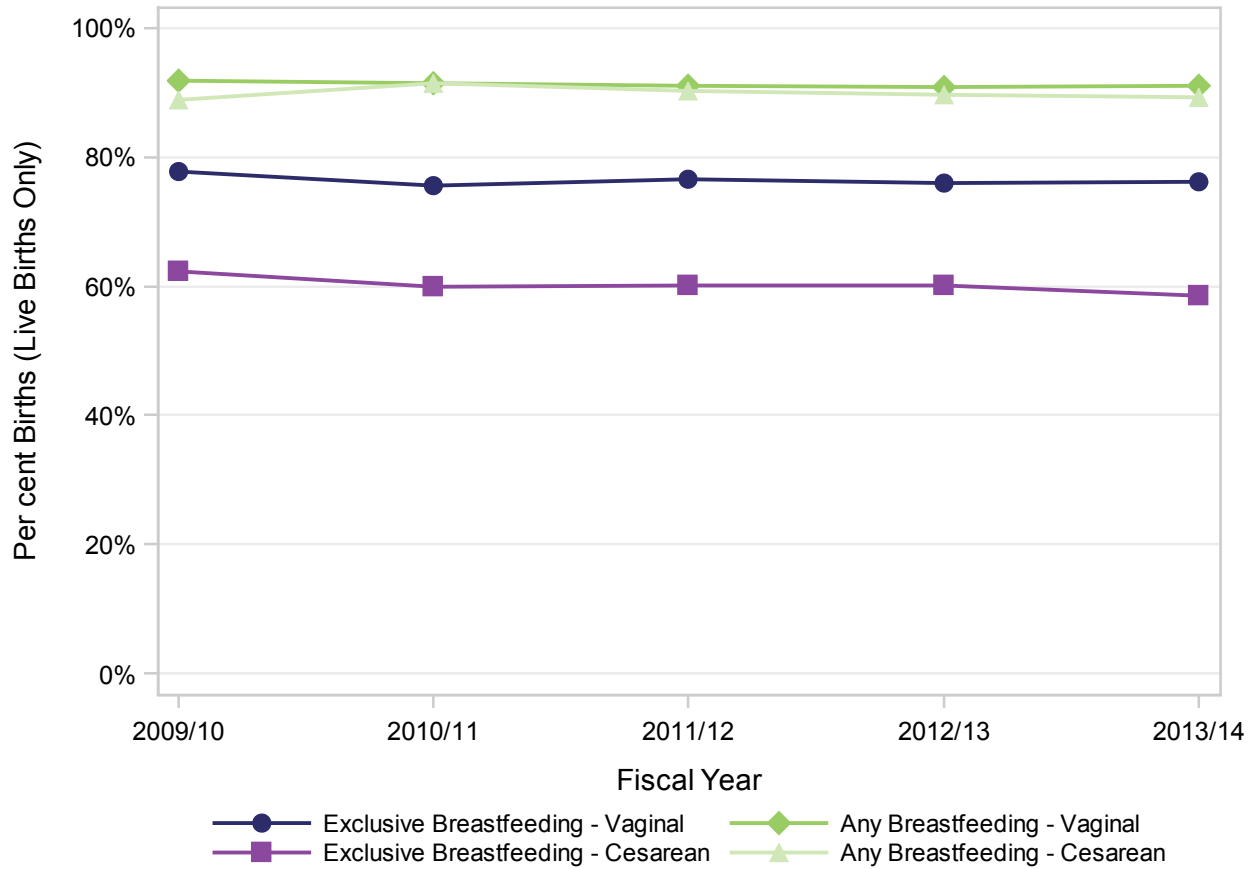


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Exclusive Breastfeeding	73.3%	71.3%	71.8%	71.6%	71.0%
Non-Exclusive Breastfeeding	17.7%	20.2%	19.1%	19.0%	19.6%
No Breastfeeding	6.9%	6.6%	6.6%	6.3%	6.7%
Any Breastfeeding	91.0%	91.5%	90.9%	90.6%	90.6%

Definitions and specifications begin on Page 84 of this document.

Breastfeeding During the Birth Admission by Mode of Delivery

Residents of Northern Health: April 1, 2009 - March 31, 2014

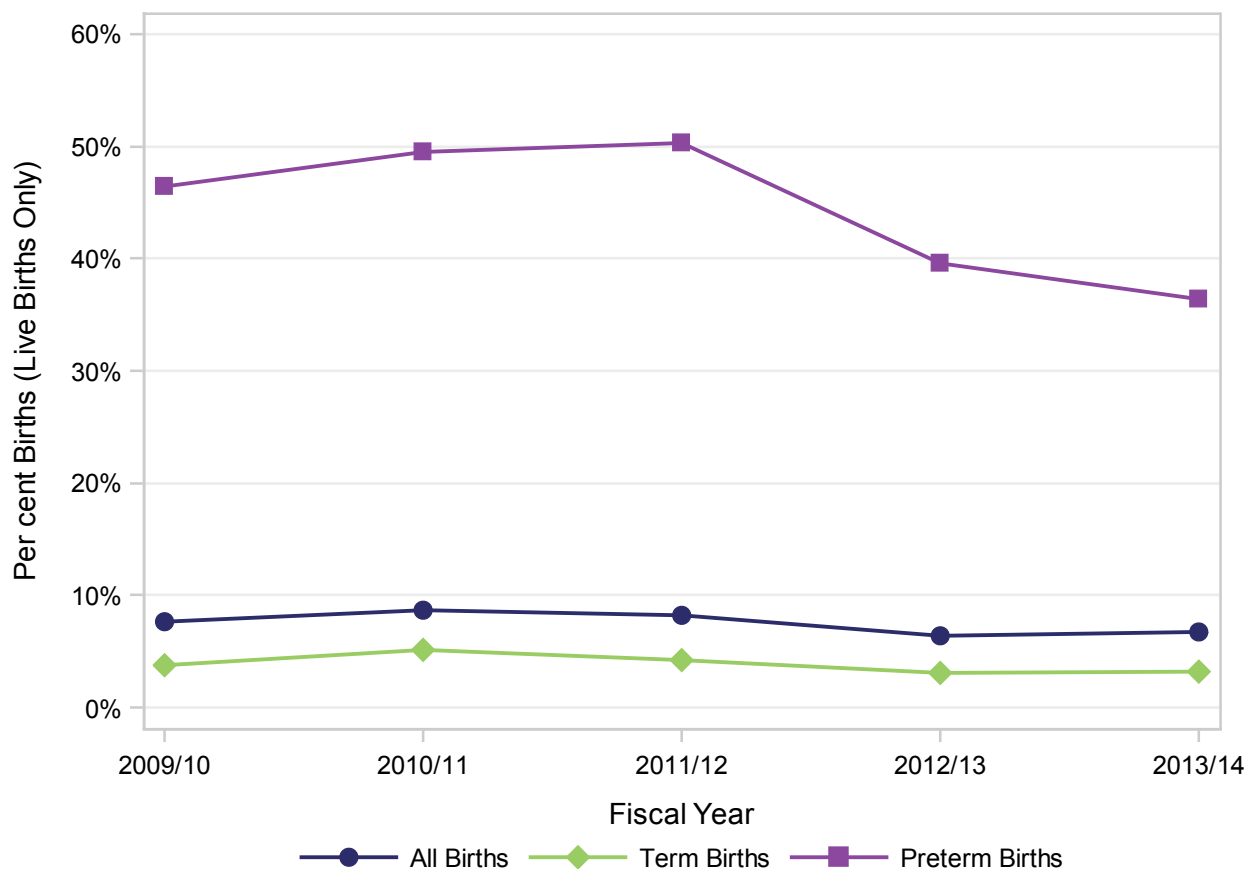


	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Exclusive Breastfeeding - Vaginal	77.8%	75.6%	76.6%	76.1%	76.2%
Any Breastfeeding - Vaginal	91.9%	91.5%	91.1%	91.0%	91.1%
Exclusive Breastfeeding - Cesarean	62.3%	60.0%	60.0%	60.1%	58.5%
Any Breastfeeding - Cesarean	88.9%	91.5%	90.4%	89.7%	89.4%

Definitions and specifications begin on Page 84 of this document.

Neonatal Intensive Care Use During Birth Episode of Care by Gestational Age

Residents of Northern Health: April 1, 2009 - March 31, 2014



Median Length of Stay (Days) in Neonatal Intensive Care During Birth Episode of Care by Gestational Age

	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
All Births	16.0	17.5	10.0	11.5	13.5
Term Births	8.0	6.5	4.0	4.5	5.0
Preterm Births	28.5	25.5	26.5	20.5	32.0

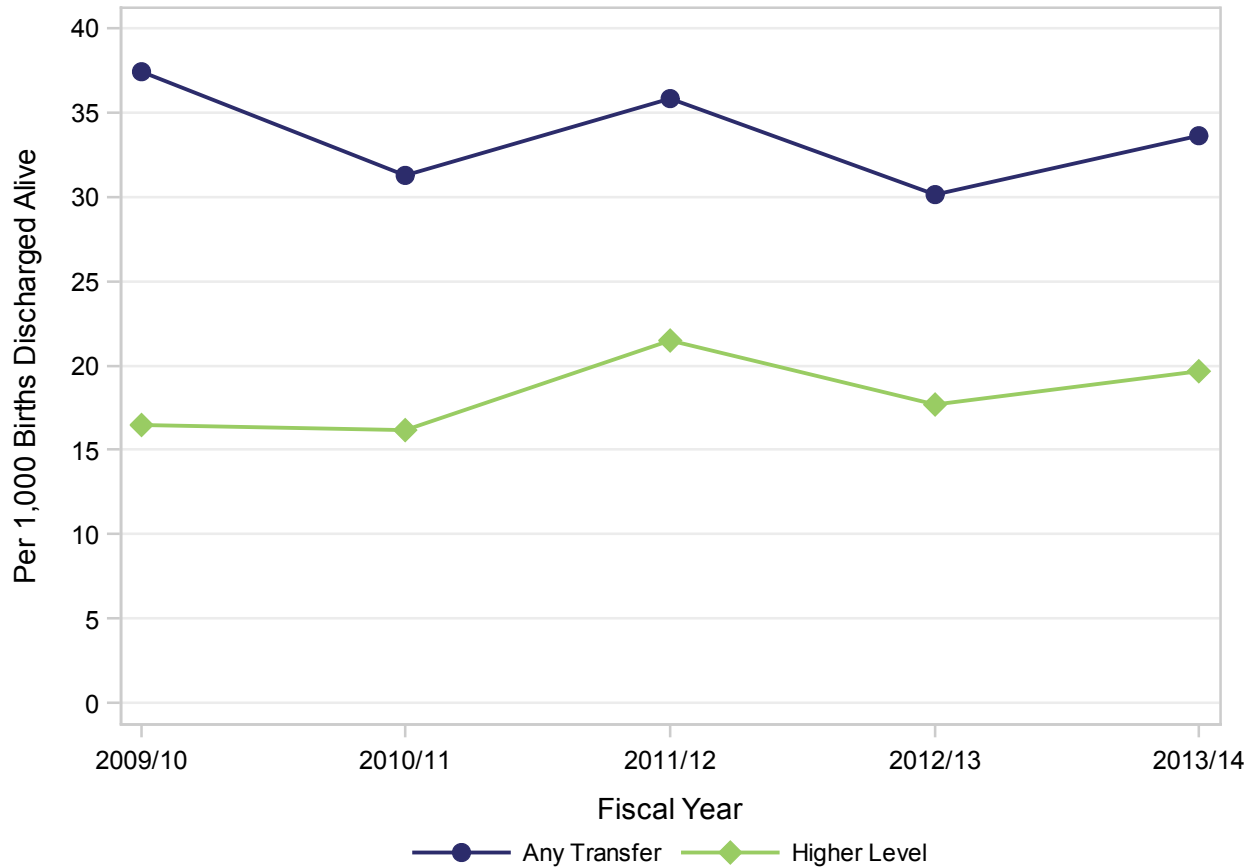
Between April 1, 2008 and March 31, 2010 discharges, NICU days were assigned when the baby received Level II or III care per the DAD abstraction manual. Effective April 1, 2010 discharges, NICU days are assigned based on baby's needs as defined by PSBC Neonatal Daily Classification Tool.

[Click here to access resources on the Neonatal Daily Classification Tool.](#)

Definitions and specifications begin on Page 84 of this document.

Transfer to Another Hospital from the Birth Admission

Residents of Northern Health: April 1, 2009 - March 31, 2014

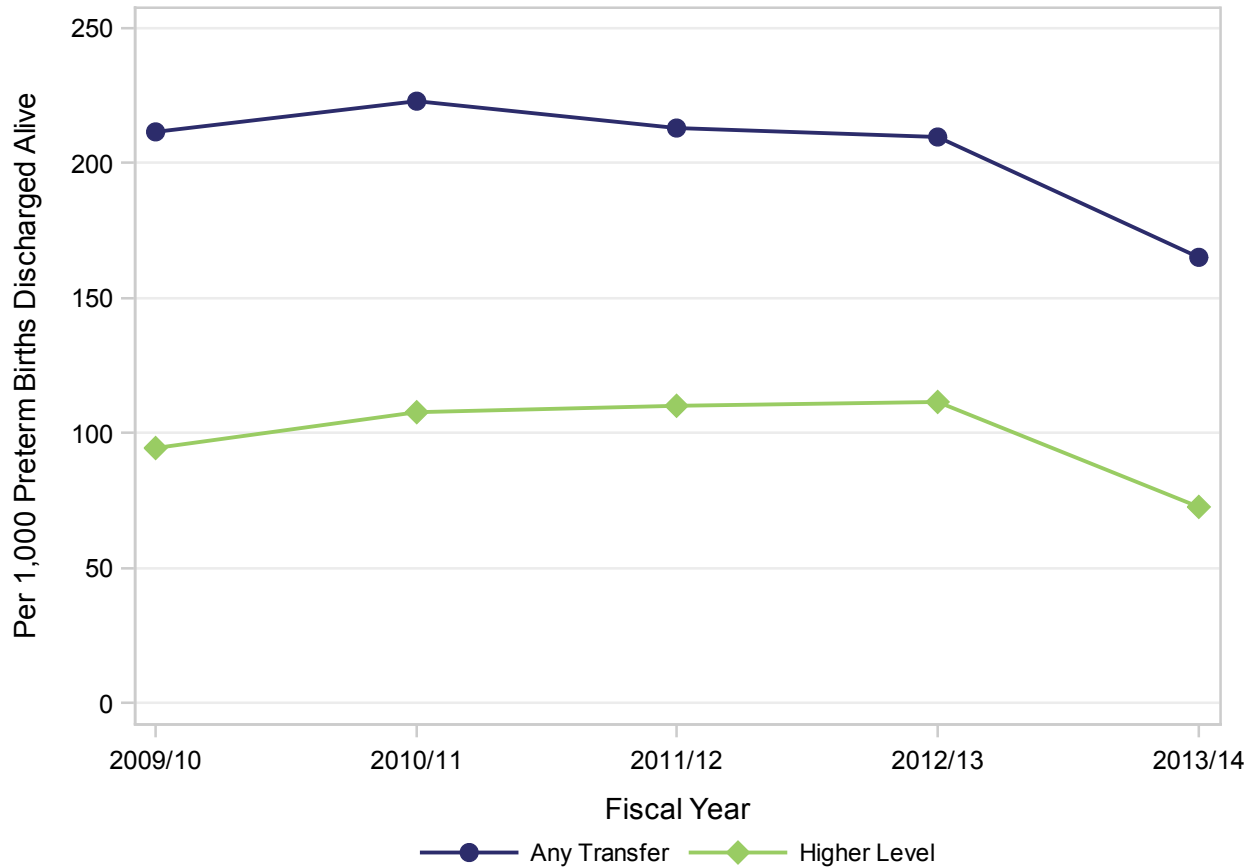


	Fiscal Year				
	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Any Transfer	37.4	31.2	35.8	30.1	33.6
Higher Level	16.5	16.2	21.5	17.7	19.7

Neonates may be transferred to another hospital for either maternal or neonatal indications. Definitions and specifications begin on Page 84 of this document.

