

Perinatal Health Report 2008-09 to 2012-13



Residents of Vancouver Coastal Health

Publication Information

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Suggested citation: Perinatal Services BC (October 2014). *Perinatal Health Report 2008-09 to 2012-13: Residents of Vancouver Coastal Health*, Vancouver, BC.

Perinatal Services BC
West Tower, Suite 350
555 West 12th Avenue
Vancouver, BC V5Z 3X7

T: 604-877-2121

F: 604-872-1987

psbc@phsa.ca

www.perinataleservicesbc.ca

Published: October 2014

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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; pregnancies involving selective fetal reduction are retained.
- Mother's delivery record has a discharge date between April 1, 2008 and March 31, 2013.
- 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 and Health Service Delivery Area were derived by linking the postal code on the mother's delivery record with the 2011 BC Stats Translation Master File. Women may not deliver in the Health Authority in which they reside.
- Rates with numerators of 1-4 cases are not reported (NR).

Terms used in the Perinatal Health Report (see specifications on pages 86 and 87)

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

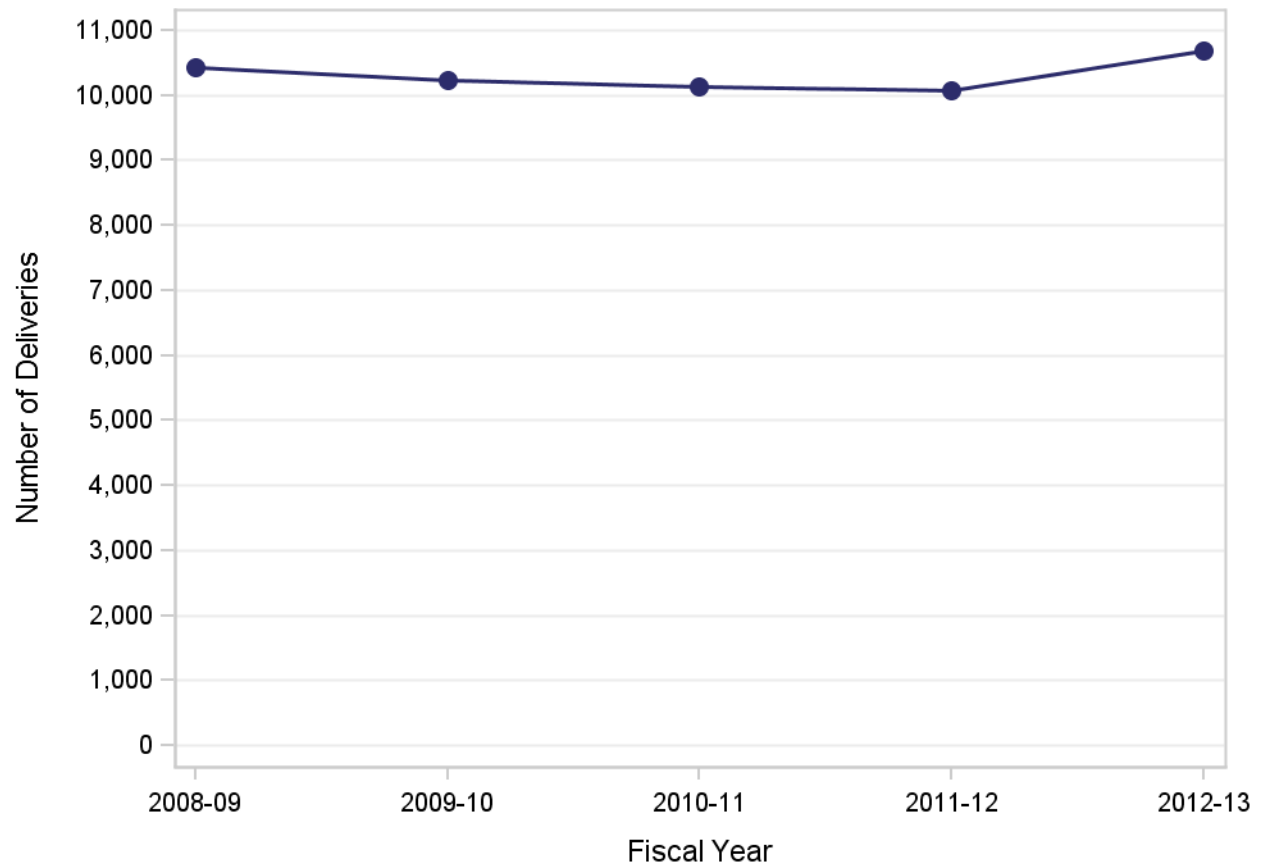
- Any record of post-birth baby care received by the BCPDR. Includes acute care episodes that are transfers from another hospital and admissions from home, up to 28 days after birth.

Perinatal Health Report 2014
Residents of Vancouver Coastal Health

Section 1: Maternal Health

Total Deliveries

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

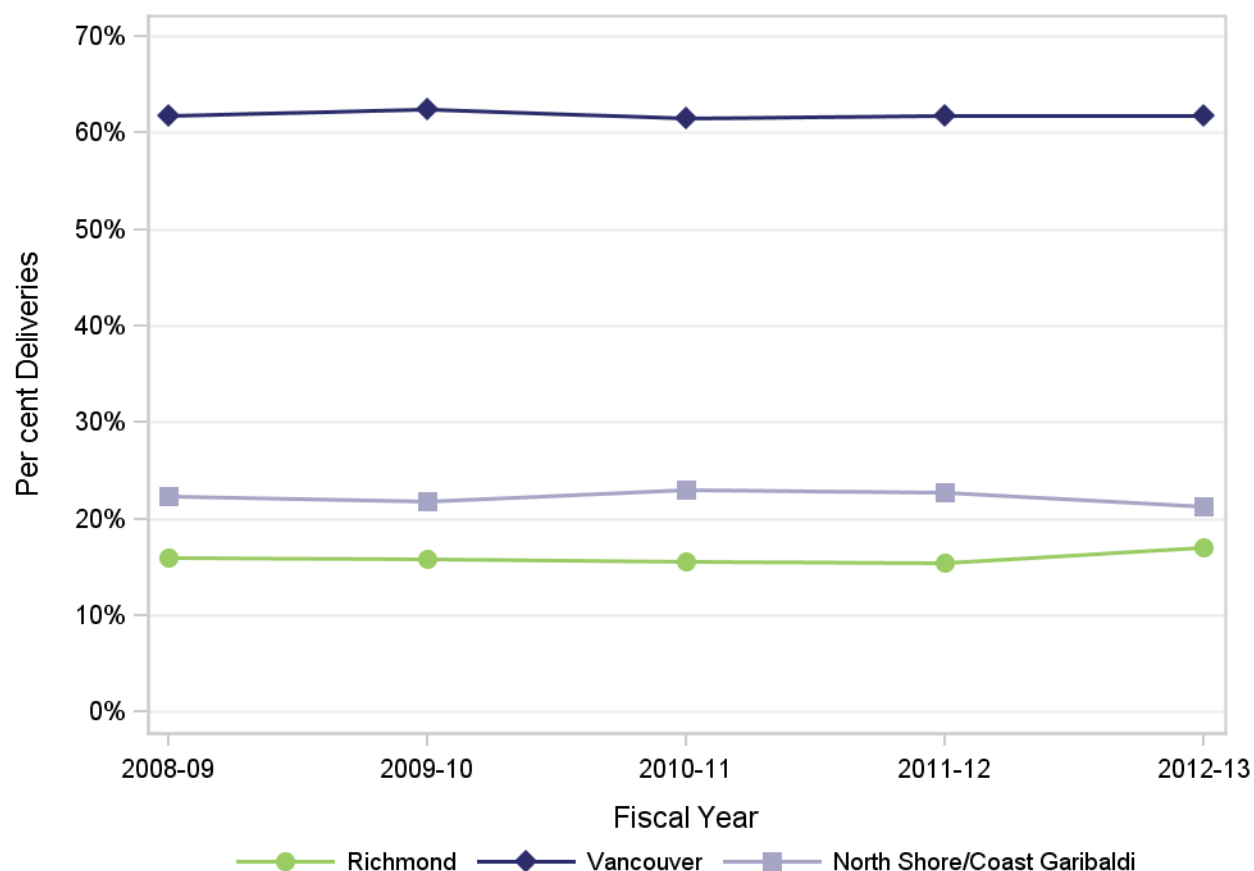


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Vancouver Coastal Health	10,424	10,235	10,131	10,078	10,678

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Deliveries by Resident Health Service Delivery Area

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

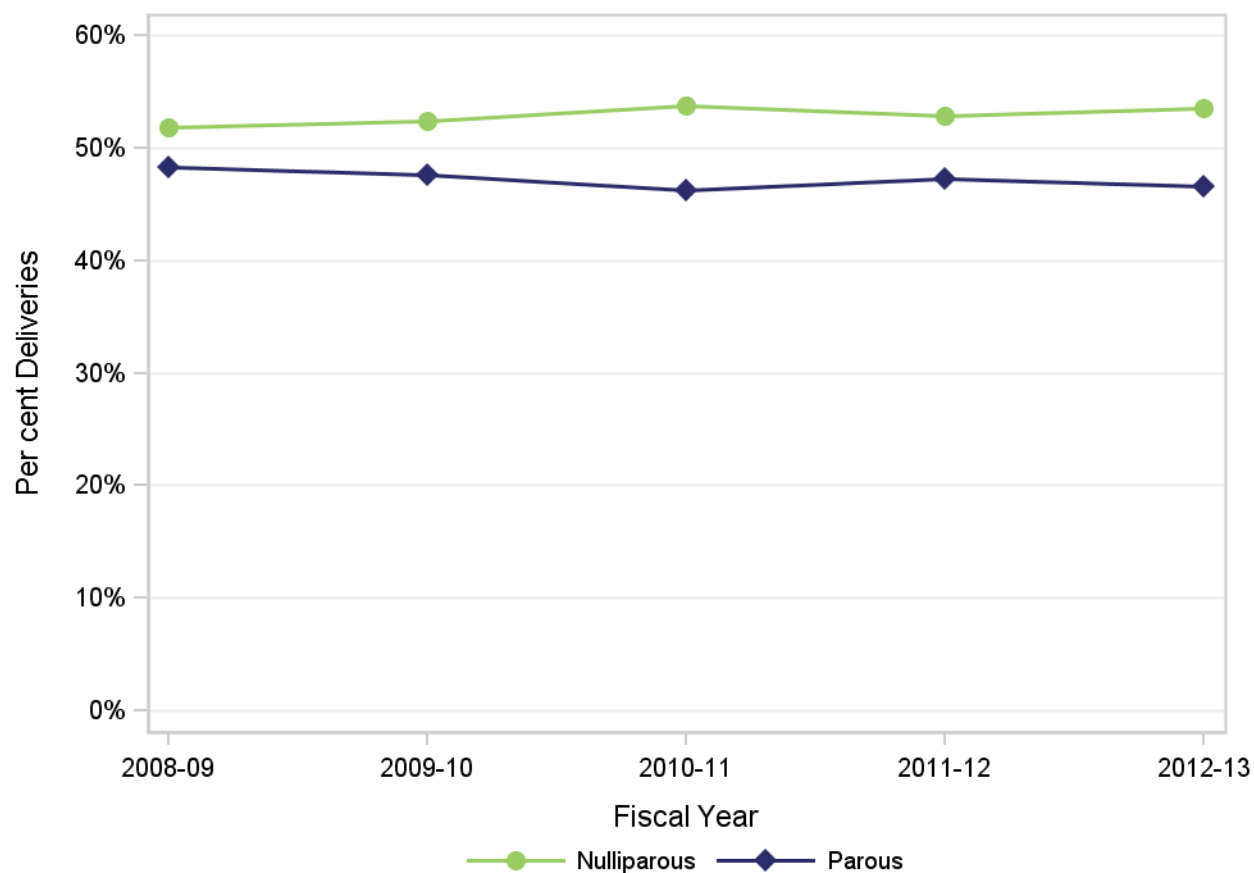


Health Service Delivery Area	Fiscal Year									
	2008-09		2009-10		2010-11		2011-12		2012-13	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Richmond	1,663	16.0%	1,620	15.8%	1,574	15.5%	1,555	15.4%	1,814	17.0%
Vancouver	6,433	61.7%	6,383	62.4%	6,234	61.5%	6,226	61.8%	6,592	61.7%
North Shore/Coast Garibaldi	2,328	22.3%	2,232	21.8%	2,323	22.9%	2,297	22.8%	2,272	21.3%

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Deliveries by Parity

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



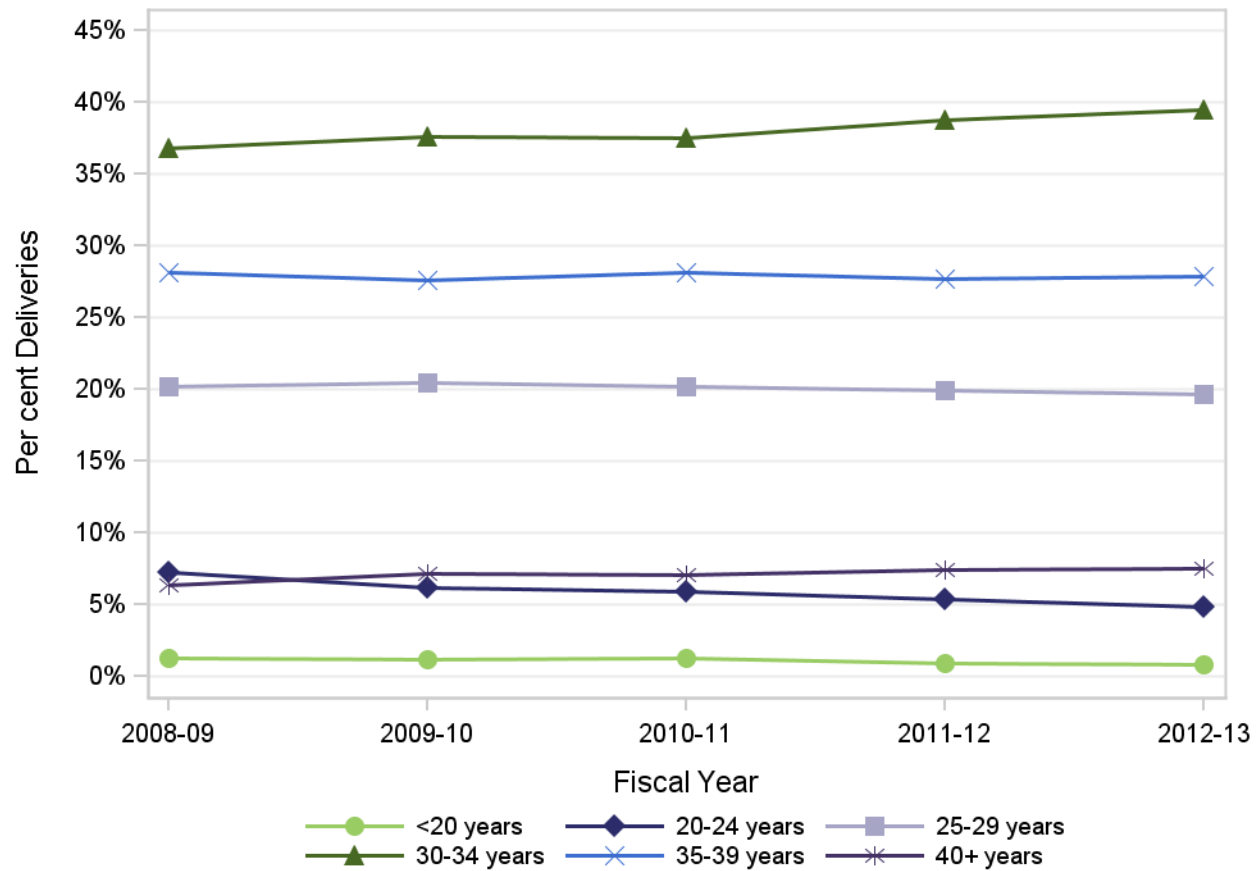
Average and Median Maternal Age at Delivery by Parity

Parity	Fiscal Year									
	2008-09		2009-10		2010-11		2011-12		2012-13	
	Average	Median	Average	Median	Average	Median	Average	Median	Average	Median
All	32.6	32.9	32.8	33.0	32.8	33.1	32.9	33.1	33.0	33.1
Nulliparous	31.4	31.7	31.6	31.7	31.6	31.8	31.8	32.0	31.9	31.9
Parous	33.8	34.2	34.0	34.4	34.2	34.5	34.2	34.5	34.3	34.6

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Maternal Age at Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

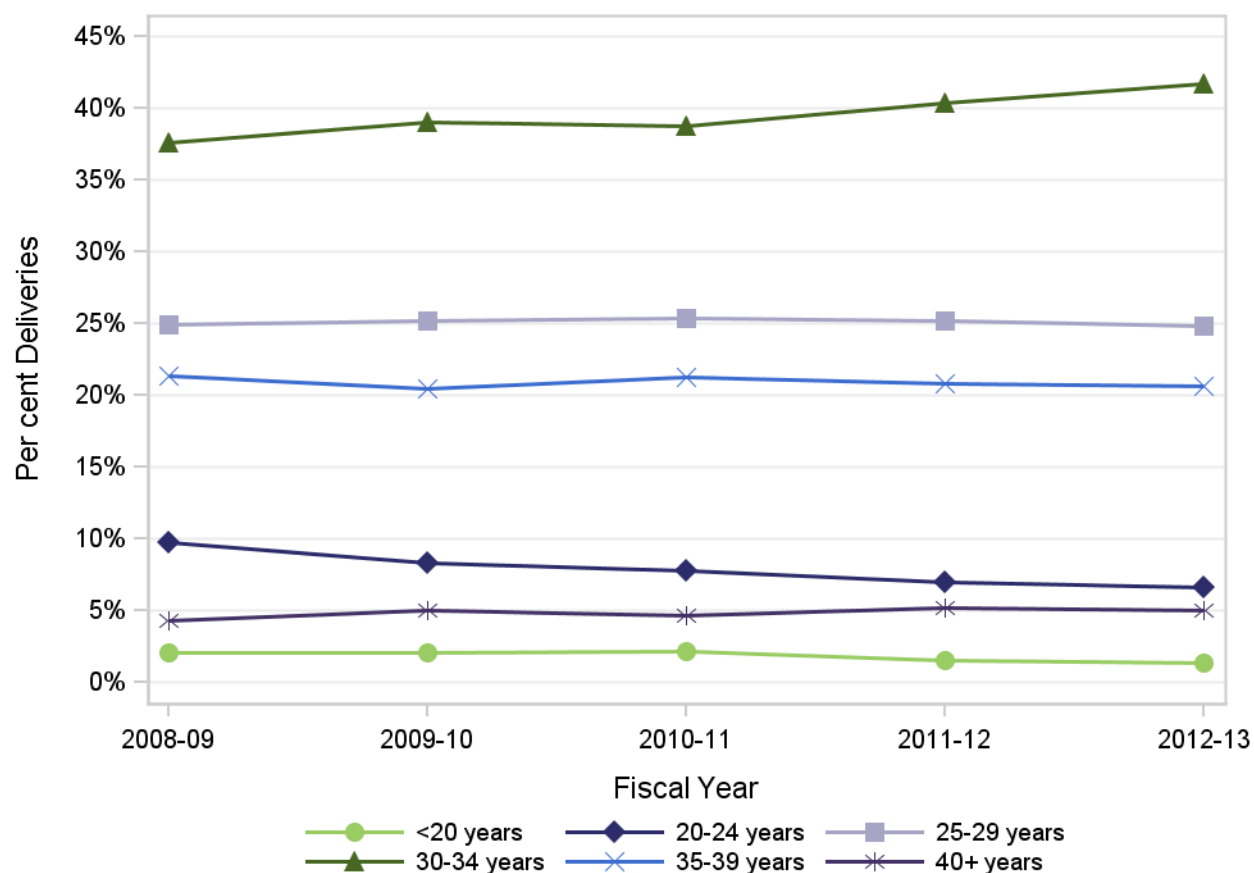


Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	1.2%	1.1%	1.3%	0.9%	0.8%
20-24 years	7.3%	6.1%	5.9%	5.3%	4.8%
25-29 years	20.2%	20.4%	20.2%	19.9%	19.6%
30-34 years	36.8%	37.6%	37.5%	38.8%	39.4%
35-39 years	28.1%	27.6%	28.1%	27.7%	27.8%
40+ years	6.4%	7.1%	7.0%	7.4%	7.5%

Definitions and specifications begin on Page 75 of this document.

Age of Nulliparous Women at Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

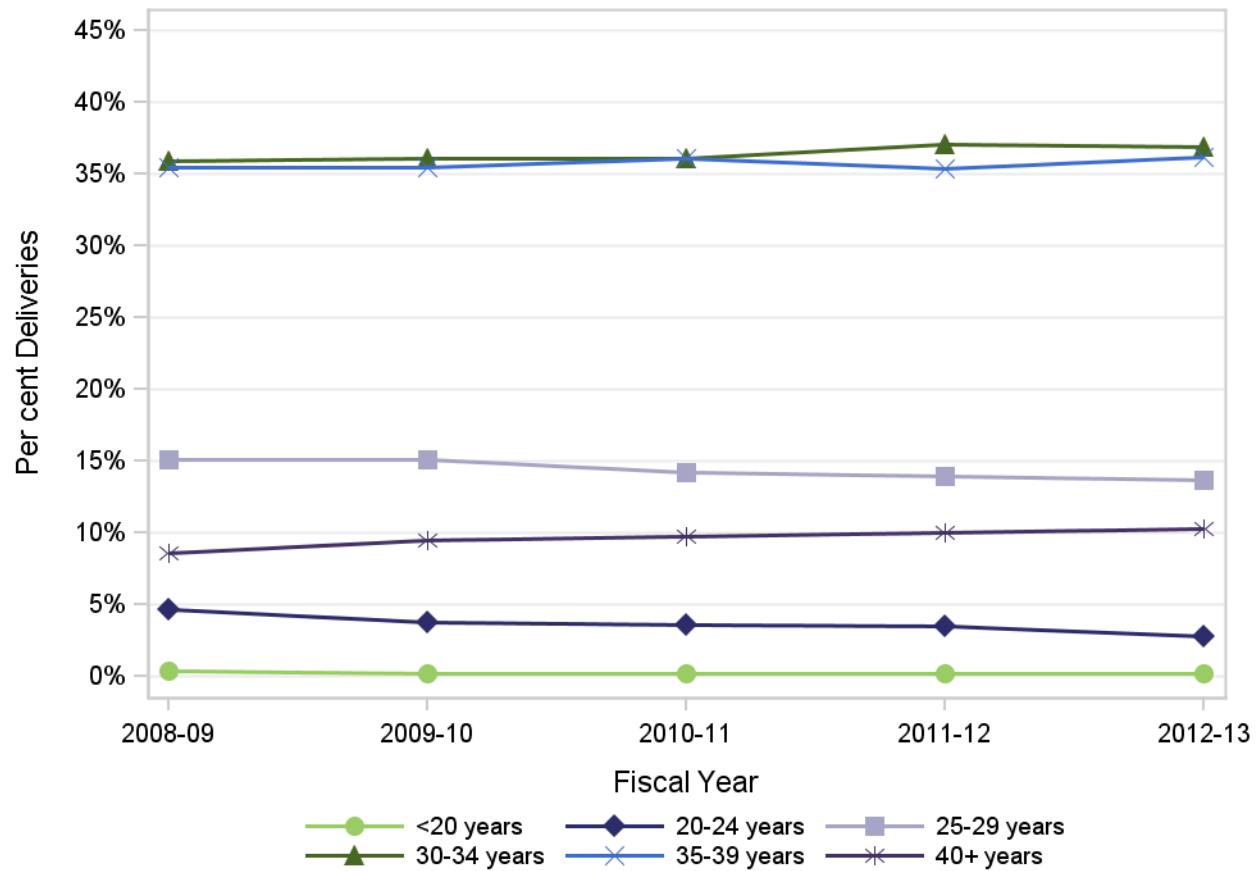


Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	2.1%	2.0%	2.1%	1.5%	1.3%
20-24 years	9.7%	8.3%	7.8%	7.0%	6.6%
25-29 years	24.9%	25.2%	25.4%	25.2%	24.8%
30-34 years	37.6%	39.0%	38.7%	40.3%	41.6%
35-39 years	21.3%	20.4%	21.3%	20.8%	20.6%
40+ years	4.3%	5.0%	4.7%	5.2%	5.0%

Definitions and specifications begin on Page 75 of this document.