Transfer to Another Hospital from the Birth Admission Preterm Births

Residents of Northern Health: April 1, 2009 - March 31, 2014

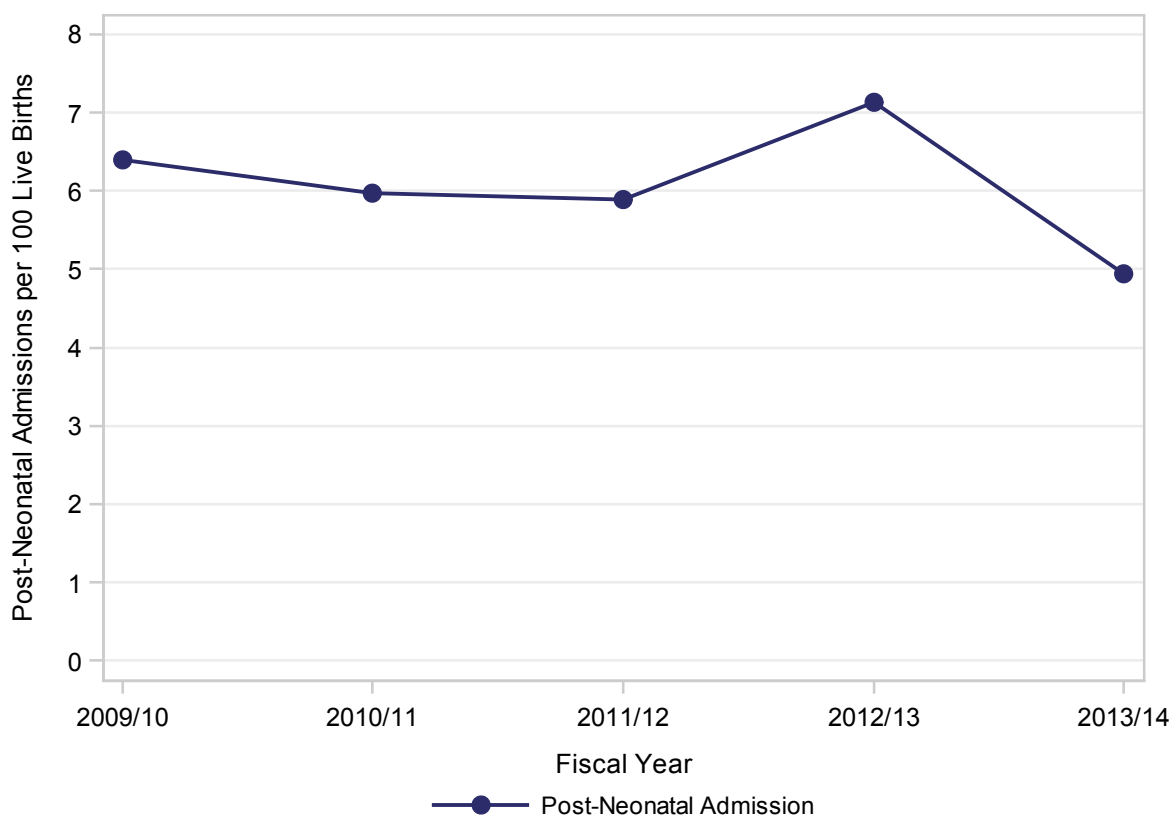


	Fiscal Year				
	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Any Transfer	211.4	223.0	212.8	209.8	165.3
Higher Level	94.6	107.8	109.9	111.5	72.8

Neonates may be transferred to another hospital for either maternal or neonatal indications. Definitions and specifications begin on Page 84 of this document.

Post-Neonatal Admissions

Residents of Northern Health: April 1, 2009 - March 31, 2014



Leading Diagnoses Associated with Post-Neonatal Admissions Per cent Post-Neonatal Admissions

Most Responsible Diagnosis	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Jaundice	38.9%	41.1%	35.3%	40.9%	31.6%
Low Birth Weight or Preterm Birth	22.2%	26.6%	24.6%	27.7%	25.7%
Congenital Anomalies	14.1%	4.8%	8.7%	8.3%	12.9%
Respiratory Distress	3.8%	4.3%	7.7%	4.1%	7.0%
Respiratory Infections	5.1%	5.8%	6.3%	6.2%	6.4%
Feeding Problems	8.1%	10.1%	8.2%	3.3%	5.8%
Other Infections	4.3%	2.4%	NR	3.7%	4.1%
Apnea	NR	NR	4.3%	2.1%	3.5%
Urinary Tract Infections	NR	NR	NR	NR	NR
Isoimmunization	2.1%	2.9%	NR	2.1%	NR

Post-Neonatal Admissions include inter-hospital transfers and readmissions from home.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

In-Hospital Perinatal Mortality

Residents of Northern Health: April 1, 2009 - March 31, 2014

	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
In-Hospital Perinatal Mortality	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Crude Stillbirth Rate = Total Stillbirths / (Live Births + Stillbirths)	9.5	10.3	11.3	10.5	12.5
Stillbirth Rate = Stillbirths >=500g / (Live Births + Stillbirths >=500g)	3.8	3.7	3.7	4.7	4.3
Early Neonatal Mortality Rate = Early Neonatal Deaths / Live Births	2.5	1.7	4.6	3.5	2.3
Perinatal Mortality Rate = Perinatal Deaths / (Live Births + Stillbirths >=500g)	6.3	5.5	8.2	8.2	6.6
Late Neonatal Mortality Rate = Late Neonatal Deaths / Live Births	NR	NR	NR	0.0	0.0
Total Neonatal Mortality Rate = Total Neonatal Deaths / Live Births	2.7	2.3	4.8	3.5	2.3
Post-Neonatal Mortality Rate = Post-Neonatal Deaths / Live Births	0.0	0.0	NR	NR	NR
Infant Mortality Rate = Infant Deaths / Live Births	2.7	2.3	5.1	3.8	3.2

DEFINITIONS:

Crude Stillbirths: Infant born deceased at any birthweight. Includes late pregnancy terminations.

Stillbirths >=500g: Infant born deceased weighing >=500g. Excludes late pregnancy terminations.

Early Neonatal Deaths: Infant born alive died in hospital between 0 and 6 days after birth.

Perinatal Deaths: Stillbirths >=500g + early neonatal deaths.

Late Neonatal Deaths: Infant born alive died in hospital between 7 and 27 days after birth.

Total Neonatal Deaths: Early neonatal deaths + late neonatal deaths.

Post-Neonatal Deaths: Infant born alive died in hospital between 28 and 364 days after birth.

Infant Deaths: Total neonatal death + post-neonatal deaths.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

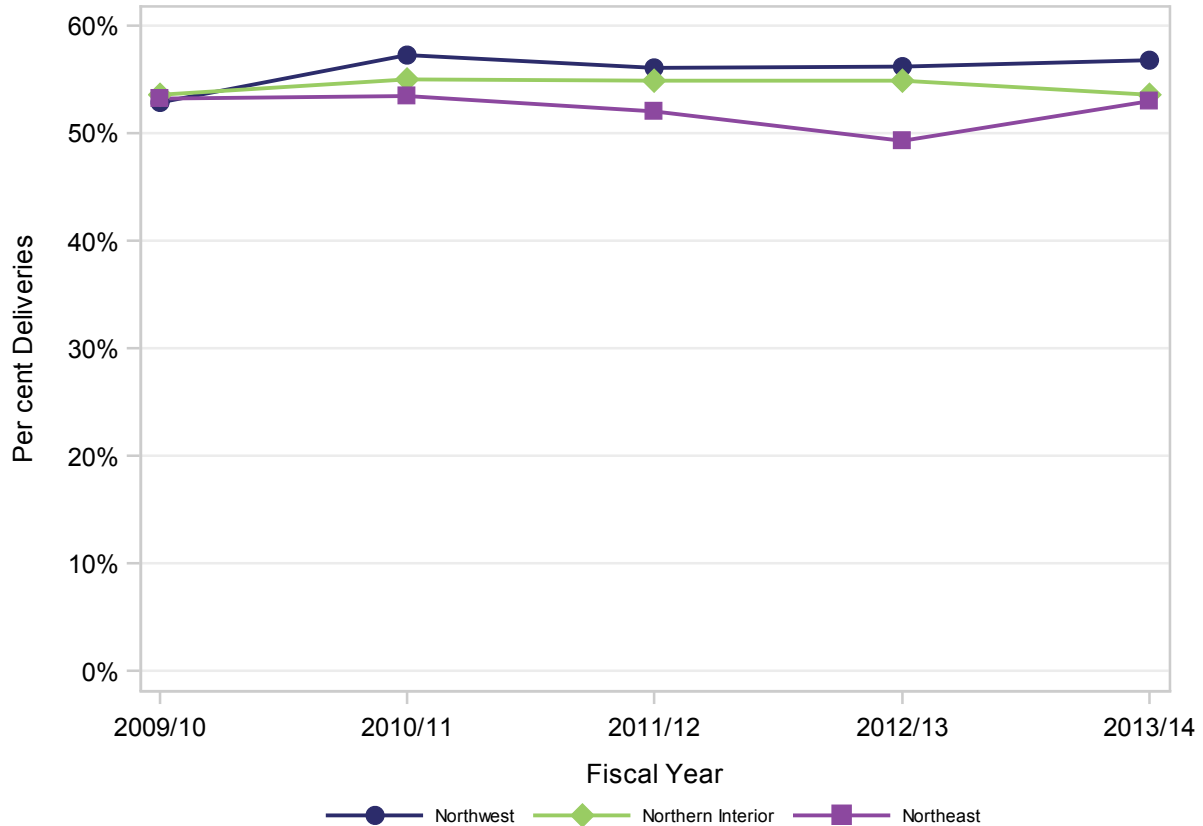
Definitions and specifications begin on Page 84 of this document.

**Perinatal Health Report 2009/10 to 2013/14
Residents of Northern Health**

Section 4: 'Normal Labour'

Deliveries with 'Normal Labour' by Resident Health Service Delivery Area

Residents of Northern Health: April 1, 2009 - March 31, 2014



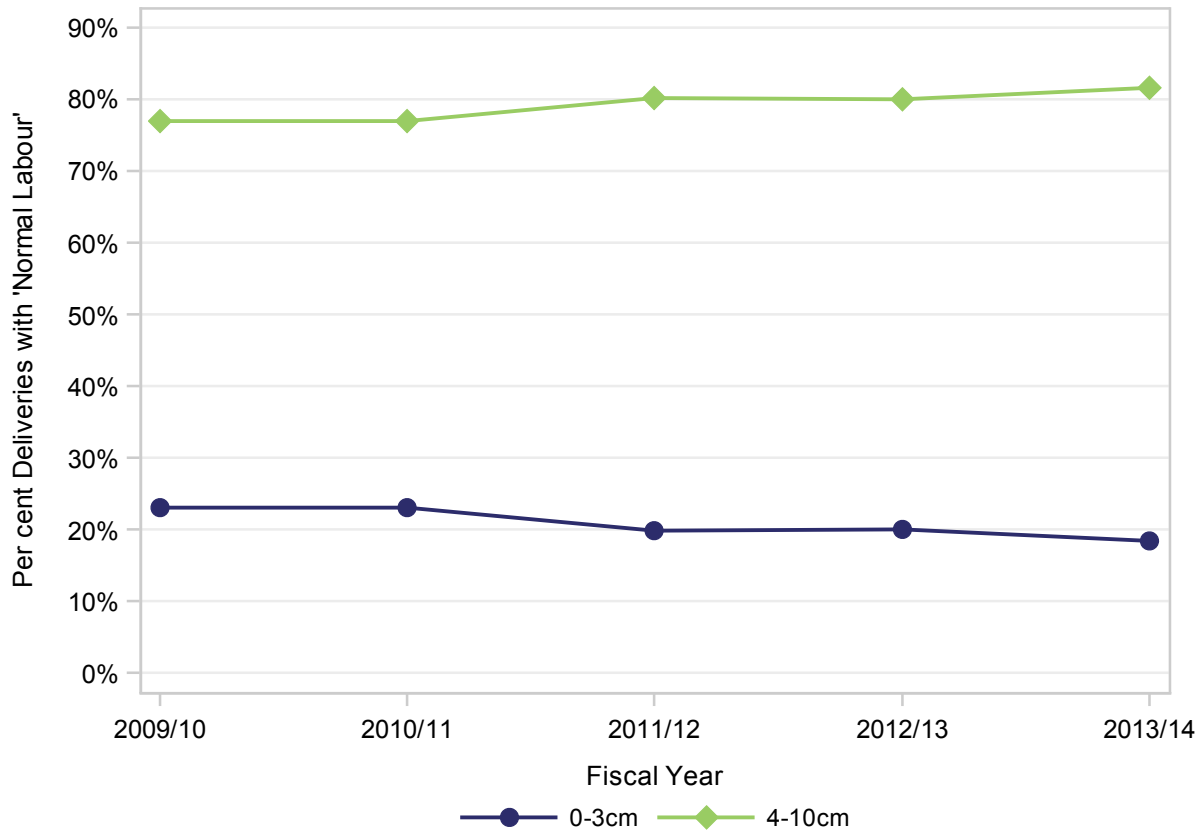
Health Service Delivery Area	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Northwest	52.8%	57.2%	56.0%	56.2%	56.8%
Northern Interior	53.6%	55.0%	54.8%	54.9%	53.5%
Northeast	53.2%	53.5%	52.1%	49.2%	53.0%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Definitions and specifications begin on Page 84 of this document.

Cervical Dilation at Admission Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



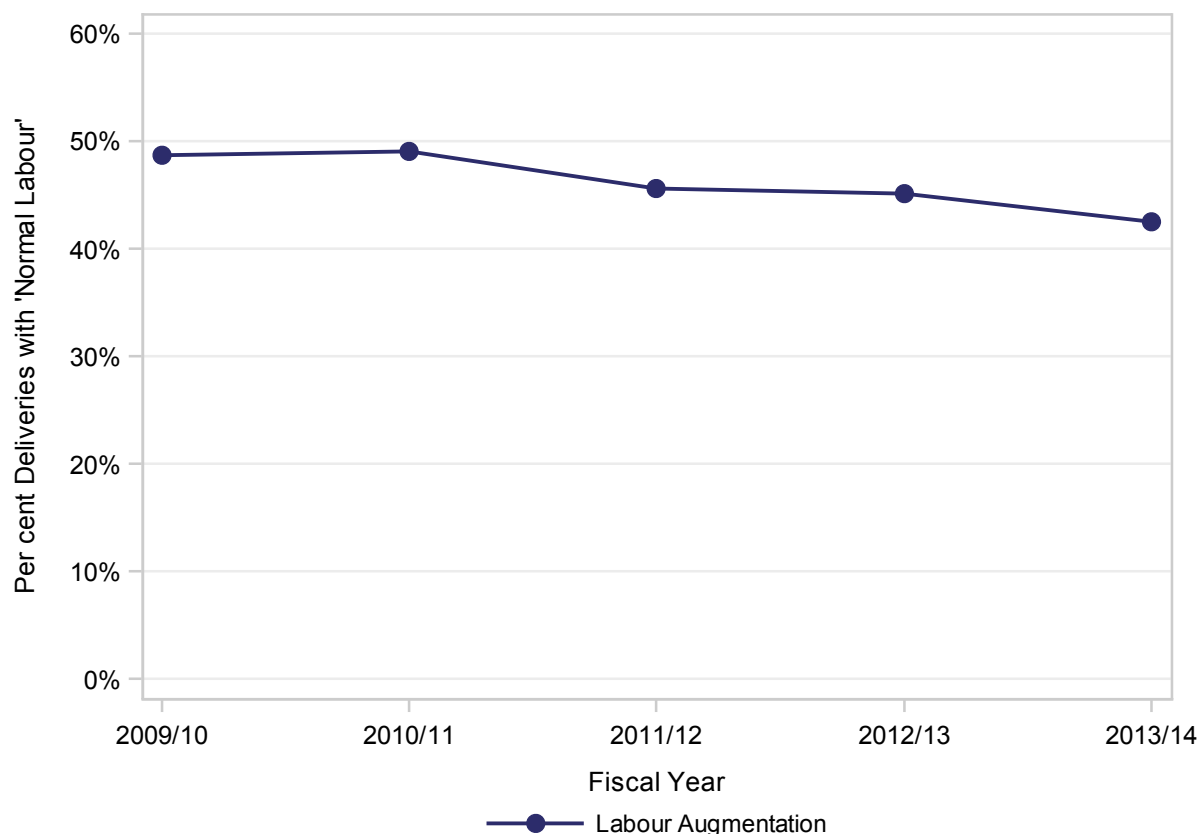
Cervical Dilation at Admission	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
0-3cm	23.0%	23.1%	19.9%	20.0%	18.5%
4-10cm	77.0%	76.9%	80.1%	80.0%	81.5%
Missing	15.8%	15.1%	13.9%	17.5%	18.7%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

The proportion of women dilated 0-3 or 4-10cm is based on women with non-missing dilation at admission. Definitions and specifications begin on Page 84 of this document.

Labour Augmentation Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Labour Augmentation by Mode of Delivery Deliveries with 'Normal Labour'

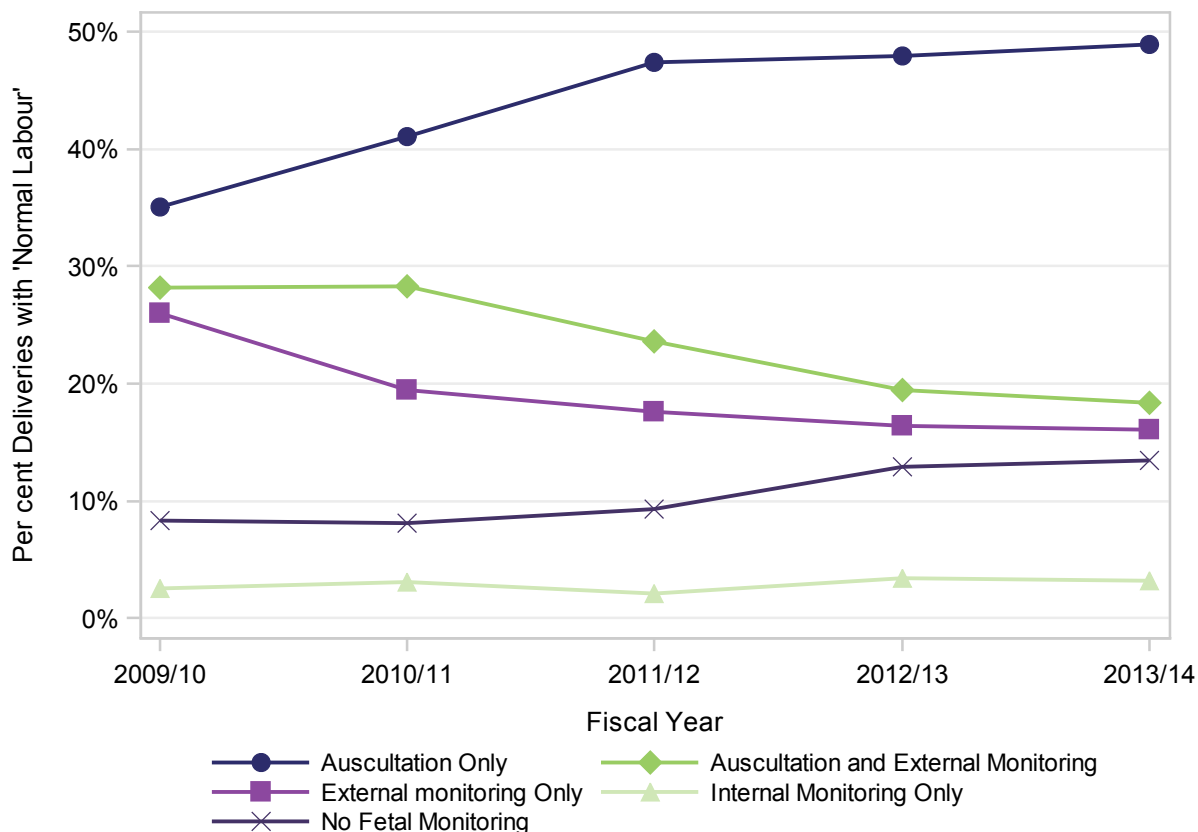
Mode of Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	46.3%	46.2%	42.7%	42.4%	39.3%
Assisted Vaginal	60.4%	63.0%	66.1%	59.4%	54.2%
Cesarean	59.8%	61.0%	57.6%	59.1%	60.5%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Definitions and specifications begin on Page 84 of this document.

Method of Fetal Surveillance During Labour Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Method of Fetal Surveillance	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Auscultation Only	35.0%	41.0%	47.4%	47.9%	48.9%
Auscultation and External Monitoring	28.1%	28.3%	23.6%	19.5%	18.3%
External Monitoring Only	26.0%	19.5%	17.6%	16.4%	16.1%
Internal Monitoring Only	2.5%	3.1%	2.1%	3.4%	3.2%
No Fetal Monitoring	8.3%	8.2%	9.3%	12.9%	13.5%

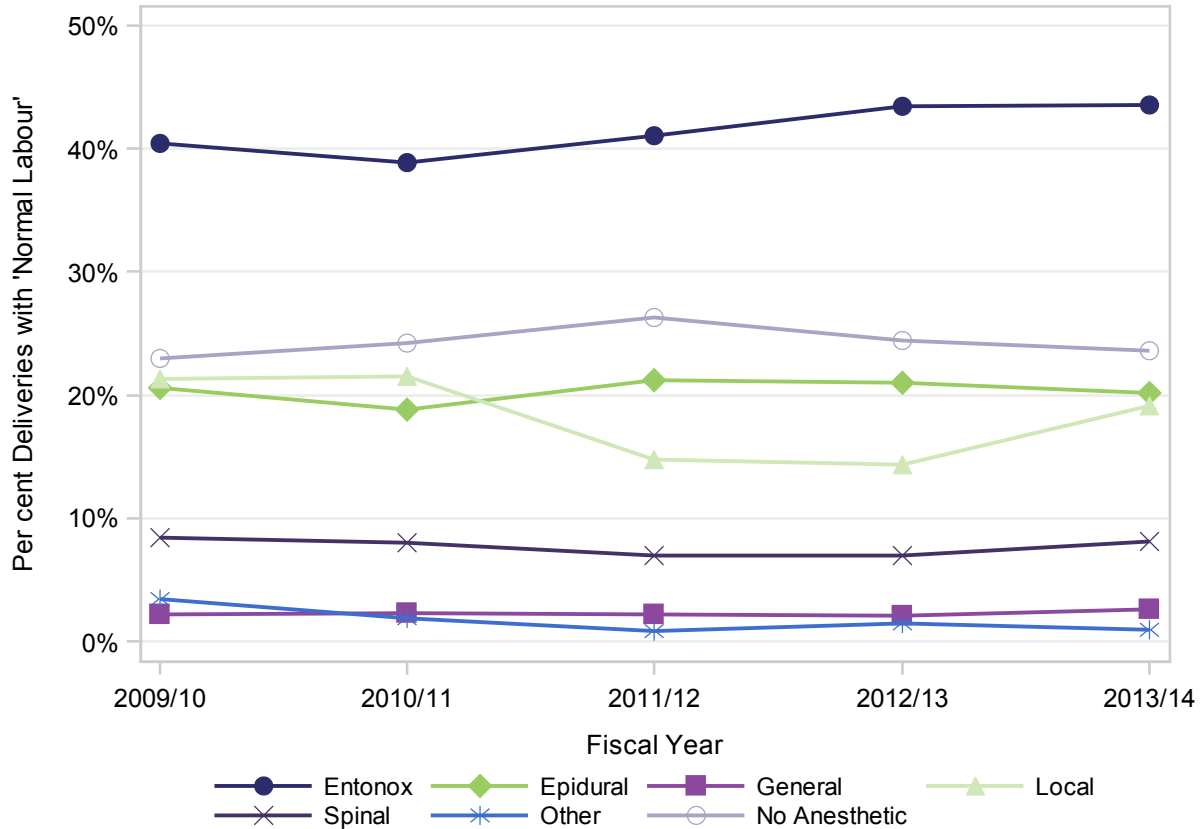
Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Definitions and specifications begin on Page 84 of this document.

Anesthesia and Analgesia During Labour and Delivery

Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Anesthesia or Analgesia	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Entonox	40.4%	38.9%	41.0%	43.5%	43.5%
Epidural	20.6%	18.8%	21.2%	21.0%	20.2%
General	2.2%	2.3%	2.2%	2.1%	2.6%
Local	21.4%	21.6%	14.8%	14.3%	19.1%
Spinal	8.4%	8.0%	7.0%	7.0%	8.1%
Other	3.4%	1.9%	0.9%	1.4%	0.9%
No Anesthetic	23.0%	24.3%	26.3%	24.5%	23.7%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Multiple agents may be used.

Definitions and specifications begin on Page 84 of this document.

Median Length of Labour Stages (Hours) by Mode of Delivery Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014

Mode of Delivery	First Stage (Hours)					Second Stage (Hours)				
	09/10	10/11	11/12	12/13	13/14	09/10	10/11	11/12	12/13	13/14
Spontaneous Vaginal	4.6	4.5	4.2	4.2	4.1	0.3	0.3	0.3	0.3	0.3
Assisted Vaginal	7.2	6.8	6.7	6.6	7.8	1.7	1.9	1.6	1.6	1.8
Cesarean	11.3	8.2	8.4	9.0	8.6	3.1	3.6	3.9	3.7	3.6

Median Length of Stay (Hours) in Acute Care for Delivery Episode of Care by Mode of Delivery Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014

Mode of Delivery	Antepartum LOS (Hours)					Postpartum LOS (Hours)					Total LOS (Hours)				
	09/10	10/11	11/12	12/13	13/14	09/10	10/11	11/12	12/13	13/14	09/10	10/11	11/12	12/13	13/14
Spontaneous Vaginal	3.1	2.9	2.9	3.0	2.6	34.2	33.9	33.1	33.6	33.3	38.0	37.6	36.3	37.2	36.5
Assisted Vaginal	7.9	7.3	7.8	7.1	7.1	43.4	46.8	43.6	42.7	43.2	52.5	54.7	53.0	52.5	52.6
Cesarean	10.9	10.5	10.3	10.8	10.5	70.7	70.3	70.3	69.2	67.5	82.1	81.7	80.8	79.6	80.3

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

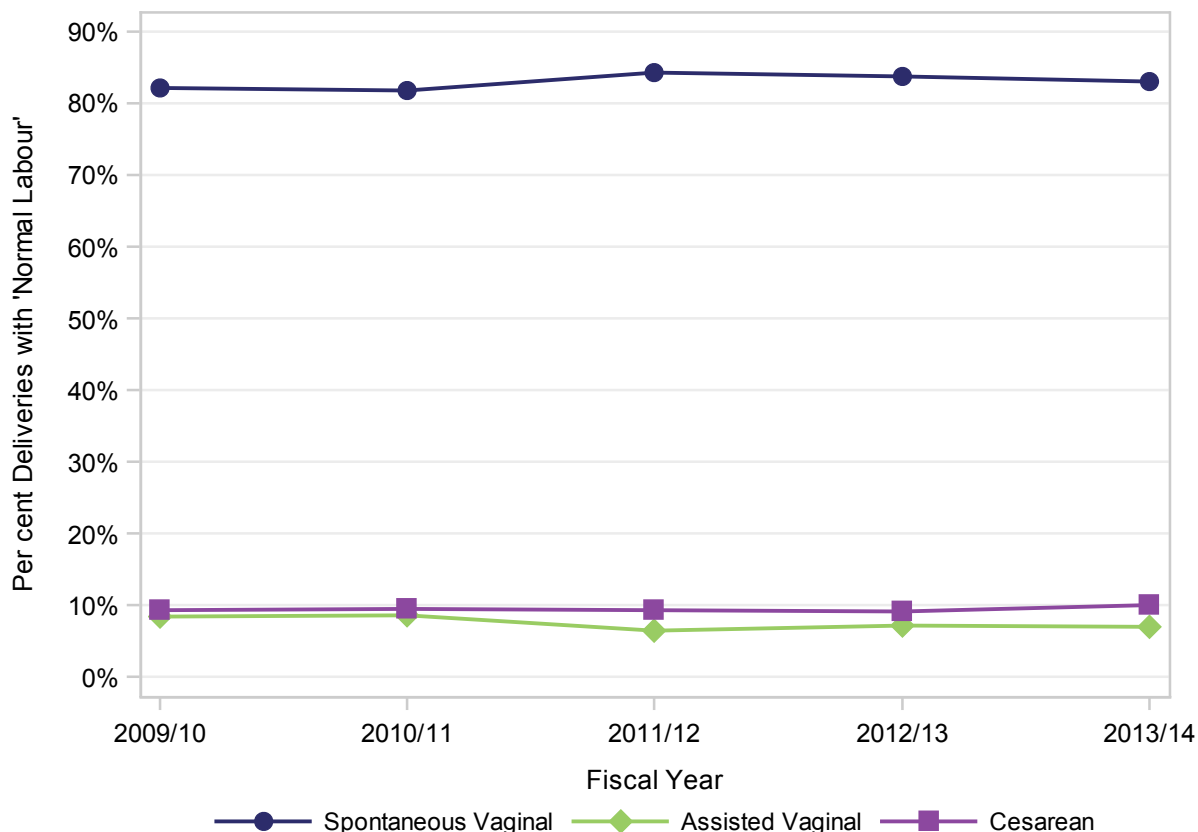
Deliveries outside acute care facilities are excluded.

Definitions and specifications begin on Page 84 of this document.

Mode of Delivery

Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Mode of Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	82.2%	81.7%	84.3%	83.8%	83.0%
Assisted Vaginal	8.5%	8.7%	6.4%	7.1%	7.1%
Cesarean	9.3%	9.6%	9.4%	9.1%	10.0%

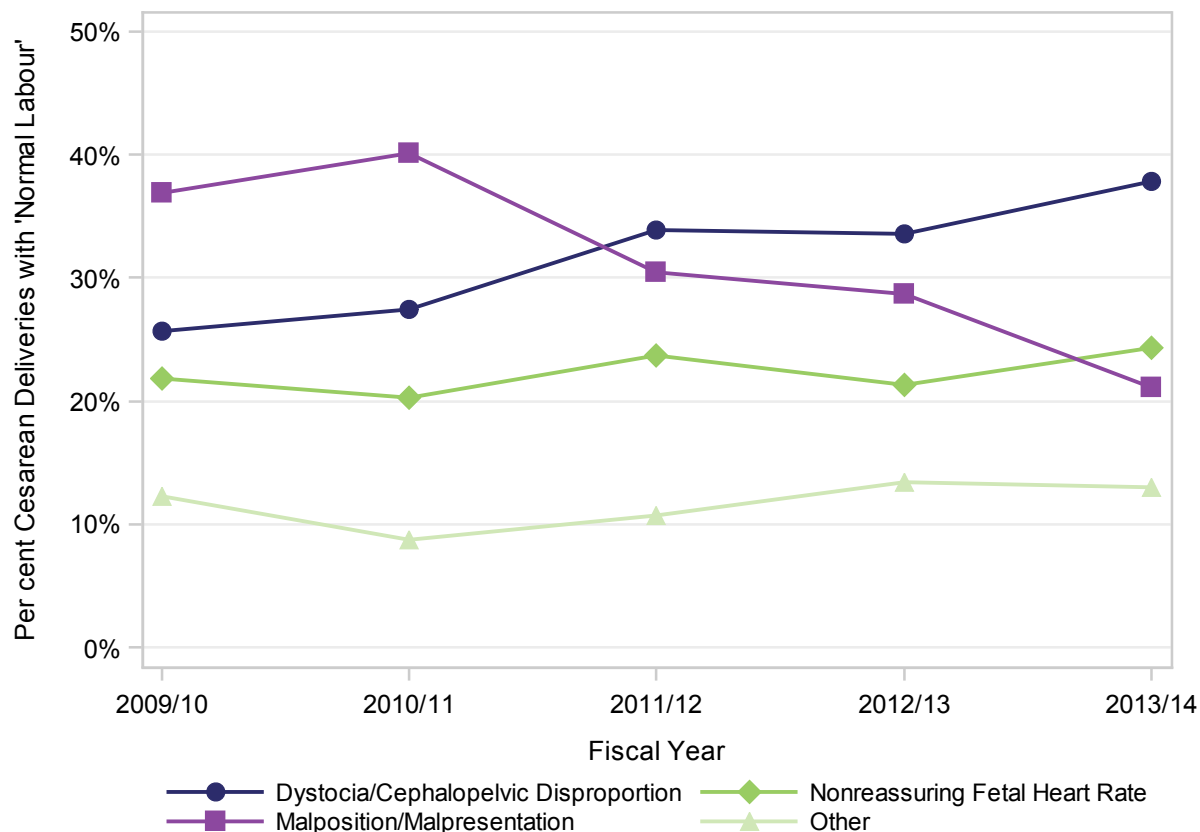
Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Definitions and specifications begin on Page 84 of this document.