Age of Parous Women at Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



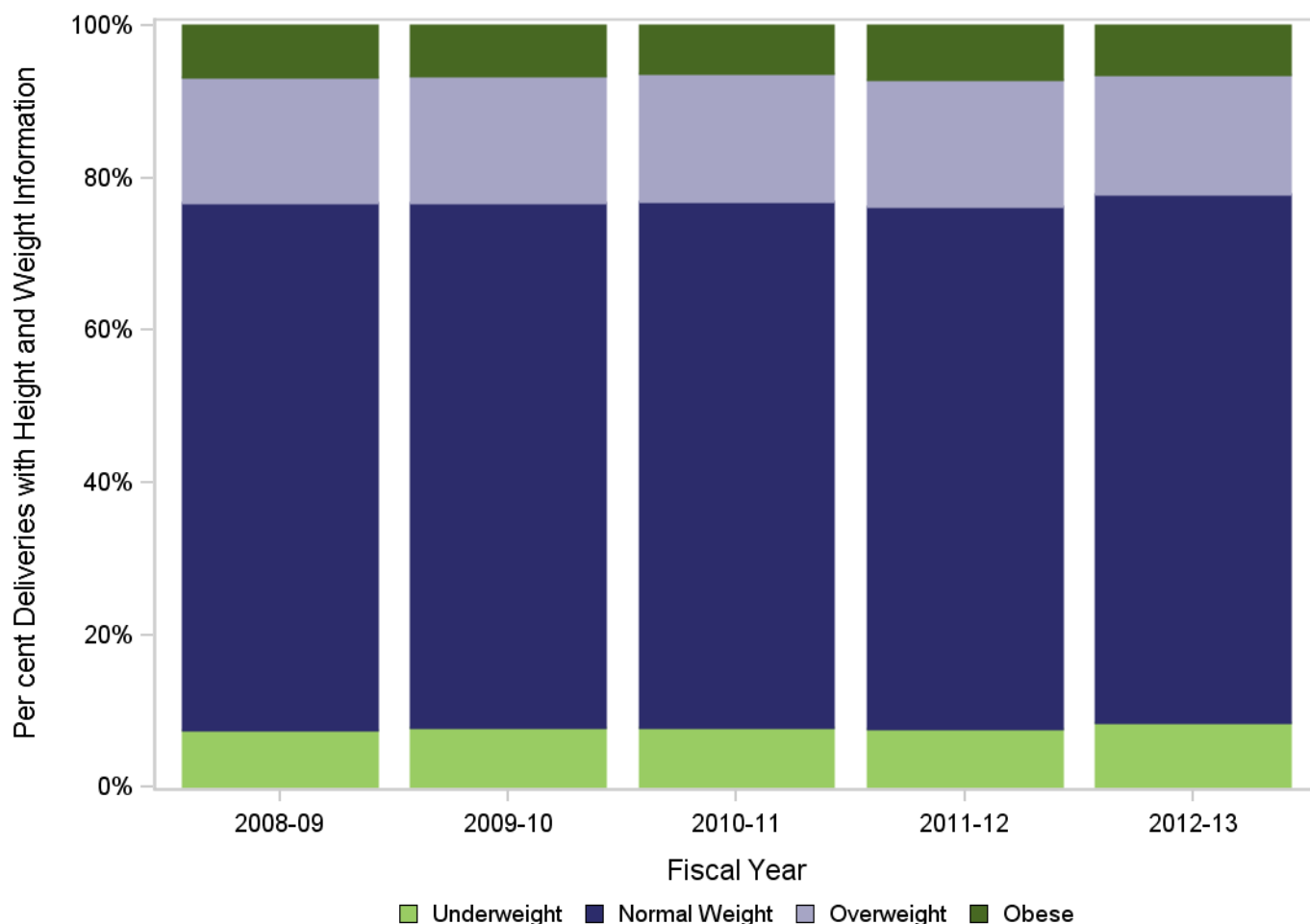
Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	0.3%	0.2%	0.2%	0.2%	0.2%
20-24 years	4.7%	3.7%	3.6%	3.5%	2.8%
25-29 years	15.1%	15.1%	14.2%	13.9%	13.7%
30-34 years	35.8%	36.0%	36.1%	37.0%	36.9%
35-39 years	35.5%	35.5%	36.1%	35.4%	36.1%
40+ years	8.6%	9.5%	9.8%	10.0%	10.3%

Definitions and specifications begin on Page 75 of this document.

Pre-Pregnancy Body Mass Index (BMI)

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

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



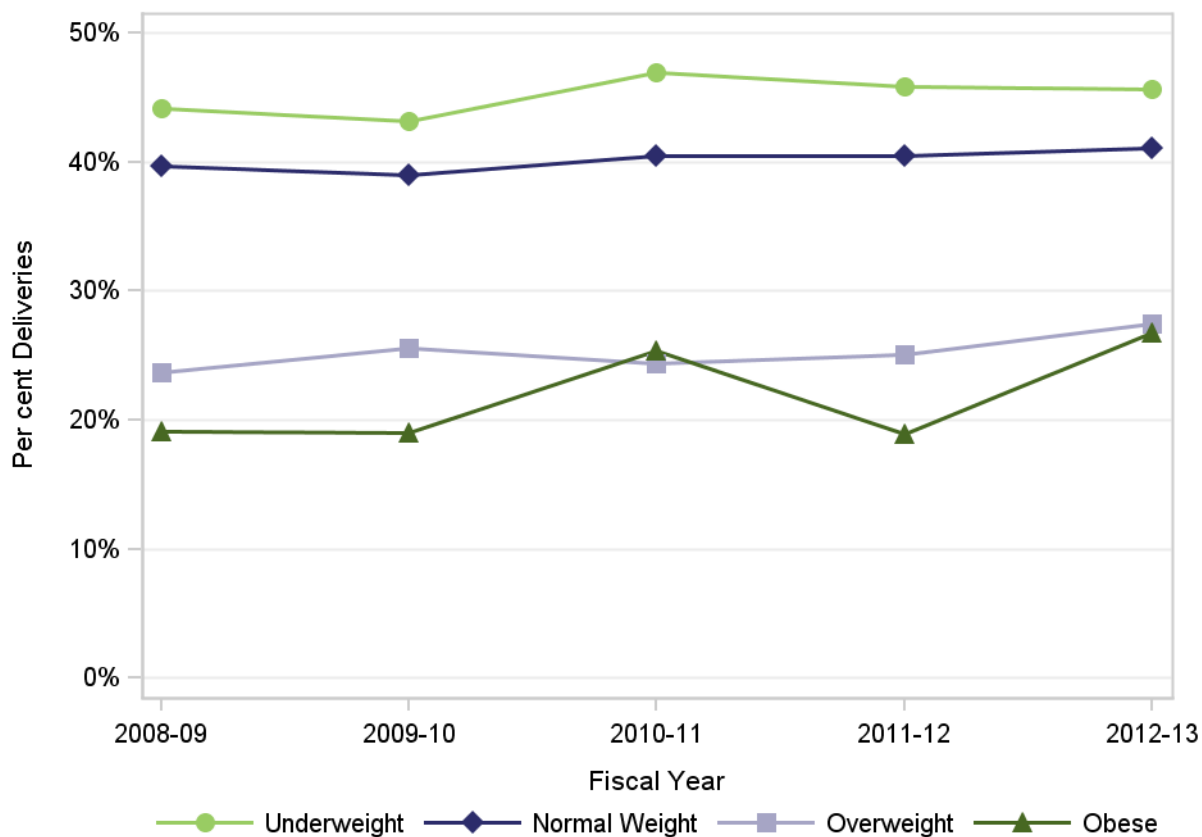
Distribution of Pre-Pregnancy BMI Among **ALL** Women

BMI Category	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Underweight	4.8%	5.2%	5.1%	5.3%	6.0%
Normal Weight	45.4%	45.9%	45.7%	48.6%	49.8%
Overweight	10.9%	11.1%	11.1%	11.7%	11.2%
Obese	4.5%	4.5%	4.2%	5.1%	4.7%
BMI Missing	34.5%	33.4%	33.9%	29.2%	28.3%

Definitions and specifications begin on Page 75 of this document.

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



BMI Category	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Underweight	44.1%	43.2%	46.9%	45.8%	45.6%
Normal Weight	39.6%	39.0%	40.5%	40.5%	41.1%
Overweight	23.6%	25.6%	24.3%	25.0%	27.5%
Obese	19.1%	19.0%	25.4%	18.9%	26.7%

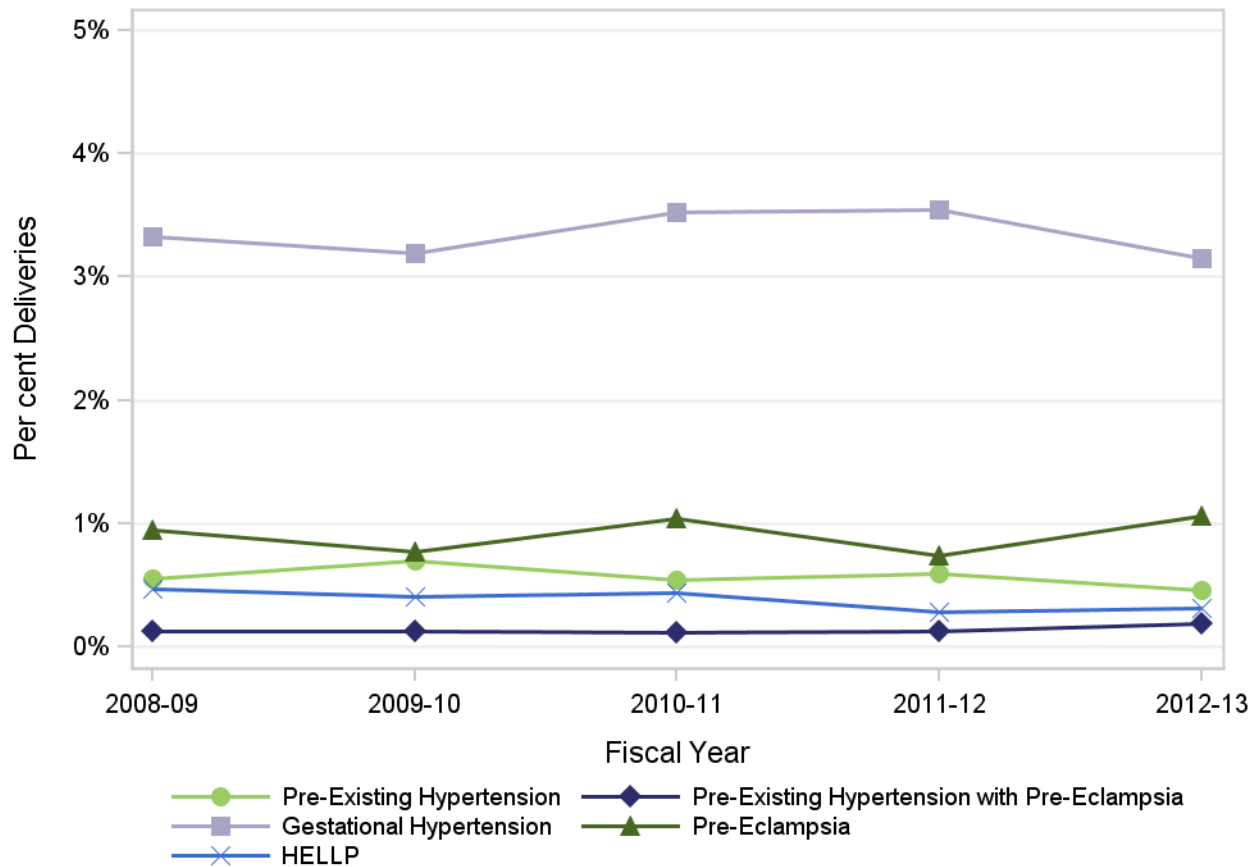
* As defined by the Institute of Medicine.

Data are limited to women with complete height and weight information (approximately 50% of deliveries).

Definitions and specifications begin on Page 75 of this document.

Hypertension in Pregnancy

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Type of Hypertension	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
No Hypertension	94.6%	94.8%	94.3%	94.7%	94.8%
Pre-Existing Hypertension	0.6%	0.7%	0.5%	0.6%	0.5%
Pre-Existing Hypertension with Pre-Eclampsia	0.1%	0.1%	0.1%	0.1%	0.2%
Gestational Hypertension	3.3%	3.2%	3.5%	3.5%	3.1%
Pre-Eclampsia	0.9%	0.8%	1.0%	0.7%	1.1%
Eclampsia	NR	NR	NR	NR	NR
HELLP	0.5%	0.4%	0.4%	0.3%	0.3%

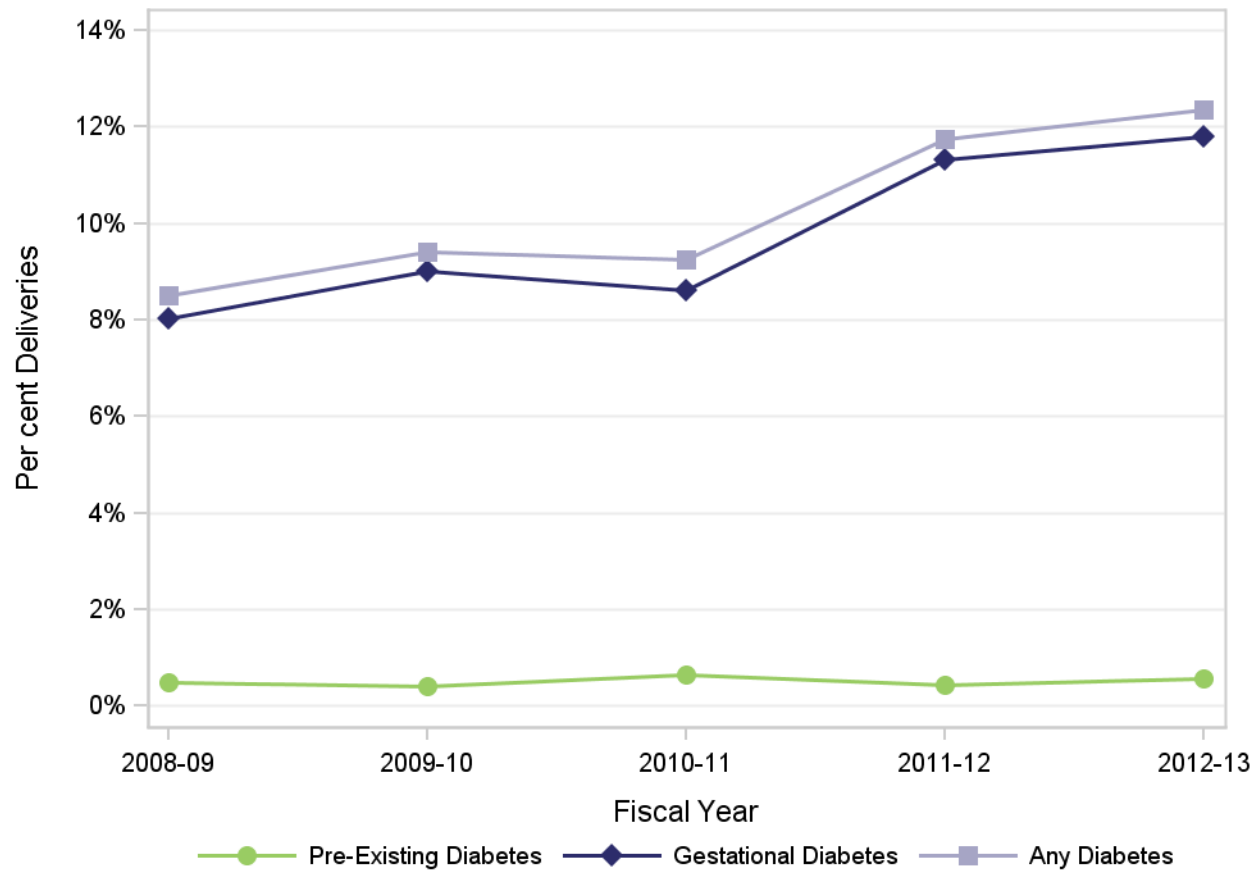
Diagnosis codes for hypertensive disorders in pregnancy, notably gestational hypertension and pre-eclampsia, changed effective April 1, 2012 discharges. This may cause a break in the trend for these two diagnoses.