Primary Indication for Cesarean Delivery

Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Primary Indication for Cesarean Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Dystocia/Cephalopelvic Disproportion	25.7%	27.5%	33.9%	33.5%	37.8%
Nonreassuring Fetal Heart Rate	21.8%	20.3%	23.7%	21.3%	24.3%
Malposition/Malpresentation	36.9%	40.1%	30.5%	28.7%	21.1%
Maternal Request	NR	NR	NR	NR	NR
Abruptio Placenta	NR	NR	NR	NR	NR
Placenta Previa	NR	NR	NR	NR	NR
Active Herpes	NR	NR	NR	NR	NR
Other	12.3%	8.8%	10.7%	13.4%	13.0%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

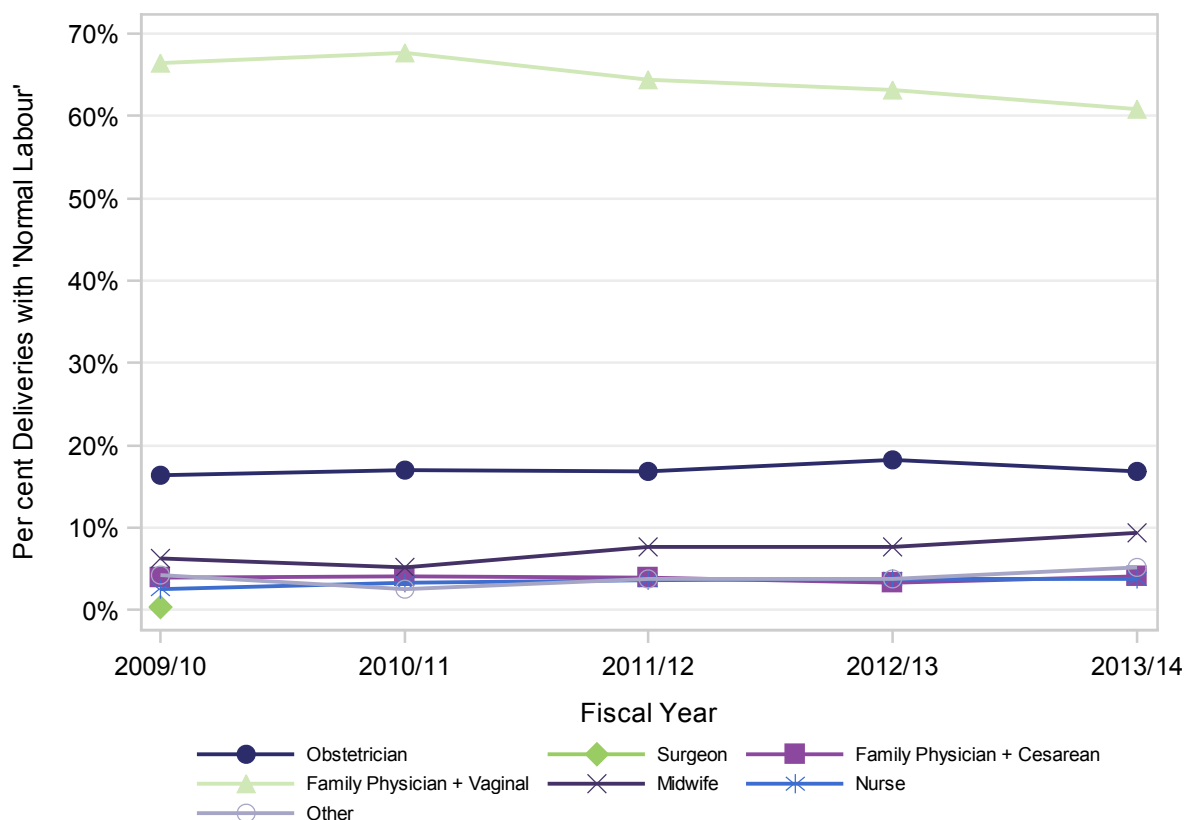
Selected indications are included in the figure; all indications are included in the table.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Delivery Provider Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Delivery Provider	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Obstetrician	16.4%	17.0%	16.8%	18.2%	16.8%
Surgeon	0.3%	NR	NR	NR	NR
Family Physician + Cesarean	3.9%	4.2%	3.9%	3.3%	4.0%
Family Physician + Vaginal	66.4%	67.6%	64.3%	63.1%	60.8%
Midwife	6.2%	5.2%	7.7%	7.7%	9.4%
Nurse	2.5%	3.4%	3.5%	3.7%	3.8%
Other	4.2%	2.6%	3.8%	3.8%	5.1%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Describes the training level of the provider who delivered the baby. This may not be the same type of health care professional who provided antenatal care.

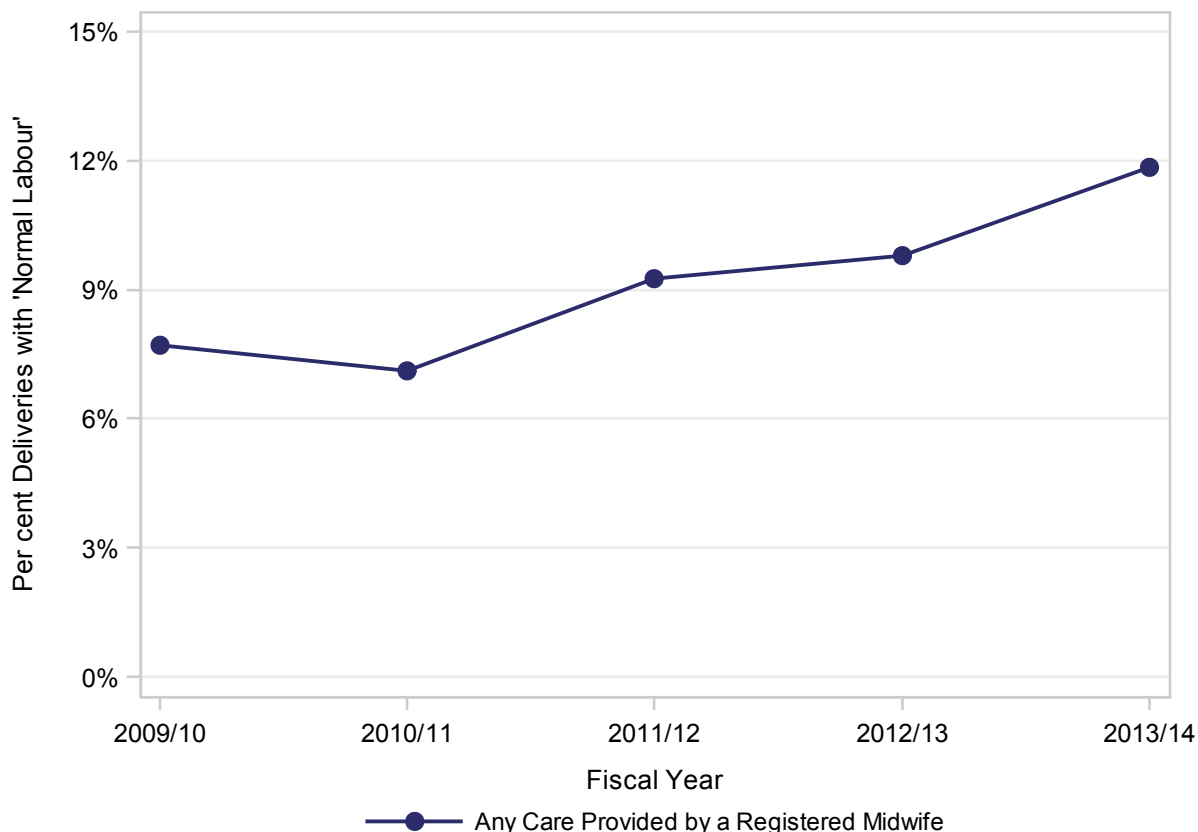
NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Any Care Provided by a Registered Midwife

Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Any Care Provided by a Registered Midwife by Mode of Delivery

Deliveries with 'Normal Labour'

	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	8.2%	7.7%	9.8%	10.0%	12.7%
Assisted Vaginal	6.7%	NR	NR	9.4%	8.4%
Cesarean	4.5%	6.6%	7.9%	8.5%	7.0%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Indicates if a registered midwife was involved at any point during prenatal care or the delivery episode. May not be the provider who performs the delivery.

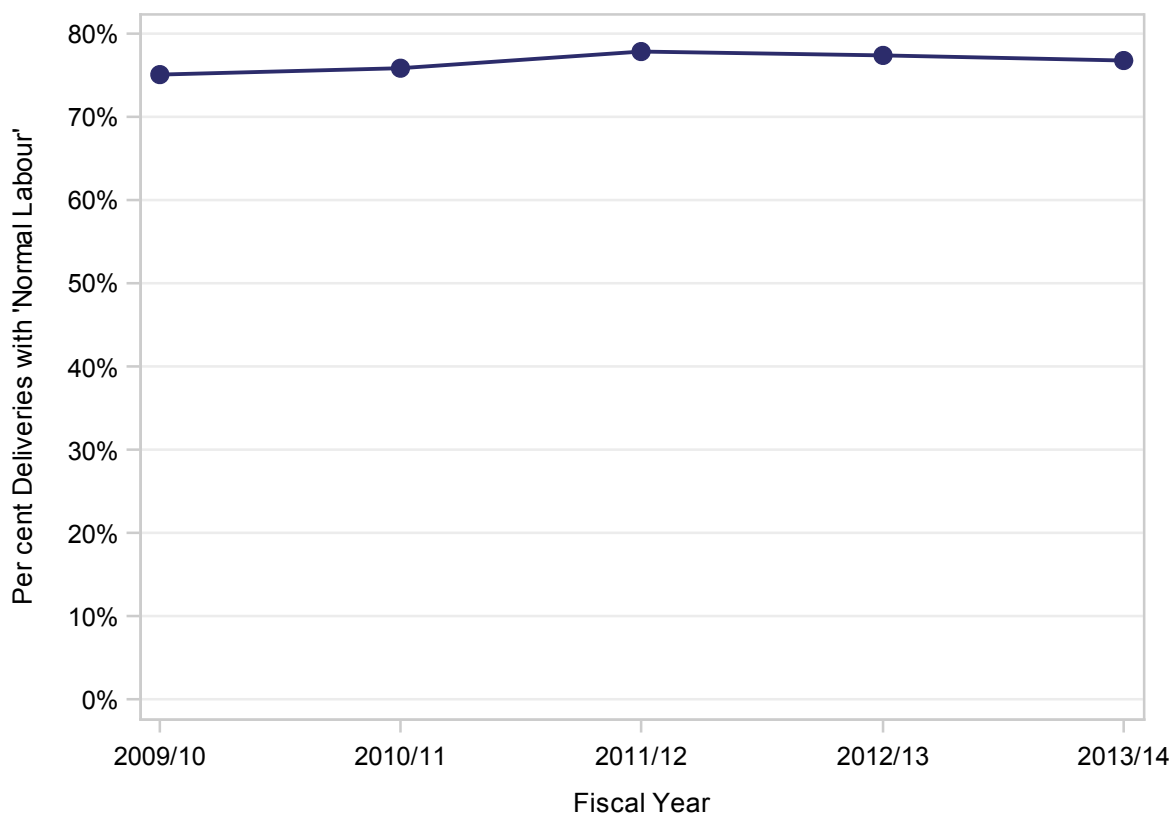
NR: Rates and per cents based on numerators of 1 to 4 are not reported.

Definitions and specifications begin on Page 84 of this document.

Deliveries with 'Normal Childbirth'

Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
'Normal Childbirth'	75.0%	75.9%	77.8%	77.4%	76.8%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

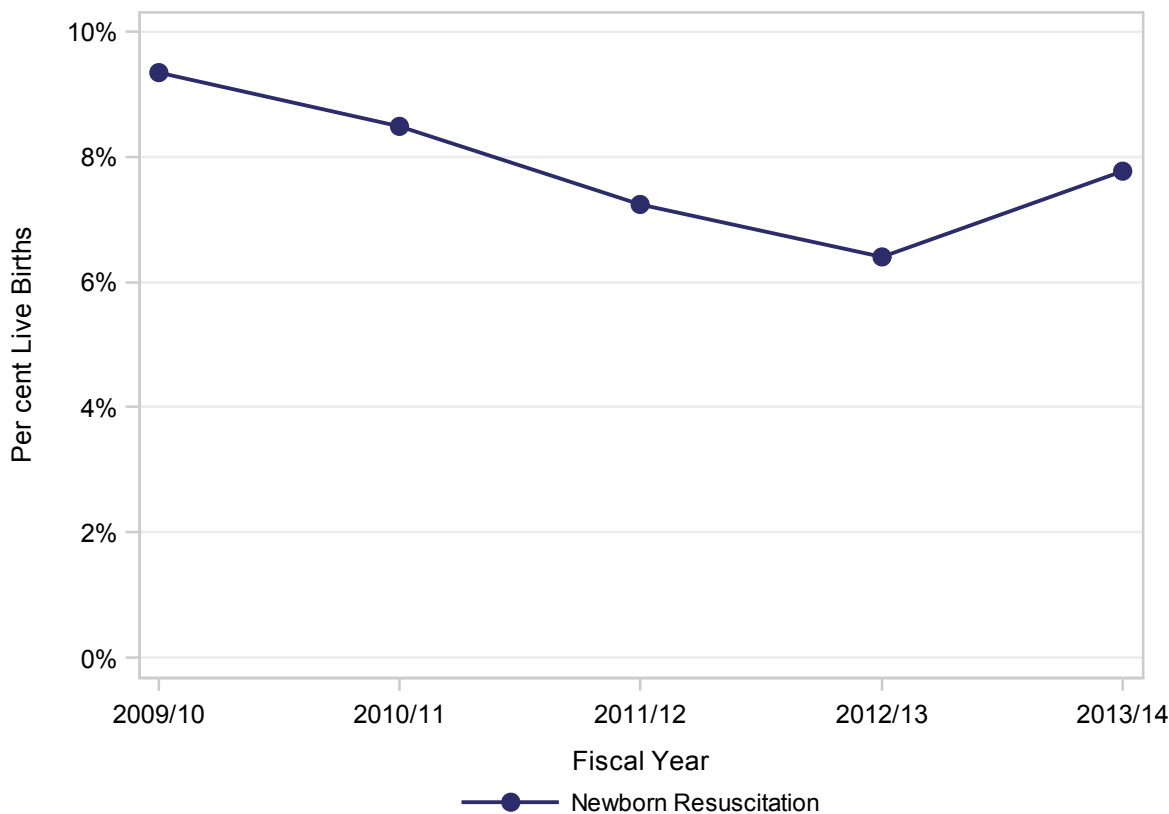
'Normal Childbirth' excludes the following: spinal anaesthesia, general anaesthesia, vacuum-assisted delivery, forceps-assisted delivery, cesarean delivery, or episiotomy.

Definitions and specifications begin on Page 84 of this document.

Newborn Resuscitation

Babies Born from Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Newborn Resuscitation by Mode of Delivery

Babies Born from Deliveries with 'Normal Labour'

Mode of Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	8.2%	7.5%	6.3%	5.2%	6.4%
Assisted Vaginal	15.9%	14.5%	9.2%	12.5%	15.3%
Cesarean	13.4%	11.0%	14.1%	12.8%	13.6%

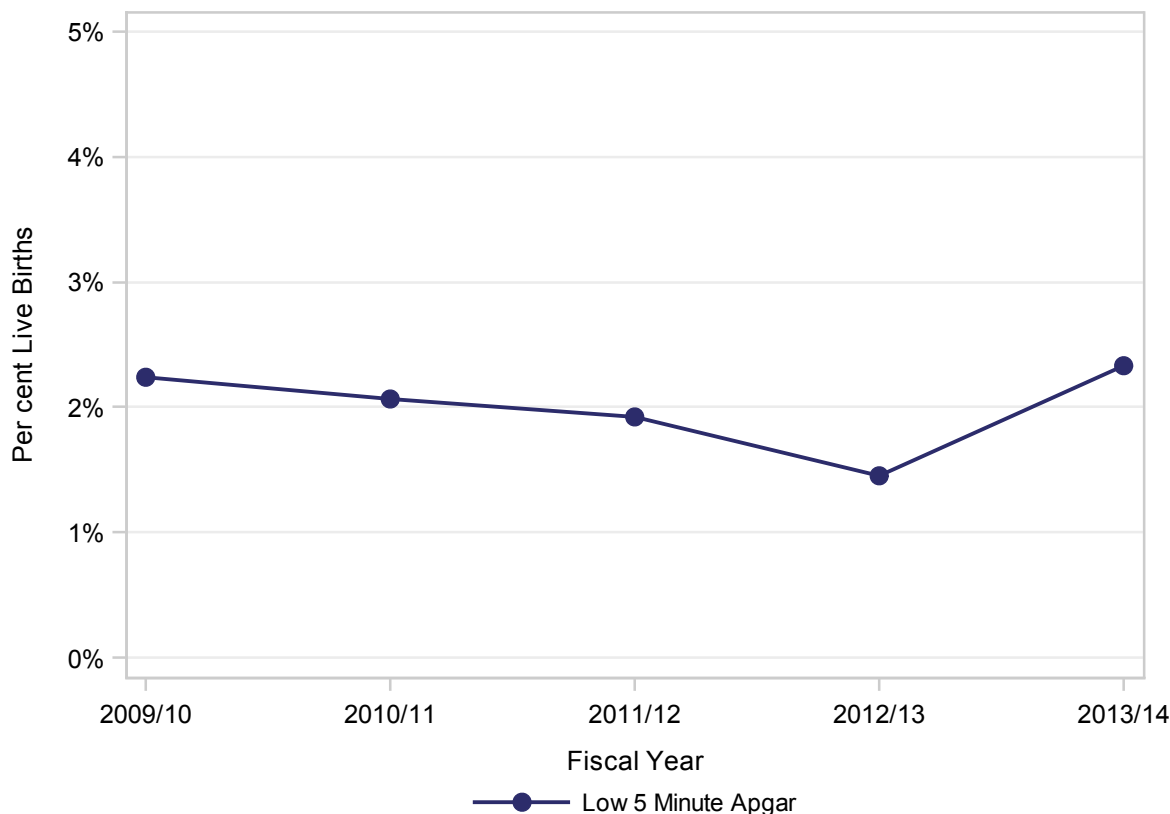
Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Definitions and specifications begin on Page 84 of this document.

Low 5 Minute Apgar Score

Babies Born from Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Low 5 Minute Apgar Score by Mode of Delivery

Babies Born from Deliveries with 'Normal Labour'

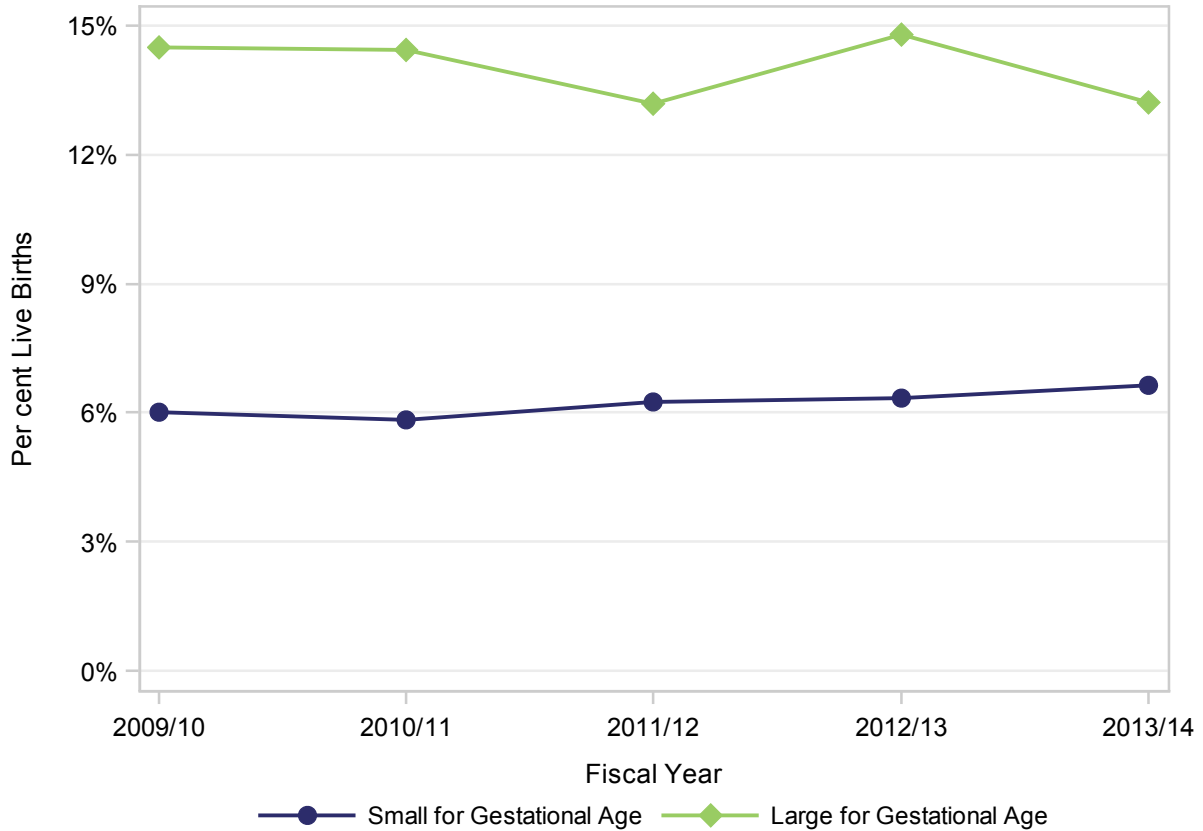
Mode of Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	1.8%	1.7%	1.6%	1.1%	1.9%
Assisted Vaginal	3.7%	5.5%	NR	3.9%	5.3%
Cesarean	5.1%	NR	4.5%	3.0%	3.8%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

Weight for Gestational Age Babies Born from Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



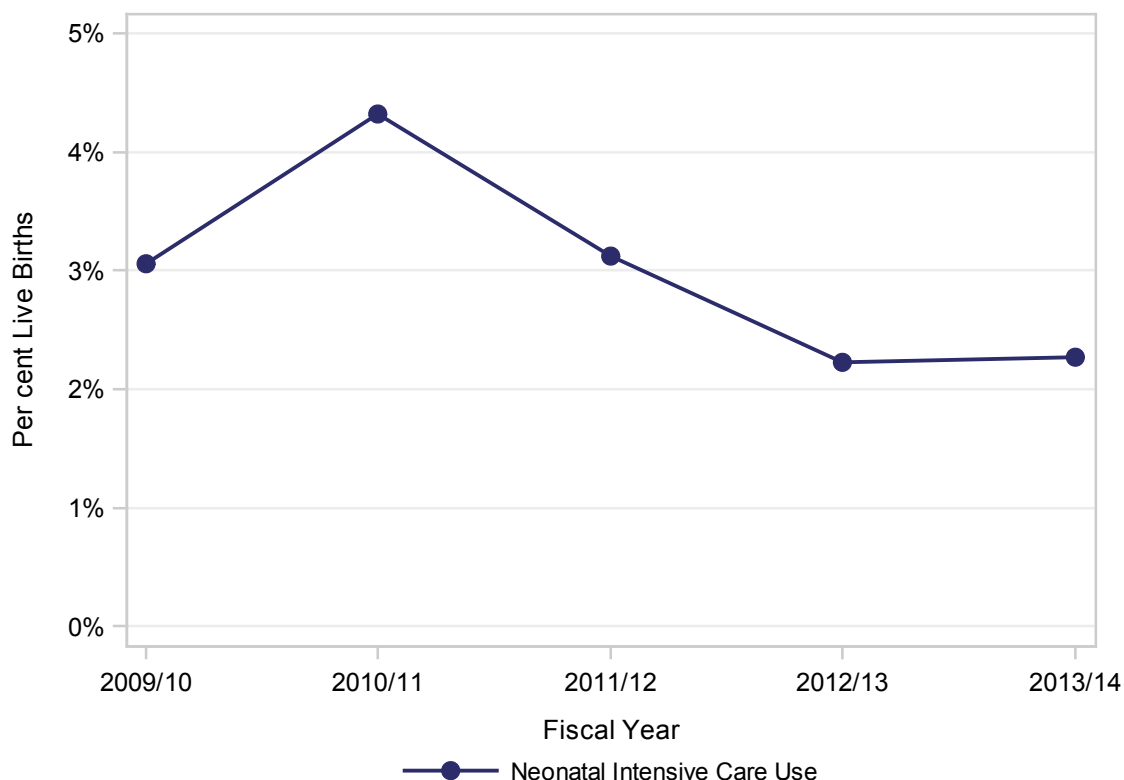
	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Small for Gestational Age	6.0%	5.8%	6.2%	6.3%	6.6%
Large for Gestational Age	14.5%	14.4%	13.2%	14.8%	13.2%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Definitions and specifications begin on Page 84 of this document.

Neonatal Intensive Care Use During Birth Episode of Care Babies Born from Deliveries with 'Normal Labour'

Residents of Northern Health: April 1, 2009 - March 31, 2014



Neonatal Intensive Care Use During Birth Episode by Mode of Delivery Babies Born from Deliveries with 'Normal Labour'

Mode of Delivery	Fiscal Year				
	2009/10	2010/11	2011/12	2012/13	2013/14
Spontaneous Vaginal	2.7%	3.9%	2.6%	1.5%	1.8%
Assisted Vaginal	7.3%	4.8%	4.2%	NR	5.3%
Cesarean	2.8%	7.1%	6.8%	8.5%	4.3%

Deliveries with 'Normal Labour' are those where the woman has no history of cesarean delivery and delivers a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Between April 1, 2008 and March 31, 2010 discharges, NICU days were assigned when the baby received Level II or III care per the DAD abstraction manual. Effective April 1, 2010 discharges, NICU days are assigned based on baby's needs as defined by PSBC Neonatal Daily Classification Tool.

[Click here to access resources on the Neonatal Daily Classification Tool.](#)

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 84 of this document.

Definitions

Section 1: Maternal Health

Delivery Within Home Health Authority

- Woman delivered in the Health Authority in which she lives.
 - Deliveries at home with a registered midwife are always considered within the home Health Authority.
 - Residents of Vancouver Coastal who deliver at BC Women's Hospital & Health Centre deliver within their home Health Authority.

Deliveries to Residents of Other Health Authorities

- Deliveries to women who reside in a different Health Authority.
 - Deliveries at home with a registered midwife are always considered within the home Health Authority.
 - For deliveries in the Provincial Health Services Authority, this represents women who are not residents of Vancouver Coastal.

Parity

- Indicates whether a woman delivered a previous pregnancy ≥ 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

- Low Antenatal Care – Women with fewer than five antenatal care visits documented in the PDR.
- Missing – Women with no information documented about the number of antenatal care visits.

Pre-Pregnancy Body Mass Index (BMI)

Calculated only where pre-pregnancy weight **and** height are complete.

- Pre-pregnancy weight (kg)/(height (in cm))²
- Underweight – BMI <18.5.
- Normal Weight – BMI between 18.5 and 24.9.
- Overweight – BMI between 25.0 and 29.9.
- Obese – BMI ≥ 30.0 .
- BMI Missing – pre-pregnancy weight and/or height are not documented.

Appropriate Weight Gain During Pregnancy

Calculated only where pre-pregnancy weight, admission weight, **and** height are complete.

- Categorizes weight gain during pregnancy into low, appropriate, or high according to [guidelines](#) published by the Institute of Medicine.

Hypertensive Disorders of Pregnancy

Reflects only the most severe form of hypertension according to the hierarchy below. Women may have more than one type of hypertension diagnosed.

1. Eclampsia – mother had eclampsia diagnosed during pregnancy. Mother may have had pre-existing or gestational hypertension.
2. HELLP – mother had HELLP syndrome (Hemolysis, Elevated Liver enzymes, and Low Platelet count) diagnosed during pregnancy.
3. Pre-Existing Hypertension with Pre-Eclampsia – mother had a documented hypertensive disorder before pregnancy and also had pre-eclampsia diagnosed in pregnancy.
4. Pre-Eclampsia – mother had pre-eclampsia diagnosed during pregnancy. Mother may also have had gestational hypertension.
5. Pre-Existing Hypertension – mother had a documented hypertensive disorder before pregnancy. Mother may also have had gestational hypertension.
6. Gestational Hypertension – mother had hypertension diagnosed during pregnancy.
7. Unspecified Hypertension – mother had hypertension diagnosed during pregnancy, but the specific type is not recorded.
8. No Hypertension – no hypertensive conditions were documented by a care provider.
 - o NOTE: diagnosis codes for gestational hypertension and pre-eclampsia changed significantly effective April 1, 2012 discharges.

Diabetes Mellitus in Pregnancy

- Pre-Existing Diabetes – mother had a diagnosis of diabetes mellitus type 1 or 2 documented by care provider before pregnancy.
- Gestational Diabetes – mother had gestational diabetes documented by care provider during pregnancy.
 - o NOTE: British Columbia adopted the International Association of Diabetes and Pregnancy Study Group's [guidelines](#) for diagnosis of gestational diabetes in October 2010.

Substance Use During Pregnancy

- Cigarette Use – care provider documented mother reports smoking cigarettes at any time during the pregnancy. Includes women who stopped or reduced smoking during pregnancy.
- Alcohol as Risk – care provider documents alcohol as a risk in the pregnancy. Alcohol use prior to the woman knowing she was pregnant is not included.
- Other Drug Use – care provider documented that mother reports use of drugs (prescription, opiates, cannabinoids, stimulants, solvents, etc.) at any time during the pregnancy. Drug use prior to the woman knowing she was pregnant may be included.

Maternal Screening Tests

- Hepatitis B Test Done – mother was screened for the Hepatitis B virus during pregnancy.
- HIV Test Done – mother was screened for the Human Immunodeficiency Virus (HIV) during pregnancy.
- Maternal Serum Screening Offered – mother 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 [BC Prenatal Genetic Screening Program](#).