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

Definitions and specifications begin on Page 75 of this document.

Diabetes Mellitus in Pregnancy

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

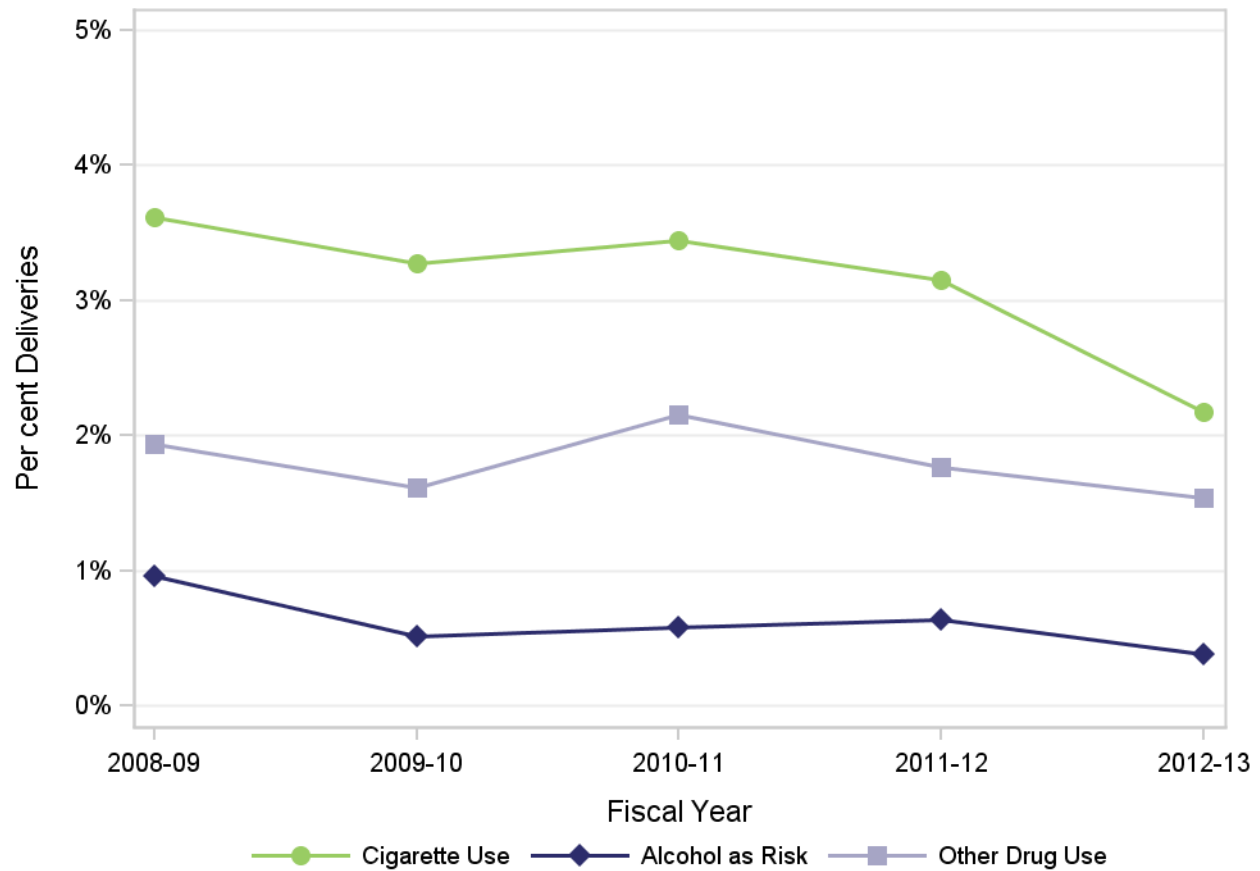


Type of Diabetes	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Pre-Existing Diabetes	0.5%	0.4%	0.6%	0.4%	0.6%
Gestational Diabetes	8.0%	9.0%	8.6%	11.3%	11.8%
Any Diabetes	8.5%	9.4%	9.2%	11.7%	12.4%

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 75 of this document.

Substance Use During Pregnancy

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

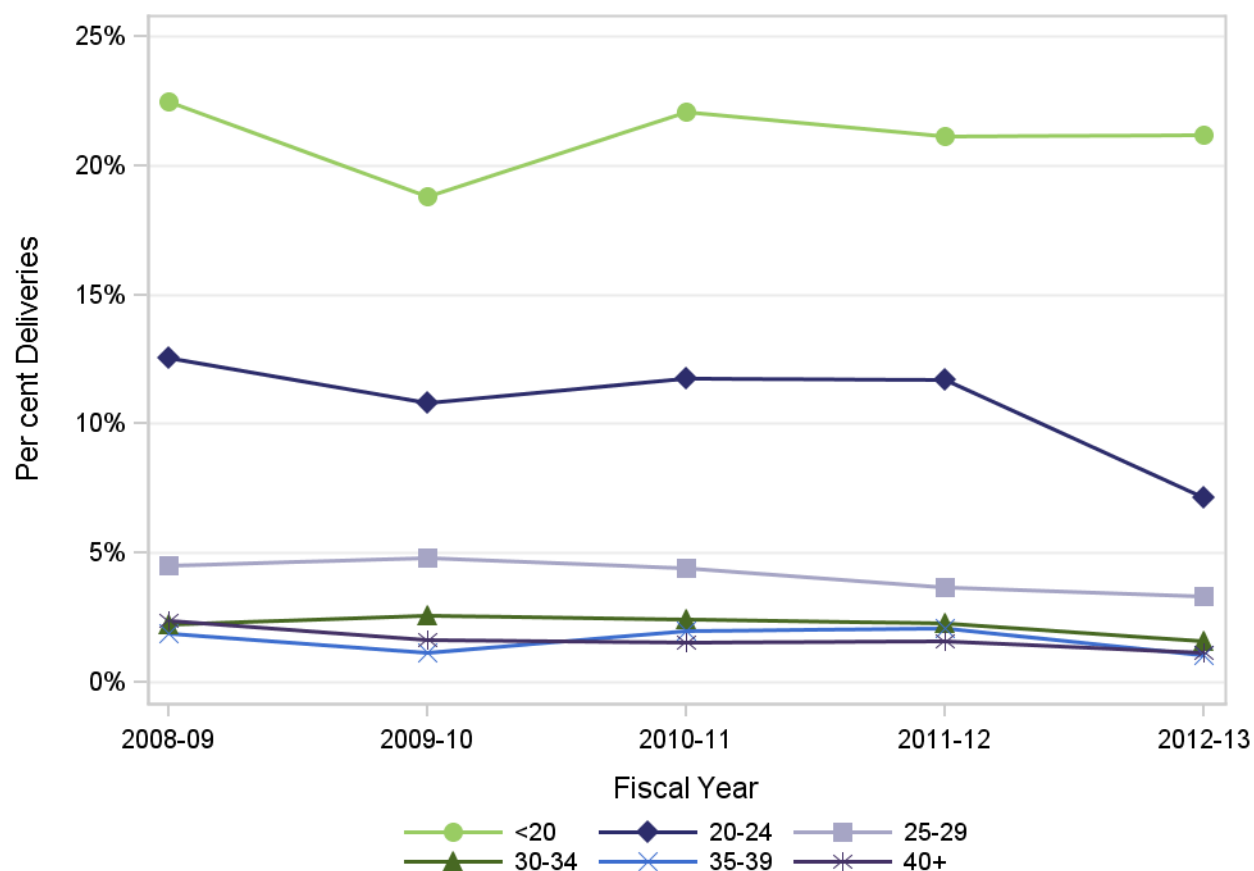


Substance	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Cigarette Use	3.6%	3.3%	3.4%	3.1%	2.2%
Alcohol as Risk	1.0%	0.5%	0.6%	0.6%	0.4%
Other Drug Use	1.9%	1.6%	2.2%	1.8%	1.5%

Definitions and specifications begin on Page 75 of this document.

Cigarette Use at Any Time During Pregnancy by Maternal Age

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

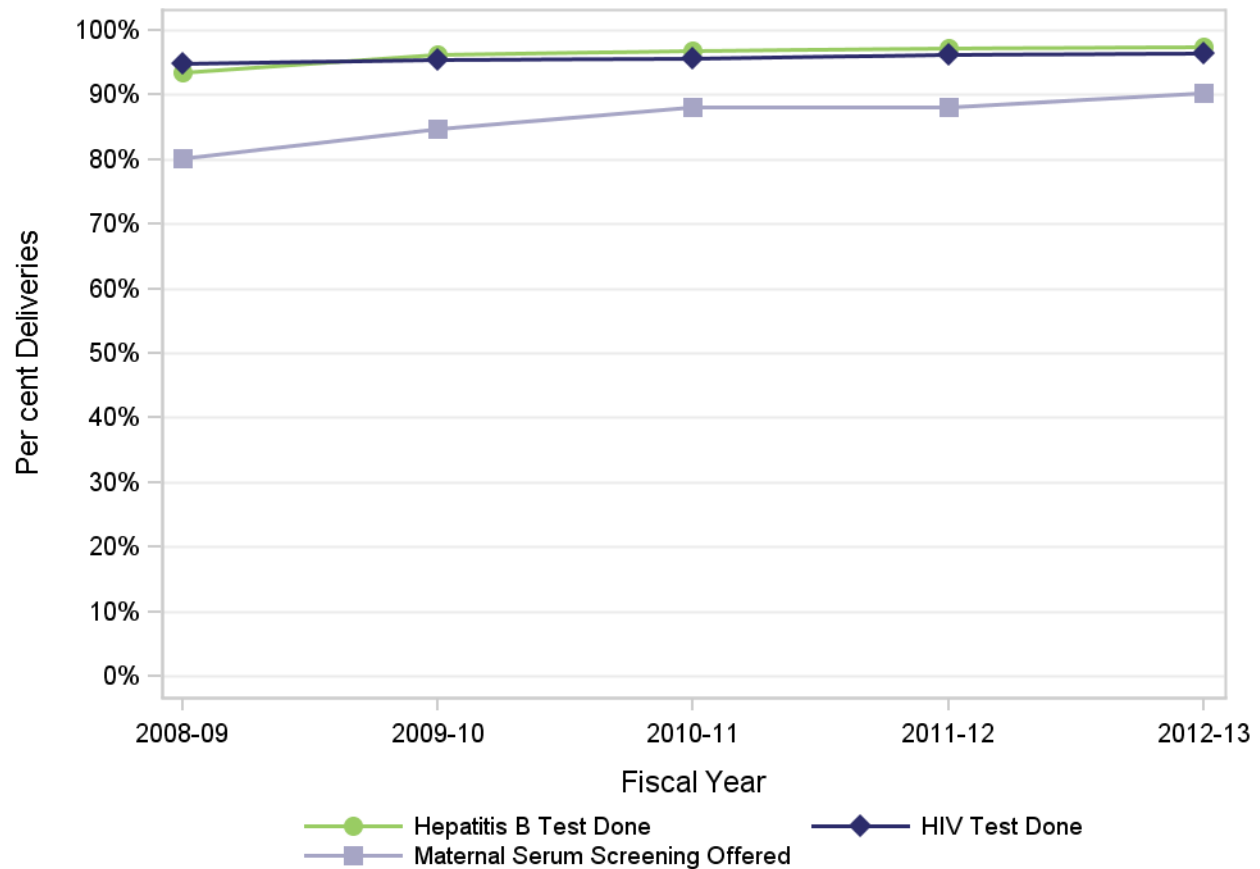


Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	22.5%	18.8%	22.0%	21.1%	21.2%
20-24 years	12.5%	10.8%	11.7%	11.7%	7.2%
25-29 years	4.5%	4.8%	4.4%	3.7%	3.3%
30-34 years	2.2%	2.6%	2.4%	2.3%	1.6%
35-39 years	1.9%	1.2%	2.0%	2.1%	1.0%
40+ years	2.4%	1.6%	1.5%	1.6%	1.1%

Definitions and specifications begin on Page 75 of this document.