Use of Artificial Reproductive Technology

- Use of in vitro fertilization or other artificial reproductive technology (e.g. ovulation induction, intracytoplasmic sperm injection (ICSI), embryo transfer) to conceive the current pregnancy.

Section 2: Labour and Delivery

Labour Augmentation

Labour for the current delivery was augmented by a care provider. Any of the following methods may be used:

- Artificial Rupture of Membranes
- Oxytocin – woman received oxytocin, pitocin, or syntocinon to augment labour.
- Other – a method not specified above was used to augment labour.

Labour Induction

Labour for the current delivery was induced by a care provider. Any of the following methods may be used:

- Artificial Rupture of Membranes
- Oxytocin – woman received oxytocin, pitocin, or syntocinon to initiate labour.
- Prostaglandin – woman received a prostaglandin to initiate labour.
- Other – a method not specified above was used to initiate labour.

Primary Indication for Labour Induction

Primary reason noted in the maternal chart for labour induction. In the case of multiples, the reason noted for the first baby is assigned to the entire delivery.

- Prelabour Rupture of Membranes – rupture of membranes before the onset of uterine contractions at term.
- Post Dates – the pregnancy has continued past the due date (41 completed weeks gestation).
- Hypertension in Pregnancy – woman had high blood pressure, including pre-existing or gestational hypertension.
- Other Maternal Condition – woman had a condition other than those specified above.
- Fetal Compromise – medical concern about the health of the fetus.
- Diabetes – woman had diabetes of any type (gestational, type 1, or type 2).
- Fetal Demise
- Logistics – inability for woman to access supportive health care in reasonable time.
- Antepartum Hemorrhage – woman had bleeding after 20 weeks' gestation but before labour.
- Chorioamnionitis – woman had a cervicovaginal infection.
- Other – other reason not captured above.
- Unknown – reason for induction is unclear, unknown, or not documented.

Fetal Surveillance During Labour

- Auscultation Only – fetal surveillance was conducted only using intermittent auscultation.
- Auscultation and External Electronic Monitoring – fetal surveillance was conducted using intermittent auscultation and external electronic fetal monitoring.
- External Electronic Monitoring Only – fetal surveillance was conducted only using external electronic fetal monitoring.
- Internal Electronic Monitoring Only – fetal surveillance was conducted only using internal electronic fetal monitoring.
- No Fetal Monitoring – no fetal monitoring was conducted during labour.

Mode of Delivery

- Vaginal
 - Spontaneous – the baby was delivered vaginally without assistance of vacuum or forceps extractors.
 - Assisted Vaginal – the newborn was delivered vaginally with the assistance of vacuum and/or forceps extraction.
 - Vacuum – the baby was delivered vaginally with the assistance of a vacuum extractor.
 - Forceps – the baby was delivered vaginally with the assistance of forceps.
 - Forceps and Vacuum – the baby was delivered vaginally with the assistance of vacuum and forceps extractors.
- Cesarean – the baby was delivered by an incision in the mother's abdomen.
 - Elective Primary – woman without a previous cesarean had a cesarean delivery with elective timing.
 - Elective Repeat – woman with a history of cesarean delivery had a cesarean delivery with elective timing.
 - Emergency Primary – woman without a previous cesarean needed a cesarean delivery with urgent or emergent timing.
 - Emergency Repeat – woman with a history of cesarean delivery needed a cesarean delivery with urgent or emergent timing.

Perineal Trauma

- Third or Fourth Degree Laceration – the woman experienced a significant perineal tear during delivery.
- Cervical Tear – the woman experienced a cervical tear during delivery.
- Episiotomy – an episiotomy was performed during delivery.

Primary Indication for Cesarean Delivery

Primary reason noted in the maternal chart for cesarean delivery. For multifetal pregnancies, this reflects the reason the first baby was delivered by cesarean. This may not be the first baby delivered (e.g. if the first baby was delivered vaginally and the second baby by cesarean).

- Repeat Cesarean – woman with a history of cesarean is not a VBAC candidate and has a medical indication for repeat cesarean delivery.
- Nonreassuring Fetal Heart Rate – increased or decreased fetal heart rate (tachycardia or bradycardia), especially during and after uterine contractions.
- Dystocia/Cephalopelvic Disproportion – abnormal or difficult labour. Includes failure to progress, incoordinate uterine activity, and cephalopelvic disproportion (large baby for maternal pelvis).
- VBAC Declined/Maternal Request – woman was eligible for a vaginal birth after previous cesarean (VBAC) but declines, OR woman with or without a previous cesarean requests a cesarean delivery.
- Breech – the fetus' buttocks were the presenting part.
- Malposition/Malpresentation – the orientation of the fetal head and or body to the maternal pelvis is not favourable for a vaginal delivery (e.g. occipitoposterior position or transverse lie). Excludes breech presentation.
- Placenta Previa – the placenta is low in the uterus, partially or completely covering the cervix.
- Abruptio Placenta – premature separation of the placenta from the uterus.

- Active Herpes – mother had an active herpes outbreak that could be transmitted to the infant during vaginal delivery.
- Other – other reason not captured.
- Unknown – reason for cesarean is unclear, unknown, or not documented.

Vaginal Birth after Cesarean

- VBAC Eligible – woman was either noted by a care provider as being eligible for VBAC in this pregnancy, OR whose eligibility was unknown and had a singleton pregnancy with the head as the presenting part.
- VBAC Attempted – women were either noted by a care provider as having attempted a VBAC, OR whose attempt at VBAC was unknown but whose labour was either augmented or induced.
- VBAC Success – women who were eligible for and attempted a VBAC and delivered vaginally.

Anesthetic/Analgesic Use During Labour and Delivery

- Entonox – the mother received entonox (nitrous oxide gas) for pain management.
- Epidural – the mother received anesthesia in the epidural space of the spine for pain management.
- General – the mother received general anesthesia for pain management.
- Local – the mother received localized anesthetic agents for pain management.
- Spinal – the mother received anesthesia in the subarachnoid space of the spine for pain management.
- Other – mother received another type of anesthetic or analgesic agent – including pudendal anesthesia – not specified above.
- No Anesthetic – no analgesic or anesthetic agents were used for pain management.

Health Care Providers

- Delivery Provider – describes the training level of the individual who delivered the baby. May not be the same type of care provider as a woman used for her antenatal care. In the case of multifetal pregnancies, the highest training level of any delivering provider is assigned to the delivery.
 - Family Physician + Vaginal – a family physician performed a vaginal delivery.
 - Family Physician + Cesarean – a family physician performed a cesarean delivery.
- Any Care Provided by a Registered Midwife – a registered midwife was involved at any point in maternal or newborn care. A registered midwife may not have been the delivery provider.

Deliveries at Home

- Woman delivered at home under the care of a registered midwife

Length of Stay for Delivery Episode of Care

- Antepartum Length of Stay – hours between when a woman is admitted to an acute care facility and when she delivers a baby.
- Postpartum Length of Stay – hours between when a woman delivers a baby in an acute care facility and her discharge from the Delivery Episode of Care.
- Total Length of Stay – hours between when a woman is admitted to an acute care facility for delivery and her discharge from the Delivery Episode of Care.

Maternal Morbidity

Morbidity may be documented during any Maternal Admission.

- Liver Complications – mother had confirmed or suspected cholestasis, acute fatty liver, or liver hematoma.
- Postpartum Hemorrhage with Transfusion – mother had a postpartum bleed and received blood products via transfusion.
- Urinary Tract Infection
- Sepsis – mother had confirmed or suspected sepsis, including puerperal sepsis.
- Wound Infection – mother had confirmed or suspected infection or disruption of an obstetric or surgical wound.
- HELLP – mother had confirmed or suspected HELLP syndrome (Hemolysis, Elevated Liver enzymes, and Low Platelet count).
- Anesthetic Complications – mother had a confirmed or suspected complication related to the anesthetic administered during the delivery episode. Spinal or epidural headache and unspecified complications are excluded.
- Antepartum Hemorrhage with Transfusion – mother had an antepartum (≥ 20 weeks' gestation) or intrapartum bleed and received blood products via transfusion during the delivery episode.
- Eclampsia – mother had confirmed or suspected eclampsia.
- Shock – mother had confirmed or suspected obstetric shock.
- Pulmonary Embolism – mother had a confirmed or suspected blood clot in the lungs.
- Postpartum Hemorrhage with Hysterectomy – mother had a postpartum bleed and underwent a complete or subtotal (partial) hysterectomy.
- Stroke – mother had a confirmed or suspected stroke.

Adverse Outcome of Labour or Delivery

Maternal adverse events are included during the Delivery Admission. Among singleton deliveries.

- Maternal Severe Adverse Event – woman experienced uterine rupture during labour, assisted ventilation or resuscitation, or in-hospital death.
- Maternal Moderate Adverse Event – woman experienced third or fourth degree perineal tear; blood transfusion; or unanticipated operative procedure
- Newborn Severe Adverse Event – singleton baby was stillborn or died in-hospital
- Newborn Moderate Adverse Event –
 - Singleton baby $\geq 2,000$ grams at birth experienced birth trauma, OR
 - Singleton baby at term $\geq 2,500$ grams at birth without a congenital anomaly or hydrops was born at a facility without a NICU and transferred to a facility with a NICU within 24 hours, admitted to NICU ≥ 2 days, or had an Apgar at 5 minutes < 7 .

Maternal Transfer to Another Hospital

- Women may be transferred to another hospital for either maternal or neonatal indications.
- Any Transfer – woman was transferred from the Delivery Admission to a different acute care facility.
- Higher Level – woman was transferred directly from the acute care facility at which she delivered to a facility that is capable of providing a higher intensity of care.
 - Third tier facilities – BC Women's Hospital & Health Centre, St. Paul's Hospital Royal Columbian Hospital, and Victoria General Hospital.

- Second tier facilities – Surrey Memorial Hospital (effective April 1, 2013 discharges), Kelowna General Hospital, Nanaimo Regional General Hospital, Royal Inland Hospital, and University Hospital of Northern British Columbia.

Post-Delivery Admissions

- Total number of eligible inter-hospital transfers or readmissions among women who delivered a baby. A woman can have more than one Post-Delivery Admission. Ratio of Post-Delivery Admissions per 100 deliveries.
 - Admissions with a most responsible diagnosis of Z76.3 (Healthy person accompanying sick person) are excluded.
- Diagnosis associated with Post-Delivery Admission – the diagnosis that accounted for the majority of time the woman stayed in hospital. May not be the reason for admission. Per 100 Post-Delivery Admissions.
 - The following account for 87 per cent of diagnoses associated with Post-Delivery Admissions for 2009/10 to 2013/14, inclusive:
 - Routine Postpartum Care – care and examination immediately after delivery or routine postpartum follow-up.
 - Postpartum Infection – includes sepsis, obstetric wound infection, urinary tract infection, or post-procedural infection.
 - Postpartum Hemorrhage
 - Other Diseases Complicating Pregnancy – Diseases of organ systems that complicate or are aggravated by pregnancy.
 - Other Wound Issues – includes care of perineal or vaginal tears, uterine rupture or dehiscence, disruption or hematoma of surgical wound, or cardiac surgical complications.
 - Hypertension or Eclampsia – includes essential hypertension, gestational hypertension, pre-eclampsia, eclampsia, or HELLP.
 - Retained Placenta Without Hemorrhage
 - Care of Breasts – includes breast infection, lactation problems, or supervision of lactation mother.
 - Complications of Anesthesia – reactions to or complications of anesthesia.
 - Pregnancy-Associated Mental Health – includes postpartum depression and puerperal psychosis.

Section 3: Newborn Health

Birth Type

Defined in accordance with BC Vital Stats.

- Live Birth – baby displayed signs of life (breathing, heart beat, pulsation of umbilical cord, or movement of voluntary muscle) at birth.
- Stillbirth – baby born at ≥20 weeks' estimated gestation or ≥500 grams birthweight does not display any of the above signs. Fetal death may have occurred <20 weeks' gestation.

Multiple Gestation

- There was more than one fetus in the pregnancy (twin, triplet, or quadruplet).

Gestational Age

- Term – baby was delivered at or after 37 completed weeks' estimated gestation.
- Preterm – baby was delivered before 37 completed weeks' estimated gestation.
 - Iatrogenic Preterm – baby was delivered following induced labour or by cesarean delivery without labour, before 37 completed weeks' estimated gestation.
 - Spontaneous Preterm – baby was delivered following onset of spontaneous labour before 37 completed weeks' estimated gestation.

Weight for Gestational Age

- Small for Gestational Age – babies born weighing less than the 10th percentile of weight for their sex and gestational age. Based on BC-specific growth curves available [here](#).
- Large for Gestational Age – babies born weighing more than the 90th percentile of weight for their sex and gestational age. Based on BC-specific growth curves available [here](#).

Low Birthweight Singletons

- Singleton babies born weighing less than 2,500 grams. Includes both preterm and term babies.

Newborn Resuscitation

- Baby received resuscitation by intermittent positive pressure, chest compressions, or drugs. Captures interventions up to 60 minutes of age or until admission to neonatal intensive care, whichever came first.
 - NOTE: Drugs may be given for either resuscitation or stabilization.

Birth Injury

- Baby sustained a confirmed or suspected injury to the skeleton, organs, or nerves during birth.

Neonatal Morbidity

Morbidity may be documented during any Baby Admission.

- Other Respiratory Condition – baby had a confirmed or suspected respiratory condition (other than respiratory distress syndrome or transient tachypnea).
- Transient Tachypnea – baby had confirmed or suspected transient tachypnea.
- Respiratory Distress Syndrome – baby had confirmed or suspected respiratory distress syndrome.
- Sepsis – baby had confirmed or suspected sepsis.
- Intracranial Hemorrhage – baby had a confirmed or suspected brain bleed.

Congenital Anomalies

Anomaly may be diagnosed during any Baby Admission.

- Baby has a confirmed or suspected congenital anomaly noted by a care provider.
 - Chromosomal – includes Trisomy 13, 18, and 21; sex chromosome abnormalities (i.e. Turner's syndrome, Klinefelter's syndrome); and other monosomies, deletions, and chromosomal rearrangements.
 - Circulatory System – includes malformations of the heart chambers, septa, valves, veins and arteries.
 - Cleft Lip or Palate
 - Digestive System – includes malformation of the tongue, mouth, pharynx, esophagus, stomach, intestines, liver, gallbladder, biliary ducts, and pancreas.

- Eye, Ear, Face, or Neck – includes malformations of the eye and its structures, tear ducts, internal and external ear, neck, and lips.
- Genital Organs – includes malformations of male or female genitals, and indeterminate sex or hermaphroditism.
- Musculoskeletal System – includes malformations of hip, feet, fingers, limbs, skull, spine, diaphragmatic hernia, and other malformations of the abdominal wall (including gastroschisis).
- Nervous System – includes anencephaly, microcephaly, hydrocephalus, spina bifida, and other malformations of the brain and spinal cord.
- Respiratory System – includes malformation of the nose, larynx, trachea, bronchus, and lung.
- Urinary System – includes malformation of the kidneys, bladder, and ureter.
- Other Specific Anomaly – includes disorders of the skin, breast, hair, nails, syndromes affecting multiple systems, malformations due to outside causes (including alcohol and drugs), and all malformations not otherwise classified.
- Trisomy 18 (Edwards' syndrome)
- Trisomy 21 (Down Syndrome)
- Open Neural Tube Defect – includes anencephaly and spina bifida

Length of Stay for the Birth Episode of Care

- Hours between a baby's birth at an acute care facility and his/her discharge from the Birth Episode of Care.

Breastfeeding

Reflects feeding during the Birth Admission only, including at time of discharge.

- Exclusive Breastfeeding – baby received only breast milk (via the breast, a bottle, or other feeding method).
- No Breastfeeding – baby received only breast milk substitute.
- Non-Exclusive Breastfeeding – baby received both breast milk and breast milk substitute.
- Any Breastfeeding – baby received breast milk (via the breast, a bottle, or other feeding method) at any time during the Birth Admission. Baby may also have received breast milk substitute.

Neonatal Intensive Care Use During Birth Episode of Care

- Baby spent at least one day in Neonatal Intensive Care (NICU) during the Birth Episode of Care.
 - Length of stay in days is calculated as discharge date – admission date. If admission and discharge are on the same date, length of stay is one day.
 - Between April 1, 2008 and March 31, 2010 discharges, NICU days were assigned when the baby received Level II or III care per the Discharge Abstract Database manual.
 - Effective April 1, 2010 discharges, NICU days are assigned based on baby's needs as defined by the PSBC Neonatal Daily Classification Tool.
 - [Click here](#) to access resources on the PSBC Neonatal Daily Classification Tool.

Transfer to Another Hospital

- Babies may be transferred to another hospital for either maternal or neonatal indicators.
- Any Transfer – baby was transferred from the Birth Admission to a different acute care facility.

- Higher Level – baby was transferred directly from the facility of birth to a facility that is capable of providing a higher intensity of care. Baby was transferred from any site without a neonatal intensive care unit (NICU) to one with a NICU, or from a site with a Level II NICU to a site with a Level III NICU.
 - Facilities with a Level III NICU – BC Women's Hospital & Health Centre, Royal Columbian Hospital, Surrey Memorial Hospital, and Victoria General Hospital.
 - Facilities with a Level II NICU – Abbotsford Regional Hospital & Cancer Centre, Burnaby Hospital, Kelowna General Hospital, Lions Gate Hospital, Nanaimo Regional General Hospital, Richmond Hospital, Royal Inland Hospital, St. Paul's Hospital, and University Hospital of Northern British Columbia.
- Same or Lower Level – baby was transferred directly from the facility of birth to a facility that provides a similar or lower intensity of care.

Post-Neonatal Admissions

- Post-Neonatal Admission – total number of baby transfer or readmission episodes. A baby can have more than one Post-Neonatal Admission. Ratio of Post-Neonatal Admissions per 100 live births.
 - Admissions with a most responsible diagnosis of Health supervision and care of other healthy infant and child, Healthy person accompanying sick person, or Other boarder in health-care facility (Z76.2, Z76.4, or Z76.4) are excluded.
- Diagnosis Associated with Post-Neonatal Admission – the diagnosis that accounted for the majority of time the baby stayed in hospital. May not be the reason for admission. Per 100 Post-Neonatal Admissions.
 - The following account for 81 per cent of diagnoses associated with Post-Neonatal Admissions for 2009/10 to 2013/14, inclusive:
 - Jaundice
 - Low Birth Weight or Preterm Birth
 - Congenital Anomalies – includes all congenital malformations, deformations, and chromosomal abnormalities.
 - Feeding Problems – includes reflux, feeding difficulties, abnormal weight loss, and dehydration.
 - Respiratory Infections – includes whooping cough, pneumonias, and upper and lower respiratory tract infections.
 - Respiratory Distress
 - Other Infections – major inclusions are bacterial and viral infections, sepsis, external and middle ear infections, select abscesses, impetigo, cellulitis, osteomyelitis, congenital infections, and post-procedural infection.
 - Apnea – obstructed sleep apnea or apnea of the newborn.
 - Urinary Tract Infections
 - Isoimmunization

Perinatal Mortality

Death occurred during any Baby Admission. Includes only deaths that occurred at an acute care facility. Complete pregnancy terminations are included only in the Crude Stillbirth Rate.

- Crude Stillbirths – baby was born deceased.
 - Crude Stillbirth Rate = stillbirths / (live births + stillbirths) x 1,000.
- Stillbirths >=500g – baby weighing ≥500g was born deceased.
 - Stillbirth Rate = stillbirths ≥500g / (live births + stillbirths ≥500g) x 1,000.
- Early Neonatal Death – baby born alive died in hospital between 0 and 6 days after birth.

- Early Neonatal Mortality Rate = early neonatal death / live births x 1,000.
- Perinatal Death – stillbirth ≥500g OR baby born alive died in hospital between 0 and 6 days after birth.
 - Perinatal Mortality Rate = (stillbirths ≥500g + early neonatal deaths) / (live births + stillbirths ≥500g) x 1,000.
- Late Neonatal Death – baby born alive died in hospital between 7 and 27 days after birth.
 - Late Neonatal Mortality Rate = late neonatal death / live births x 1,000.
- Post Neonatal Death – baby born alive died in hospital between 28 and 364 days after birth.
 - Post Neonatal Mortality Rate = post neonatal death / live births x 1,000.
- Infant Death – baby born alive died in hospital before 365 days after birth.
 - Infant Mortality Rate = (early neonatal + late neonatal + post-neonatal deaths) / live births x 1,000.

Section 4: ‘Normal Labour’

Women with ‘Normal Labour’ are identified in accordance with the [Joint Policy Statement on Normal Childbirth](#). Women with ‘Normal Labour’ deliver a singleton infant with the head as the presenting part between 37 and 41 estimated weeks’ gestation after spontaneous onset of labour. Women with ‘Normal Labour’ do not have a history of cesarean delivery.

Cervical Dilation at Admission

- Dilation, in centimetres, of the cervix at the time the woman was admitted to acute care for delivery.

Duration of Labour Stages

- Length of First Stage of Labour – hours between the onset of regular contractions and complete cervical dilation (10cm).
- Length of Second Stage of Labour – hours between complete cervical dilation and the delivery of the baby.

‘Normal Childbirth’

- According to the [Joint Policy Statement on Normal Childbirth](#), ‘Normal Childbirth’ excludes the following: spinal anesthesia, general anesthesia, vacuum-assisted delivery, forceps-assisted delivery, cesarean delivery, or episiotomy.

Low 5 Minute Apgar Score

- Babies whose Apgar score – a composite of five criteria that assesses an infant’s need for medical attention – is below 7 out of 10 at five minutes after birth.

Episodes Included in the Perinatal Health Report

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

Delivery Admission

<i>Include:</i>	
Delivery	MOTHER_ADMISSION.screen_source = "DL" AND April 1, 2009 ≤ discharge_date ≤ March 31, 2014
Linked maternal-newborn records	BABY_ADMISSION.screen_source = "NB" AND BABY_ADMISSION.mother_id is not null
Exclude from all but Crude Stillbirth Rate:	
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
<u>Maternal Admission</u>		MOTHER_ADMISSION.screen_source = "DL" or "PP" For any woman whose Delivery Admission meets the inclusion criteria, above.
<u>Post-Delivery Admission</u>		MOTHER_ADMISSION.screen_source = "PP" or (MOTHER_ADMISSION.screen_source = "DL" and actual_place_of_delivery=2) AND most responsible diagnosis is not Z76.3 For any woman whose Delivery Admission meets the inclusion criteria, above.
<u>Delivery Episode of Care</u>	Episode start	MOTHER_ADMISSION.screen_source = "DL" and April 1, 2009 ≤ discharge_date ≤ March 31, 2014
	Include all admissions linked to the delivery where:	MOTHER_ADMISSION.screen_source = "PP" and 101 ≤ institution_to <973
	Episode end	(MOTHER_ADMISSION.screen_source = "DL" or "PP") and institution_to <101 For any woman whose Delivery Admission meets the inclusion criteria, above.

Baby Admissions

Admission type		Criteria
<u>Birth Admission</u>		<p>BABY_ADMISSION.screen_source = "NB"</p> <p>For any baby linked to a woman whose Delivery Admission meets the inclusion criteria, above.</p>
<u>Newborn Admission</u>		<p>BABY_ADMISSION.screen_source = "NB" or "XF"</p> <p>For any baby linked to a mother whose Delivery Admission meets the inclusion criteria, above.</p>
<u>Post-Neonatal Admission</u>		<p>(BABY_ADMISSION.screen_source = "NB" and MOTHER.actual_place_of_delivery=2) or BABY_ADMISSION.screen_source = "XF"</p> <p>AND</p> <p>most responsible diagnosis is not Z76.2, Z76.3, or Z76.4</p> <p>For any baby linked to a mother whose Delivery Admission meets the inclusion criteria, above.</p>
<u>Birth Episode of Care</u>	Episode start	BABY_ADMISSION.screen_source = "NB"
	Include all admissions linked to the birth where:	BABY_ADMISSION.screen_source = "XF" and discharge_to = "O" and 101 ≤ institution_to <973
	Episode end	BABY_ADMISSION.screen_source = "NB" or "XF" AND (discharge_to ≠ "O" or institution_to = 973 or 974)
		<p>For any baby linked to a mother whose Delivery Admission meets the inclusion criteria, above.</p>

Detailed Specifications for Selected Variables

	PDR variables		CIHI Codes
Fiscal year			
2009/10	screen_source = "DL" AND April 1, 2009 ≤ MOTHER_ADMISSION.discharge_date ≤ March 31, 2010		
2010/11	screen_source = "DL" AND April 1, 2010 ≤ MOTHER_ADMISSION.discharge_date ≤ March 31, 2011		
2011/12	screen_source = "DL" AND April 1, 2011 ≤ MOTHER_ADMISSION.discharge_date ≤ March 31, 2012		
2012/13	screen_source = "DL" AND April 1, 2012 ≤ MOTHER_ADMISSION.discharge_date ≤ March 31, 2013		
2013/14	screen_source = "DL" AND April 1, 2013 ≤ MOTHER_ADMISSION.discharge_date ≤ March 31, 2014		
Parity			
Nulliparous	(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, or prev_vaginal_deliv = null and gravida = 1)		
Parous	(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 living ≥ 1)		

	PDR variables		CIHI Codes
Hypertensive Disorders of Pregnancy (hierarchy)			
Eclampsia			diagnosis_code begins with O15
HELLP syndrome	pp_hellp = "Y"		
	discharge_date ≥ April 1, 2012	AND	diagnosis_code begins with O142
Pre-Existing Hypertension with Pre-Eclampsia			diagnosis_code begins with O11
Pre-Eclampsia	discharge_date < April 1, 2012 AND pp_hellp ≠ "Y"	AND	diagnosis_code begins with O14
	discharge_date ≥ April 1, 2012 AND pp_hellp ≠ "Y"	AND	diagnosis_code begins with O140, O141, or O149
Pre-Existing Hypertension			diagnosis_code begins with O10
Gestational Hypertension (includes mild pre-eclampsia for discharges before April 1, 2012)			diagnosis_code begins with O13
Unspecified Hypertension			diagnosis_code begins with O16
Diabetes Mellitus in Pregnancy			
Gestational Diabetes	risk_code = 13 or 14	OR	diagnosis_code begins with O248
Pre-Existing Diabetes	risk_code = 15 or 16	OR	diagnosis_code begins with O245, O246, or O247
Artificial Reproductive Technology	ivf = "Y"	OR	diagnosis_code for mother = Z37xx1 or baby = Z38xx1
Augmentation of Labour	labour_aug_flg = "Y"		
Induction of Labour	labour_ind_flg = "Y"		
Method of Fetal Surveillance During Labour			
Auscultation Only	auscultation = "Y" and elec_fetal_monitor_external ≠ "Y" and elec_fetal_monitor_internal ≠ "Y" and no_fetal_monitoring ≠ "Y"		
Auscultation and External Electronic Monitoring	auscultation = "Y" and elec_fetal_monitor_external = "Y" and elec_fetal_monitor_internal ≠ "Y" and no_fetal_monitoring ≠ "Y"		
External Electronic Monitoring Only	auscultation ≠ "Y" and elec_fetal_monitor_external = "Y" and elec_fetal_monitor_internal ≠ "Y" and no_fetal_monitoring ≠ "Y"		
Internal Electronic Monitoring Only	auscultation ≠ "Y" and elec_fetal_monitor_external ≠ "Y" and elec_fetal_monitor_internal = "Y" and no_fetal_monitoring ≠ "Y"		
No Fetal Monitoring	(auscultation ≠ "Y" and elec_fetal_monitor_internal ≠ "Y" and elec_fetal_monitor_external ≠ "Y" and no_fetal_monitoring = "Y") OR		

	PDR variables		CIHI Codes
	(auscultation ≠ "Y" and elec_fetal_monitor_internal ≠ "Y" and elec_fetal_monitor_external ≠ "Y" and no_fetal_monitoring ≠ "Y")		
Delivery Provider			
Obstetrician	delivered_by = 2 or 6 for any infant		
Surgeon	else if delivered_by = 12		
Family Practice + Cesarean	else if delivered_by = 1 or 8	AND	procedure_code begins with 5MD60 (cesarean delivery)
Family Practice + Vaginal	else if delivered_by = 1 or 8	AND	procedure_code does not begin with 5MD60
Midwife	else if delivered_by = 3 or 7		
Nurse	else if delivered_by = 4		
Other	else if delivered_by = 5, 9, 10, or 11		
Any Care Provided by a Registered Midwife	institution_id = 976 or 977 or midwife_case = "Y" or delivered_by = 3 or 7 for any infant or actual_place_of_delivery = 1 or 2	OR	doctor_service = 11004 on DOCTORS or PROCEDURES_PERFORMED for mother or baby record
Delivery at Home	institution_id = 976 or 977 or actual_place_of_delivery = 2		
Anesthesia or Analgesia			
Entonox	entonox_flg = "Y"		
Epidural	epidural_flg = "Y"	OR	anesthetic_type = 3 for a procedure_code beginning with 5MD
General	general_flg = "Y"	OR	anesthetic_type = 1 or 4 for a procedure_code beginning with 5MD
Local	local_flg = "Y"	OR	anesthetic_type = 7 for a procedure_code beginning with 5MD
Narcotic	narcotic_flg = "Y"		
Spinal	spinal_flg = "Y"	OR	anesthetic_type = 2 for a procedure_code beginning with 5MD
Other	other_flg = "Y" or pudendal_flg = "Y"		
No Anesthetic	none_flg = "Y"		
Perineal Trauma			
Third or Fourth Degree Laceration	laceration_flg = "Y" AND laceration_degree = 3 or 4	OR	diagnosis_code begins with O702 or O703
Episiotomy	episiotomy_flg = "Y"		
Cervical Tear	cervical_tear_flg = "Y"	OR	diagnosis_code begins with O713
Mode of Delivery			
Spontaneous Vaginal			procedure_code begins with 5MD50, 5MD51, 5MD52, 5MD56AA, 5MD56NL, 5MD56NP, 5MD56NU, 5MD56NM, 5MD56NQ, 5MD56NV, 5MD56GH, 5MD56PA, 5MD56PD, 5MD56PG, 5MD56PB, 5MD56PE, or 5MD56PH

	PDR variables		CIHI Codes
Assisted Vaginal			procedure_code begins with 5MD53, 5MD54, 5MD55, 5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, or 5MD56PJ
Vacuum			procedure_code begins with 5MD54
Forceps			procedure_code begins with 5MD53, 5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, or 5MD56PJ
Forceps and Vacuum			procedure_code begins with 5MD55
			procedure_code begins with 5MD54 AND one of the following codes is also on the abstract: 5MD53, 5MD55, 5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, or 5MD56PJ
Cesarean			procedure_code begins with 5MD60
	csection_type = 1, 2, 3, or 4	AND	no procedure_code begins with 5MD5 or 5MD60
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
Vaginal Birth After Cesarean (VBAC)			
VBAC Eligible	(vbac_eligible = "Y" 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_eligible = "U" or " " and baby_presentation_delivery = 9 and gestational age ≥ 37 and prev_cesarian_deliv ≥1 and Maximum(baby_sequence) = 1)	AND	procedure_code begins with 5MD5
VBAC Attempted	(vbac_attempted = "Y" and prev_cesarian_deliv is ≥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 (above)	AND	procedure_code begins with 5MD5
Maternal Morbidity			
Liver Complications	pp_fatty_liver = "Y" or pp_liver_hematoma = "Y"	OR	diagnosis_code begins with O266, K760, or K768
Urinary Tract Infection	pp_uti = "CY", "PY", "OT", "UN"	OR	diagnosis_code begins with O23, O861, O862, O863, or N390