Maternal Screening Tests

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Type of Screening	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Hepatitis B Test Done	93.4%	96.2%	96.8%	97.3%	97.3%
HIV Test Done	94.7%	95.5%	95.7%	96.1%	96.4%
Maternal Serum Screening Offered	80.2%	84.8%	88.0%	88.0%	90.2%

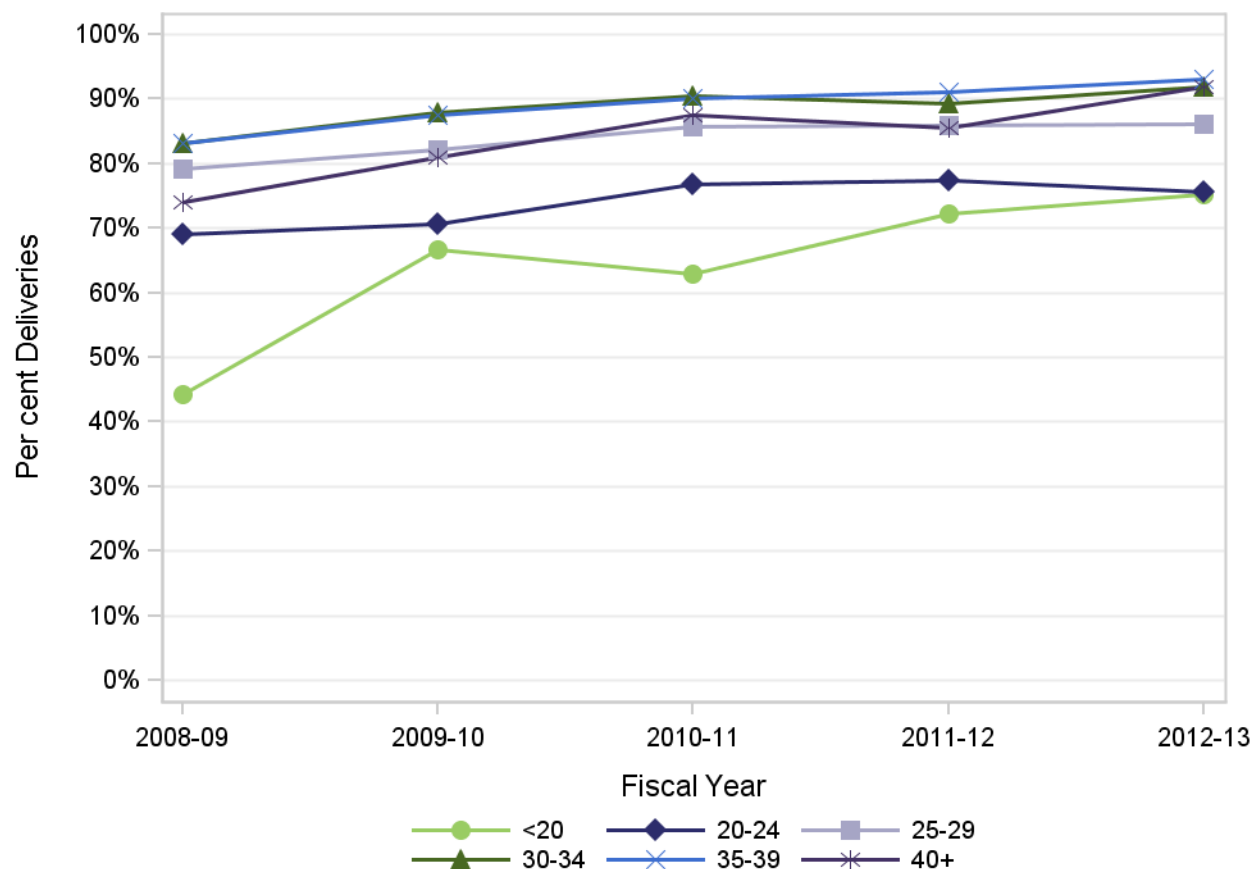
Maternal serum screening refers to testing offered through the BC Prenatal Genetic Screening Program.

[Click here for information on the BC Prenatal Genetic Screening Program.](#)

Definitions and specifications begin on Page 75 of this document.

Offer of Maternal Serum Screening by Maternal Age

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	44.2%	66.7%	63.0%	72.2%	75.3%
20-24 years	69.1%	70.5%	76.8%	77.3%	75.6%
25-29 years	79.1%	82.0%	85.6%	85.9%	86.2%
30-34 years	83.1%	87.9%	90.5%	89.3%	91.9%
35-39 years	83.1%	87.4%	90.1%	91.0%	93.0%
40+ years	74.1%	81.0%	87.5%	85.6%	91.9%

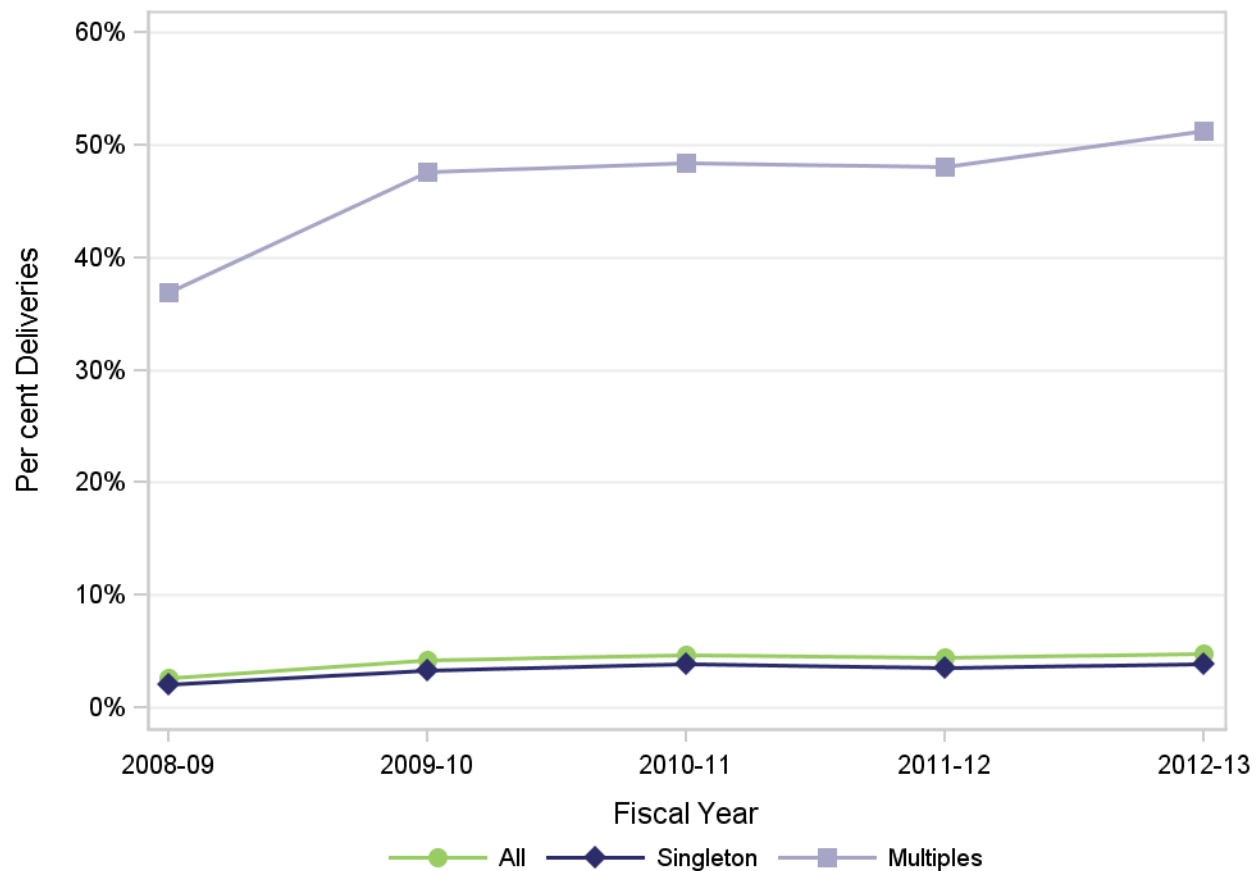
Maternal serum screening refers to testing offered through the BC Prenatal Genetic Screening Program.

[Click here for information on the BC Prenatal Genetic Screening Program.](#)

Definitions and specifications begin on Page 75 of this document.

Use of Artificial Reproductive Technology by Plurality

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Plurality	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
All	2.7%	4.2%	4.7%	4.4%	4.8%
Singleton	2.1%	3.4%	3.9%	3.5%	3.9%
Multiples	36.9%	47.6%	48.4%	48.0%	51.3%

Artificial reproductive technology data were captured differently beginning April 1, 2009 discharges. This may cause a break in the trend between 2008-09 and 2009-10.

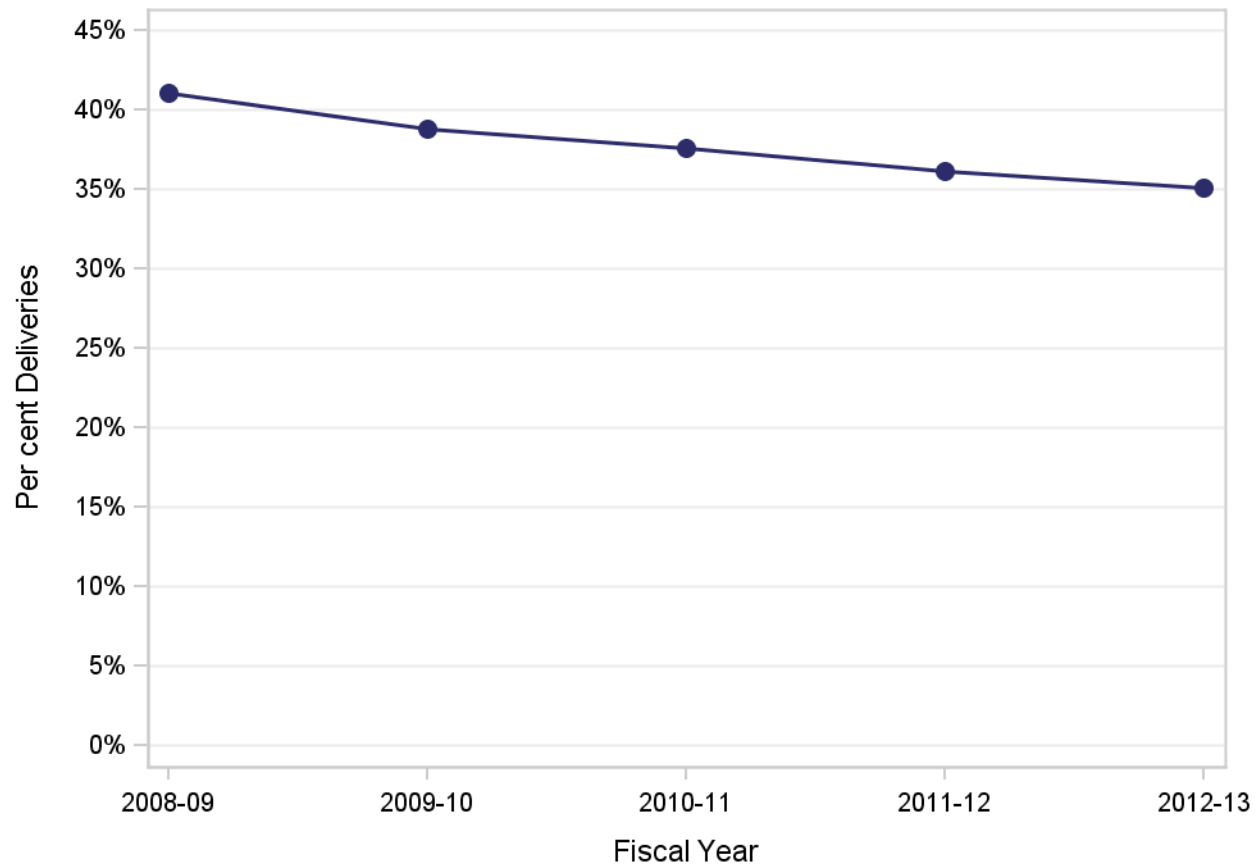
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Residents of Vancouver Coastal Health