	PDR variables		CIHI Codes
Sepsis	pp_pos_blood_culture = "Y"	OR	diagnosis_code begins with A40, A41, or O85
Wound Infection	pp_wound_infection = "Y"	OR	diagnosis_code begins with O860 or T814
Postpartum Hemorrhage with Transfusion	blood_transfusion_flg = "Y"	AND	diagnosis_code begins with O72
Postpartum Hemorrhage with Hysterectomy			diagnosis_code begins with O72 AND (procedure_code begins with 5MD60CB, 5MD60KE, 5MD60RC, or 5MD60RD; OR procedure_code begins with 1RM87LAGX and extent = SU; OR procedure_code begins with 1RM89 AND there is no procedure_code beginning with 1PL74, 1RS74, or 1RS80)
Antepartum Hemorrhage with Transfusion	blood_transfusion_flg = "Y" and risk_code = 8		
	blood_transfusion_flg = "Y"	AND	diagnosis_code begins with O441, O45, O46, O67, or O694
Eclampsia			diagnosis_code begins with O15
HELLP	pp_hellp = "Y"		
	discharge_date ≥ April 1, 2012	AND	diagnosis_code begins with O142
Anesthetic Complications			diagnosis_code begins with O29, O740, O741, O742, O743, O744, O747, O748, O749, O89, or T885
Shock			diagnosis_code begins with O751
Stroke			diagnosis_code begins with G459, I6, or I7
Pulmonary Embolism			diagnosis_code begins with O88
Adverse Outcome of Labour or Delivery			
Moderate Maternal Adverse Outcome	screen_source = "DL" AND blood_transfusion_flg = "Y" OR (laceration_flg = "Y" AND laceration_degree = 3 or 4)	OR	diagnosis_code begins with O702, O703 OR procedure_code begins with 5PC73JT, 5PC80JM, 5PC91GA, 5PC91GC OR (diagnosis_code begins with O722 AND procedure_code begins with 1KT51, 1RM13, 1RM87LAGX, 1RM89, 5MD60CB, 5MD60KE, 5MD60RC, 5MD60RD, 5PC91HT, 5PC91LA)
Moderate Neonatal Adverse Outcome	screen_source = "NB" and admission_weight ≥ 2,500 gestational age ≥ 37 and ((nicu_ii+nicu_iii ≥ 2) OR (Length of stay <24 hours and institution_to = 104, 202, 109, 116, 703, 609, 501, 401, 302, 130, 115, 112, 102) OR (0 ≤ apgar_5 minutes <7))	AND	diagnosis_code does not begin with P832 or Q

	PDR variables		CIHI Codes
Severe Maternal Adverse Outcome	<code>screen_source = "DL"</code>	AND	<code>diagnosis_code</code> begins with O7118, O95 or O97 OR <code>procedure_code</code> begins with 1GZ30CJ, 1GZ30JH, 1GZ31CAND, 1GZ31CBND, 1GZ31CRND, 1GZ31GPND, 1GZ38JAND, 1GZ38JANE, 1GJ50CANG, 1GJ50CATS
Severe Neonatal Adverse Outcome	<code>screen_source = "NB" and admission_weight ≥ 2,500 gestational age ≥ 37 and (discharge_to = "D" or stillbirth = "A")</code>	AND	<code>diagnosis_code</code> does not begin with P832 or Q
	<code>screen_source = "NB" and admission_weight ≥ 2,000</code>	AND	<code>diagnosis_code</code> begins with P100, P101, P104, P108, P109, P113, P114, P115, P122, P13 (excluding P134), P140, P141, P142, P143, P148, P149
Maternal Length of Stay			
Antepartum Length of Stay	For the Delivery Episode of Care, hours between (<code>delivery_date</code> <code>delivery_time</code> – <code>admission_date</code> <code>admission_time</code>) where <code>institution_id</code> for the Delivery Admission ≠ 976 or 977		
Postpartum Length of Stay	For the Delivery Episode of Care, hours between (<code>discharge_date</code> <code>discharge_time</code> – <code>delivery_date</code> <code>delivery_time</code>) where <code>institution_id</code> for the Delivery Admission ≠ 976 or 977		
Total Length of Stay	For the Delivery Episode of Care, hours between (<code>discharge_date</code> <code>discharge_time</code> – <code>admission_date</code> <code>admission_time</code>) where <code>institution_id</code> for the Delivery Admission ≠ 976 or 977		
Maternal Transfers			
Transferred to Acute Care	<code>screen_source = "DL" and institution_to = 101, 102, 104, 105, 106, 107, 109, 111, 112, 113, 115, 116, 121, 123, 128, 130, 131, 134, 135, 136, 201, 202, 203, 204, 206, 217, 301, 302, 303, 305, 309, 401, 402, 403, 404, 405, 406, 408, 409, 417, 419, 501, 502, 507, 508, 510, 511, 601, 602, 603, 604, 606, 609, 651, 654, 655, 701, 702, 703, 704, 705, 707, 708, 713, 714, 715, 716, 717, 752, 753, 754, 755, 756, 801, 803, 804, 851, 854, 859, 901, 902, 903, 904, 906, 907, 912, 917, 918, 929, 973, or 974</code>		

	PDR variables		CIHI Codes
Transfer to a Higher Level of Care	<p>screen_source = "DL" AND discharge_date < April 1, 2013 AND (institution_id ≠ 104, 109, 202, 102, 302, 401, 703, or 501 AND institution_to = 104, 105, 109, 202, 102, 302, 401, 703, or 501)</p> <p>OR</p> <p>(institution_id ≠ 104, 109, 202, or 102 AND institution_to = 104, 105, 109, 202, or 102)</p>		
	<p>screen_source = "DL" AND discharge_date ≥ April 1, 2013 AND (institution_id ≠ 104, 109, 202, 102, 116, 302, 401, 703, or 501 AND institution_to = 104, 105, 109, 116, 202, 102, 302, 401, 703, or 501)</p> <p>OR</p> <p>(institution_id ≠ 104, 109, 202, or 102 AND institution_to = 104, 105, 109, 202, or 102)</p>		
Post-Delivery Admission Diagnoses			
Routine Postpartum Care	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with Z390, Z392
Postpartum Hemorrhage	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with O72
Postpartum Infection	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with A40, A41, O85, O86, N390, or T814
Other Diseases Complicating Pregnancy	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with O99
Hypertension or Eclampsia	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with I100 or O10-O16
Other Wound Issues	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with O70, O71, O75404, O900, O901, O902, or T813
Care of Breasts	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with O91, O92, or Z391
Retained Placenta Without Hemorrhage	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with O73
Pregnancy-Associated Mental Health	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with F53
Complications of Anesthesia	Post-Delivery Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with O74, O89, or T885
Multiple Gestation	multiple_birth_count >1		
In-Hospital Perinatal Mortality			
Crude Stillbirths (includes complete late	stillbirth = "A", "P", or "U"		

	PDR variables		CIHI Codes
pregnancy terminations)			
Stillbirth >=500g	stillbirth = "A", "P", or "U" and admission_weight ≥ 500		
Early Neonatal Death	stillbirth = "N" and discharge_to = "D" and (discharge_date – date_of_birth) <7 days		
Late Neonatal Death	stillbirth = "N" and discharge_to = "D" and 7 days ≤ (discharge_date – date_of_birth) ≤ 27 days		
Post Neonatal Death	stillbirth = "N" and discharge_to = "D" and 28 days ≤ (discharge_date – date_of_birth) ≤ 364 days		
Birth Injury			diagnosis_code begins with P100, P101, P104, P108, P109, P11, P12, P13, P14, or P15
Neonatal Morbidity			
Sepsis	baby_pos_blood_culture = "Y"	OR	diagnosis_code begins with A40, A41, or P36
Intracranial Hemorrhage			diagnosis_code begins with P10 or P52
Respiratory Distress Syndrome			diagnosis_code begins with P220
Transient Tachypnea			diagnosis_code begins with P221
Other Respiratory Condition			diagnosis_code begins with A481, J, P228, P229, P23-P27, P280, P281, P282, P283, P284, P288, P289, Q30-Q34, Q791, R091, or Z902
	0 ≤ apgar_5_minutes <7	AND	diagnosis_code begins with P285
Any Neonatal Morbidity			diagnosis_code begins with A40, A41, A481, J, P10, P220, P221, P228, P229, P23-P27, P36, P280, P281, P282, P283, P284, P288, P289, P52, Q30-Q34, Q791, R091, or Z902
	0 ≤ apgar_5_minutes <7	AND	diagnosis_code begins with P285
Congenital Anomalies			
Any Congenital Anomaly			diagnosis_code begins with Q, G901, or P293
Chromosomal			diagnosis_code begins with Q90-Q99
Circulatory System			diagnosis_code begins with Q20-Q28 or P293
Cleft Lip or Palate			diagnosis_code begins with Q35-Q37
Digestive System			diagnosis_code begins with Q38-Q45
Eye, Ear, Face, or Neck			diagnosis_code begins with Q10-Q18
Genital Organs			diagnosis_code begins with Q50-Q56
Musculoskeletal System			diagnosis_code begins with Q65-Q79
Nervous System			diagnosis_code begins with Q00-Q07 or G901
Respiratory System			diagnosis_code begins with Q30-Q34
Urinary System			diagnosis_code begins with Q60-Q64
Other Specific Anomaly			diagnosis_code begins with Q80-Q89

	PDR variables		CIHI Codes
Trisomy 18			diagnosis_code = Q91.0-Q91.3
Trisomy 21			diagnosis_code begins with Q90
Open Neural Tube Defect			diagnosis_code begins with Q00 or Q05
Newborn Length of Stay	For the Birth Episode of Care, hours between (discharge_date discharge_time – admission_date admission_time) where institution_id for the Birth Admission ≠ 976 or 977		
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"		
Weight for Gestational Age			
Small for Gestational Age	Baby's weight is 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's weight is above 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"		
Low Birthweight Singletons	screen_source = "NB" and 5 ≤ admission_weight < 2500 and stillbirth = "N" and multiple_birth_count = 1		
Premature Birth			
Spontaneous Preterm	gestational age <37 and labour_spont_flg = "Y" gestational age <37 and labour_none_flg = "Y" and (cesarean_type = 0	OR	Mother does not have a procedure_code beginning with 5MD60)
Iatrogenic Preterm	gestational age <37 and labour_ind_flg = "Y" gestational age <37 and labour_none_flg = "Y" and cesarean_type = 1, 2, 3, or 4		
Neonatal Intensive Care Use	nicu_ii > 0 or nicu_iii > 0 for the Birth Episode of Care		

	PDR variables		CIHI Codes
Neonatal Transfer			
Transferred to Acute Care	screen_source= "NB" and discharge_to= "O" and institution_to = 101, 102, 104, 105, 106, 107, 109, 111, 112, 113, 115, 116, 121, 123, 128, 130, 131, 134, 135, 136, 201, 202, 203, 204, 206, 217, 301, 302, 303, 305, 309, 401, 402, 403, 404, 405, 406, 408, 409, 417, 419, 501, 502, 507, 508, 510, 511, 601, 602, 603, 604, 606, 609, 651, 654, 655, 701, 702, 703, 704, 705, 707, 708, 713, 714, 715, 716, 717, 752, 753, 754, 755, 756, 801, 803, 804, 851, 854, 859, 901, 902, 903, 904, 906, 907, 912, 917, 918, 929, 973, or 974		
Transfer to Higher Level of Care	screen_source = "NB" and institution_id ≠ 102, 104, 109, 112, 116, 121, 130, 202, 302, 401, 501, 609, or 703 and discharge_to = "O" and institution_to = 102, 104, 105, 109, 112, 116, 121, 130, 202, 302, 401, 501, 609, or 703		
	screen_source = "NB" and discharge_to = "O" and institution_id ≠ 104, 109, 116, or 202 and institution_to = 104, 105, 109, 116, or 202		
Transfer to Acute Care Facility with Equal or Lower Level of Care	screen_source = "NB" and discharge_to = "O" and institution_id = 104, 109, 116, or 202 and institution_to = 101, 102, 104, 105, 106, 107, 109, 111, 112, 113, 115, 116, 121, 123, 128, 130, 131, 134, 135, 136, 201, 202, 203, 204, 206, 217, 301, 302, 303, 305, 309, 401, 402, 403, 404, 405, 406, 408, 409, 417, 419, 501, 502, 507, 508, 510, 511, 601, 602, 603, 604, 606, 609, 651, 654, 655, 701, 702, 703, 704, 705, 707, 708, 713, 714, 715, 716, 717, 752, 753, 754, 755, 756, 801, 803, 804, 851, 854, 859, 901, 902, 903, 904, 906, 907, 912, 917, 918, or 929		
	screen_source= "NB" and discharge_to = "O" and institution_id = 102, 112, 121, 130, 302, 401, 501, 609, or 703 and institution_to = 101, 102, 106, 107, 111, 112, 113,		

	PDR variables		CIHI Codes
	115, 121, 123, 128, 130, 131, 134, 135, 136, 201, 203, 204, 206, 217, 301, 302, 303, 305, 309, 401, 402, 403, 404, 405, 406, 408, 409, 417, 419, 501, 502, 507, 508, 510, 511, 601, 602, 603, 604, 606, 609, 651, 654, 655, 701, 702, 703, 704, 705, 707, 708, 713, 714, 715, 716, 717, 752, 753, 754, 755, 756, 801, 803, 804, 851, 854, 859, 901, 902, 903, 904, 906, 907, 912, 917, 918, or 929		
Resuscitation After Birth	ippv_mask_flg = "Y" or ippv_ett_flg = "Y" or chest_compress_flg = "Y" or drugs = "Y"		
Post-Neonatal Admission Diagnoses			
Jaundice	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with P58, P59, or R17
Low Birth Weight or Preterm Birth	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with P07
Congenital Anomalies	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with G901, P293, or Q
Feeding Problems	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with K21, P741, P7881, P92, R633, or R634
Respiratory Infections	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with A37, J00-J06, J12-J18, J20-J22, or P23
Respiratory Distress	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with P22
Other Infections	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with A (except A37), B, H60-H66, K61, L0, M86, P027, P35-P38, P39 (except P393), P77, R572, T802, T814, T827, or T835
Apnea	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with G4730, P283, P284, R068
Urinary Tract Infections	Post-Neonatal Admission	AND	diagnosis_type = "M" and diagnosis_cd begins with N390 or P393
Isoimmunization			diagnosis_type = "M" and diagnosis_cd begins with P55
"Normal Labour"	labour_spont_flg = "Y" and prev_cesarian_deliv = 0 and multiple_birth_count = 1 and baby_presentation_delivery = 6 and gestational_age is between 37 and 41		
"Normal Childbirth"	general_flg ≠ "Y" and spinal_flg ≠ "Y" and episiotomy_flg ≠ "Y"	AND	procedure_code does not begin with 5MD53, 5MD54, 5MD55, 5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, 5MD56PJ, or 5MD60 AND anesthetic_type ≠ 1, 2, or 4 for a procedure_code beginning with 5MD
Cervical Dilation on Admission			

	PDR variables		CIHI Codes
0-3cm	$0 \leq \text{cervical_dilation_on_admis} < 4$		
4-10cm	$\text{cervical_dilation_on_admis} \geq 4$		
Unknown	$\text{cervical_dilation_on_admis} = \text{null}$		
Duration of Labour Stages			
Duration of First Stage	hours between ($\text{second_stage_date} \text{second_stage_time} - \text{first_stage_date} \text{first_stage_time}$) where first_stage_date and $\text{second_stage_date} \neq \text{null}$ and $\text{labour_none_flg} \neq \text{"Y"}$		
Duration of Second Stage	hours between ($\text{delivery_date} \text{delivery_time} - \text{second_stage_date} \text{second_stage_time}$) where $\text{second_stage_date} \neq \text{null}$ and $\text{labour_none_flg} \neq \text{"Y"}$		
Low Apgar Score	$0 \leq \text{apgar_5_minutes} < 7$		

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.