Section 2: Labour and Delivery

Labour Augmentation

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

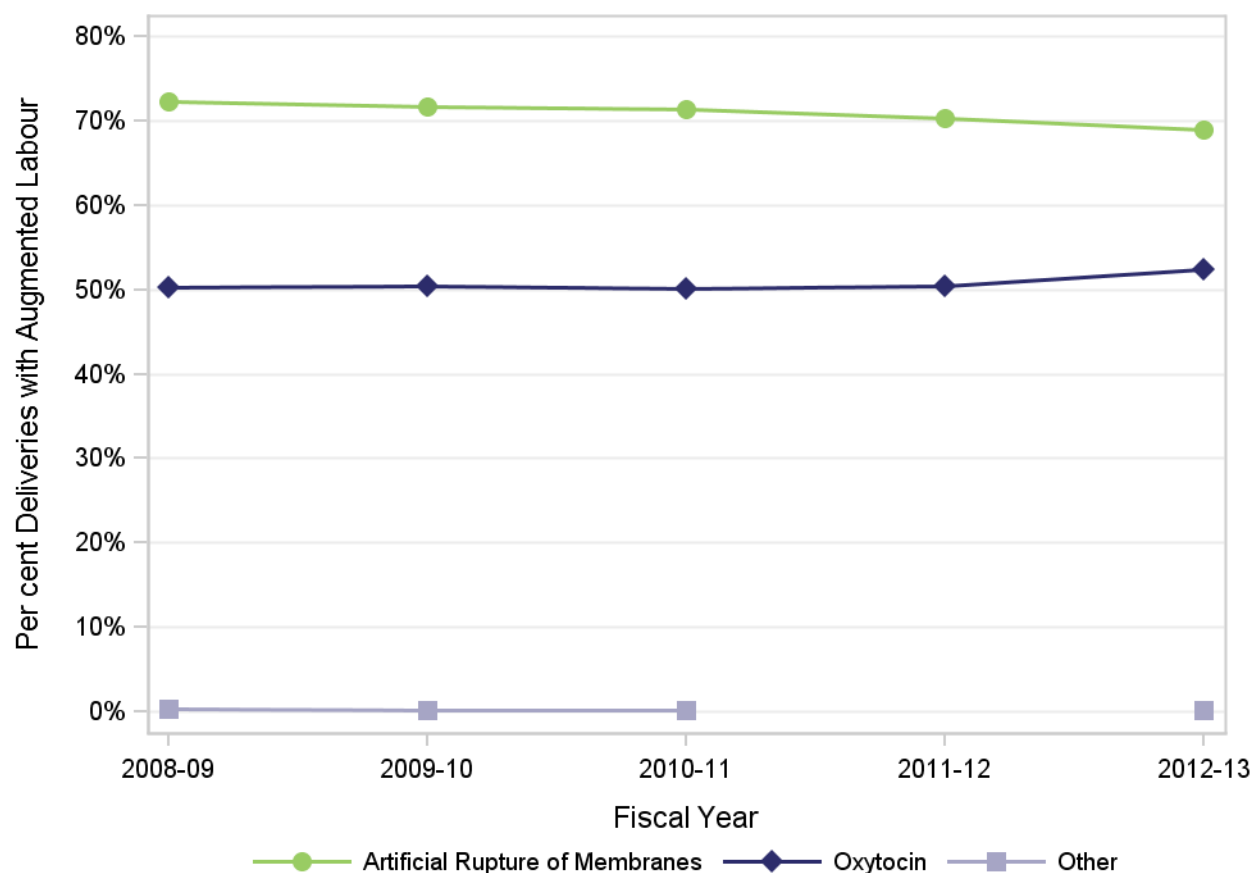


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Labour Augmentation	41.0%	38.8%	37.6%	36.1%	35.1%

NR: Rates and per cents based on numerators of 1 to 4 are not reported.
Definitions and specifications begin on Page 75 of this document.

Method of Labour Augmentation

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Method of Labour Augmentation	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Artificial Rupture of Membranes	72.3%	71.6%	71.4%	70.2%	68.9%
Oxytocin	50.2%	50.4%	50.0%	50.4%	52.4%
Other	0.3%	0.2%	0.1%	NR	0.2%

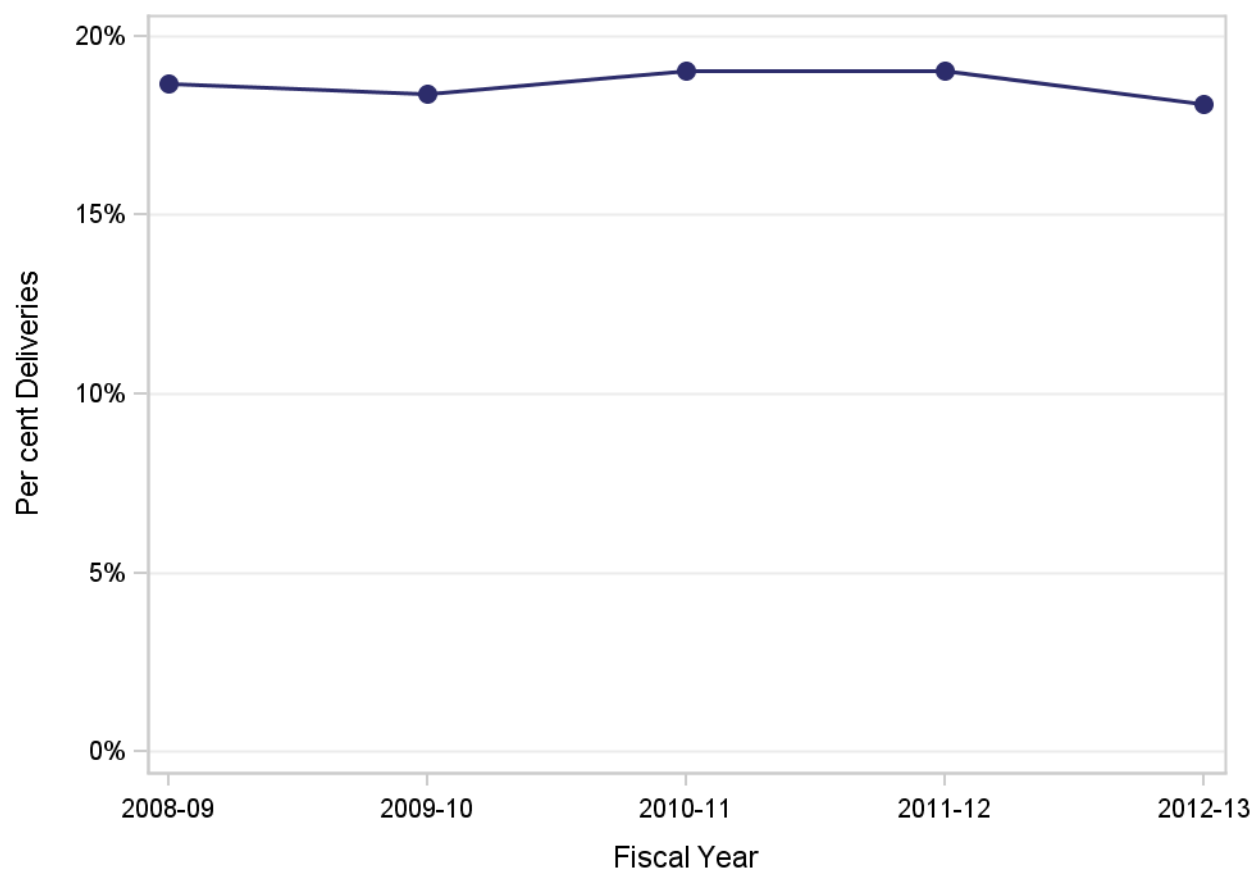
Multiple methods may be used.

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

Definitions and specifications begin on Page 75 of this document.

Labour Induction

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

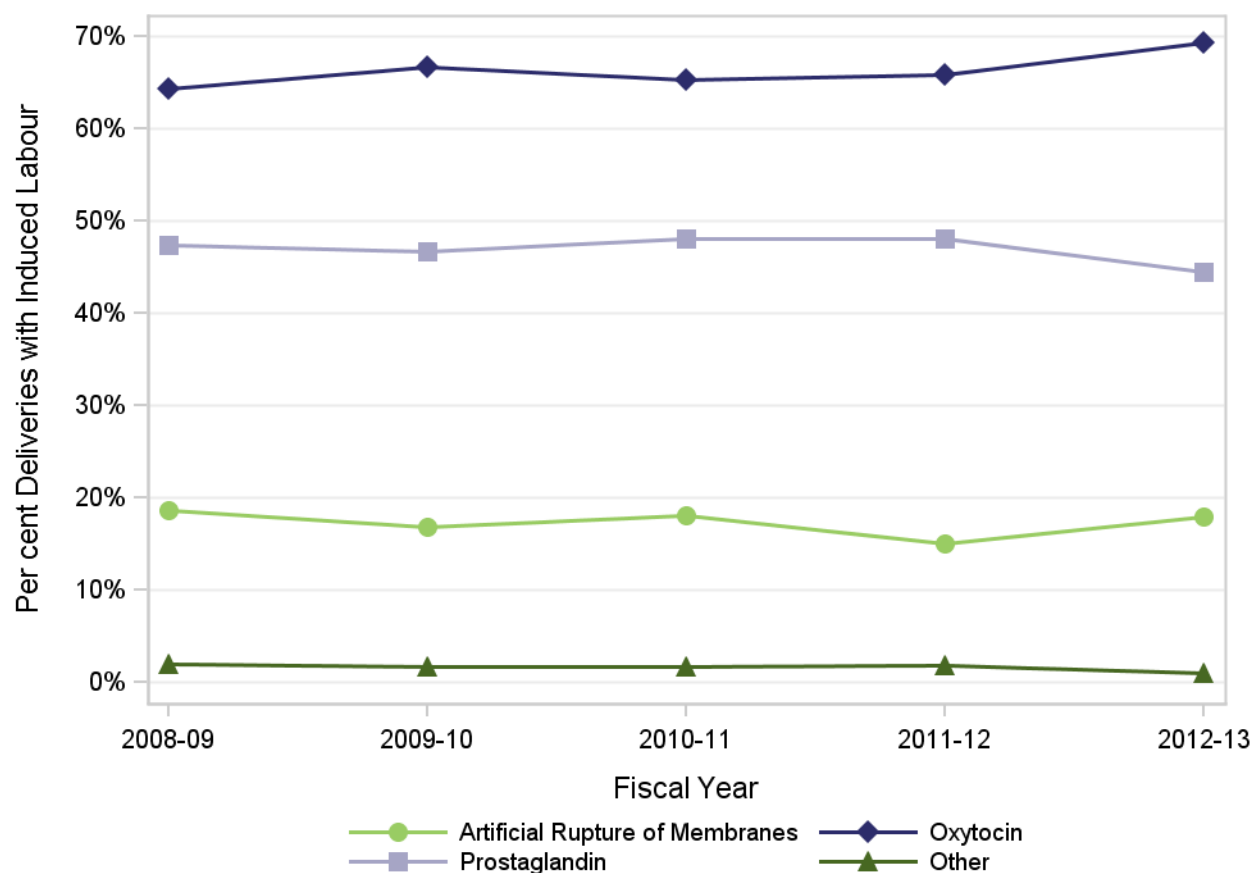


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Labour Induction	18.7%	18.4%	19.0%	19.0%	18.1%

Definitions and specifications begin on Page 75 of this document.

Method of Labour Induction

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



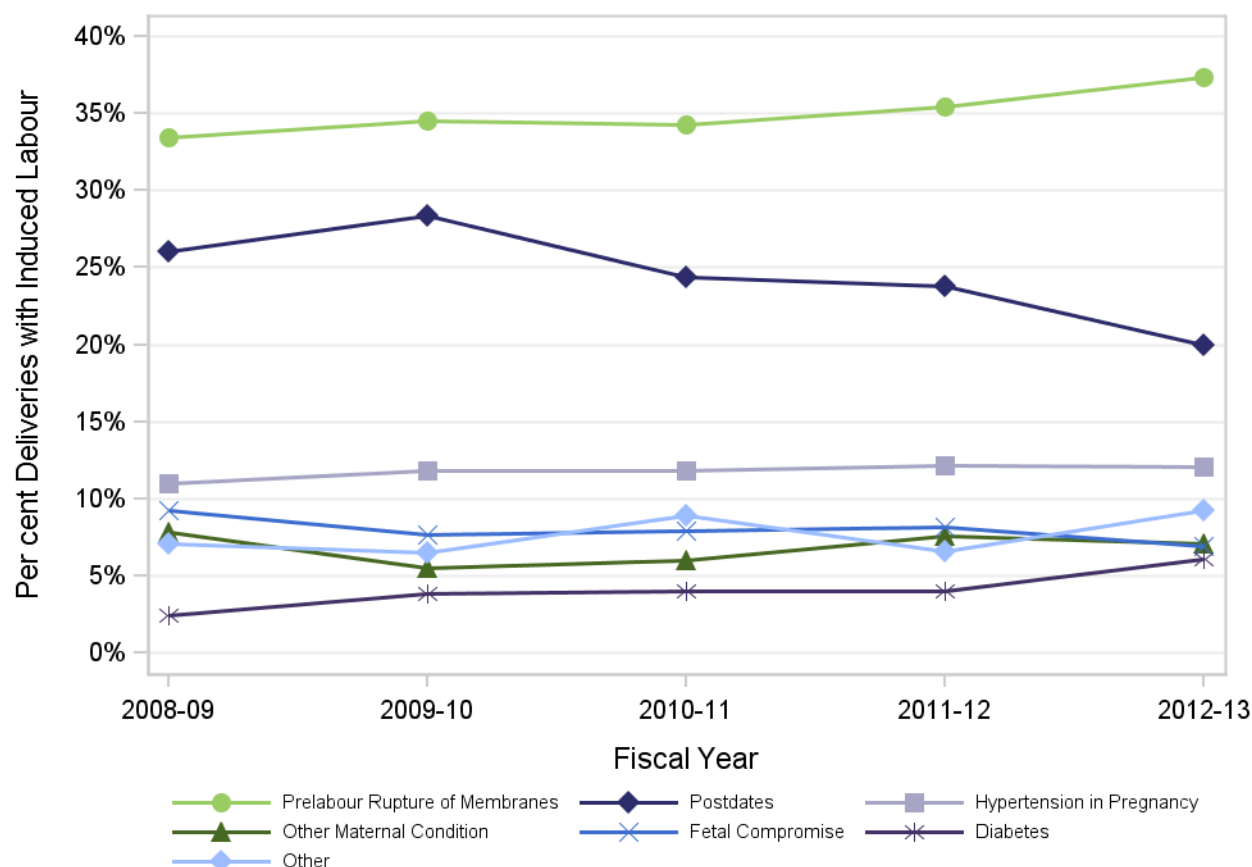
Method of Labour Induction	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Artificial Rupture of Membranes	18.6%	16.8%	18.0%	15.0%	18.0%
Oxytocin	64.3%	66.7%	65.2%	65.9%	69.3%
Prostaglandin	47.3%	46.7%	48.1%	48.0%	44.4%
Other	2.0%	1.6%	1.7%	1.8%	1.0%

Multiple methods may be used.

Definitions and specifications begin on Page 75 of this document.

Primary Indication for Labour Induction

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Primary Indication for Labour Induction	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Prelabour Rupture of Membranes	33.4%	34.5%	34.3%	35.4%	37.3%
Post Dates	26.0%	28.3%	24.3%	23.8%	20.0%
Hypertension in Pregnancy	11.0%	11.8%	11.8%	12.2%	12.1%
Other Maternal Condition	7.8%	5.5%	6.0%	7.6%	7.0%
Fetal Compromise	9.3%	7.7%	7.9%	8.1%	6.9%
Diabetes	2.4%	3.8%	4.0%	4.0%	6.1%
Fetal Demise	1.3%	1.0%	1.3%	1.1%	0.7%
Logistics	0.6%	0.3%	0.6%	0.3%	NR
Antepartum Hemorrhage	0.3%	0.4%	0.4%	0.3%	NR
Chorioamnionitis	0.3%	NR	NR	NR	NR
Other	7.1%	6.5%	8.9%	6.6%	9.3%
Unknown	0.5%	NR	0.3%	0.6%	0.4%

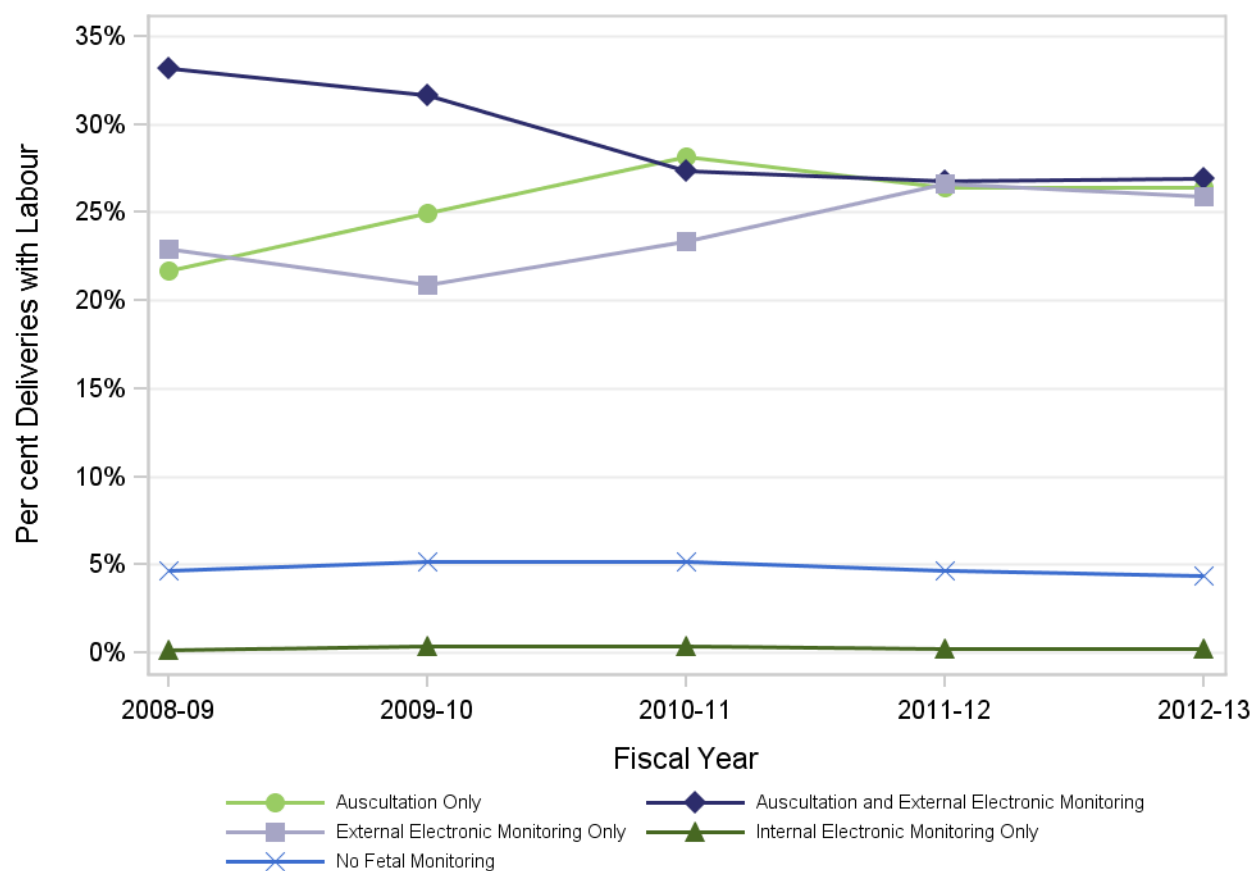
Selected indications are included in the figure; all indications are included in the table.

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

Definitions and specifications begin on Page 75 of this document.

Method of Fetal Surveillance During Labour

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

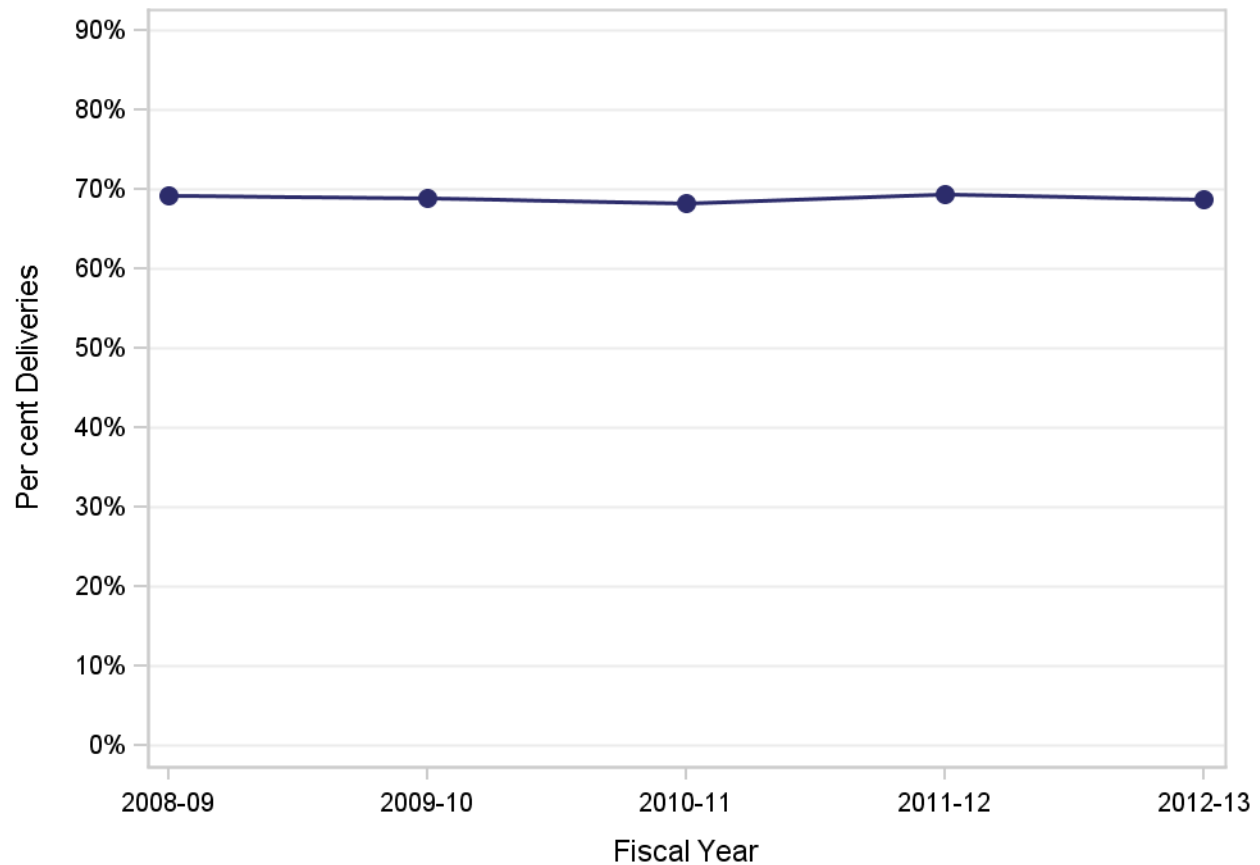


Method of Fetal Surveillance During Labour	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Auscultation Only	21.7%	25.0%	28.1%	26.4%	26.4%
Auscultation and External Electronic Monitoring	33.2%	31.6%	27.3%	26.8%	26.9%
External Electronic Monitoring Only	22.9%	20.9%	23.3%	26.6%	25.9%
Internal Electronic Monitoring Only	0.1%	0.4%	0.4%	0.3%	0.3%
No Fetal Monitoring	4.7%	5.2%	5.2%	4.7%	4.4%

Definitions and specifications begin on Page 75 of this document.

Vaginal Delivery Rate

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

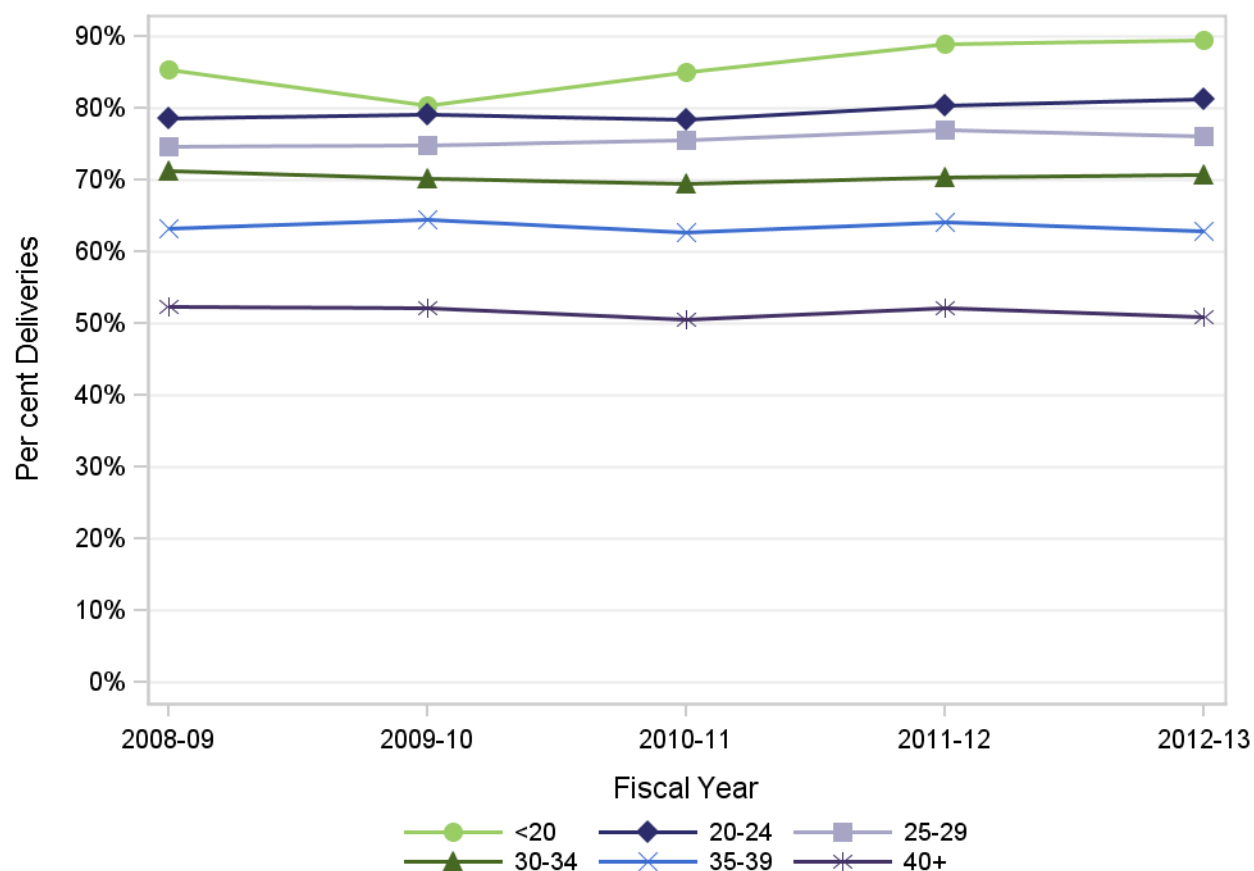


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Vaginal Delivery	69.1%	68.9%	68.2%	69.3%	68.7%

Definitions and specifications begin on Page 75 of this document.

Vaginal Delivery Rate by Maternal Age

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

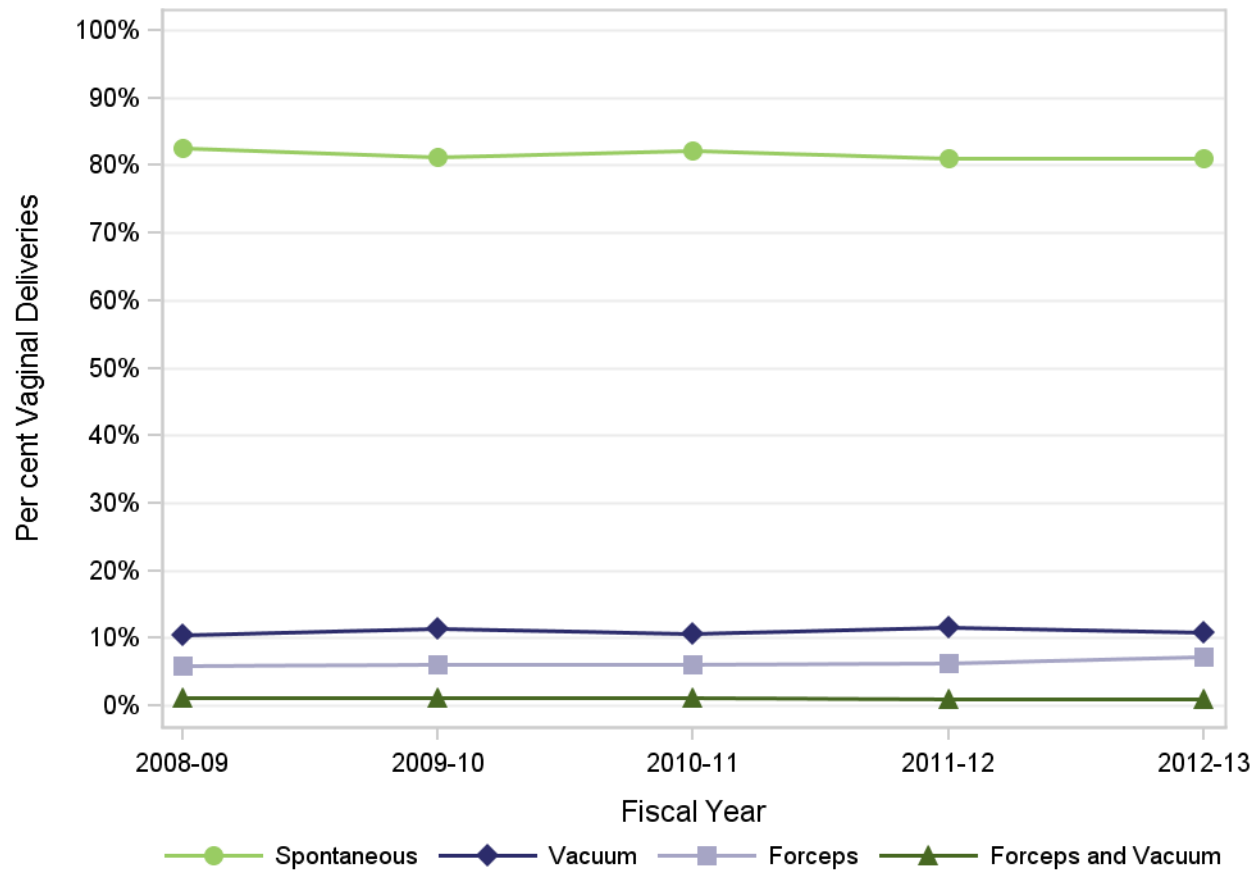


Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	85.3%	80.3%	85.0%	88.9%	89.4%
20-24 years	78.5%	79.1%	78.4%	80.3%	81.2%
25-29 years	74.6%	74.8%	75.5%	76.9%	76.0%
30-34 years	71.2%	70.2%	69.5%	70.4%	70.7%
35-39 years	63.3%	64.4%	62.6%	64.2%	62.8%
40+ years	52.3%	52.2%	50.6%	52.1%	50.9%

Definitions and specifications begin on Page 75 of this document.

Type of Vaginal Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

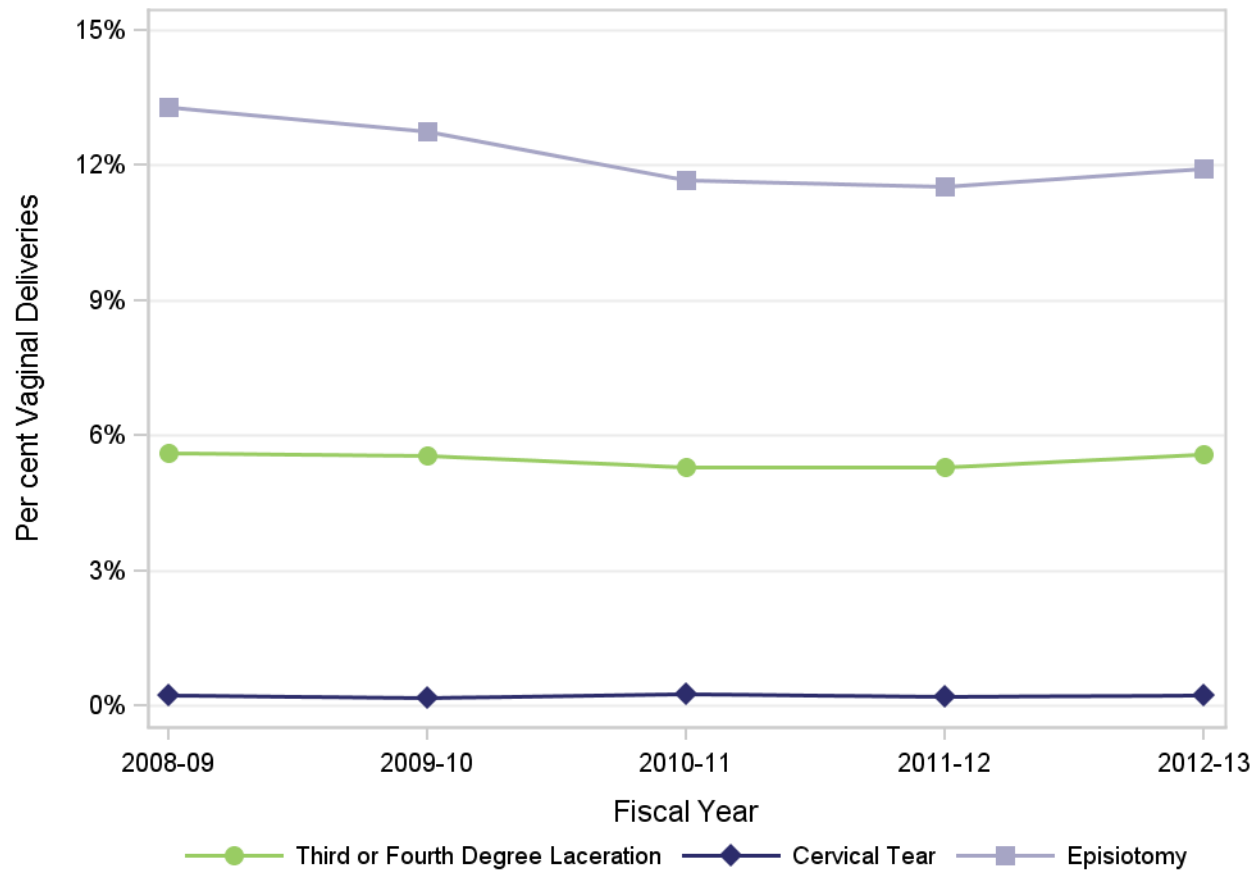


Type of Vaginal Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous	82.5%	81.2%	82.1%	81.1%	81.0%
Vacuum	10.5%	11.4%	10.7%	11.7%	10.8%
Forceps	5.9%	6.2%	6.0%	6.2%	7.2%
Forceps and Vacuum	1.2%	1.2%	1.1%	1.1%	1.0%

Definitions and specifications begin on Page 75 of this document.

Perineal Trauma

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

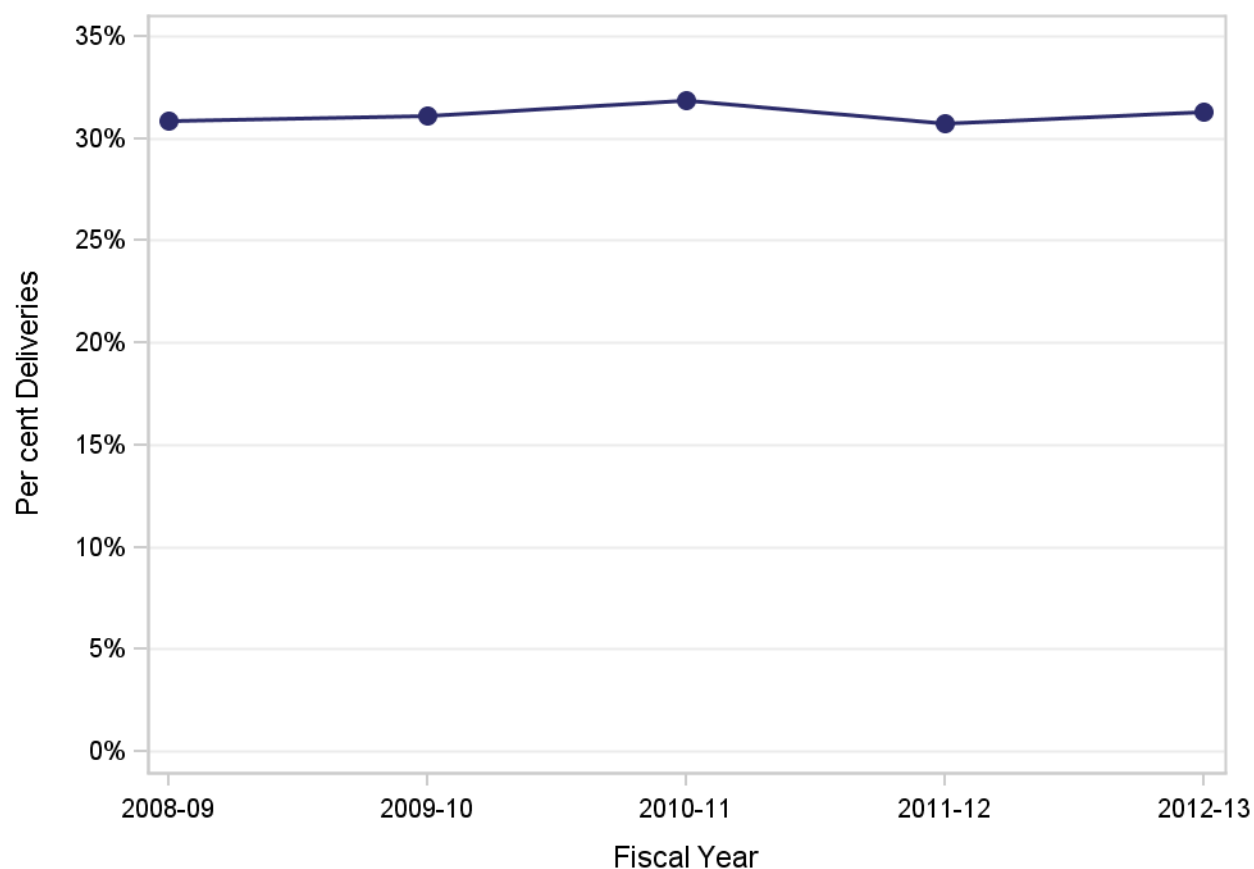


Perineal Trauma	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Third or Fourth Degree Laceration	5.6%	5.5%	5.3%	5.3%	5.6%
Cervical Tear	0.2%	0.2%	0.3%	0.2%	0.2%
Episiotomy	13.3%	12.8%	11.7%	11.5%	11.9%

Definitions and specifications begin on Page 75 of this document.

Cesarean Delivery Rate

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

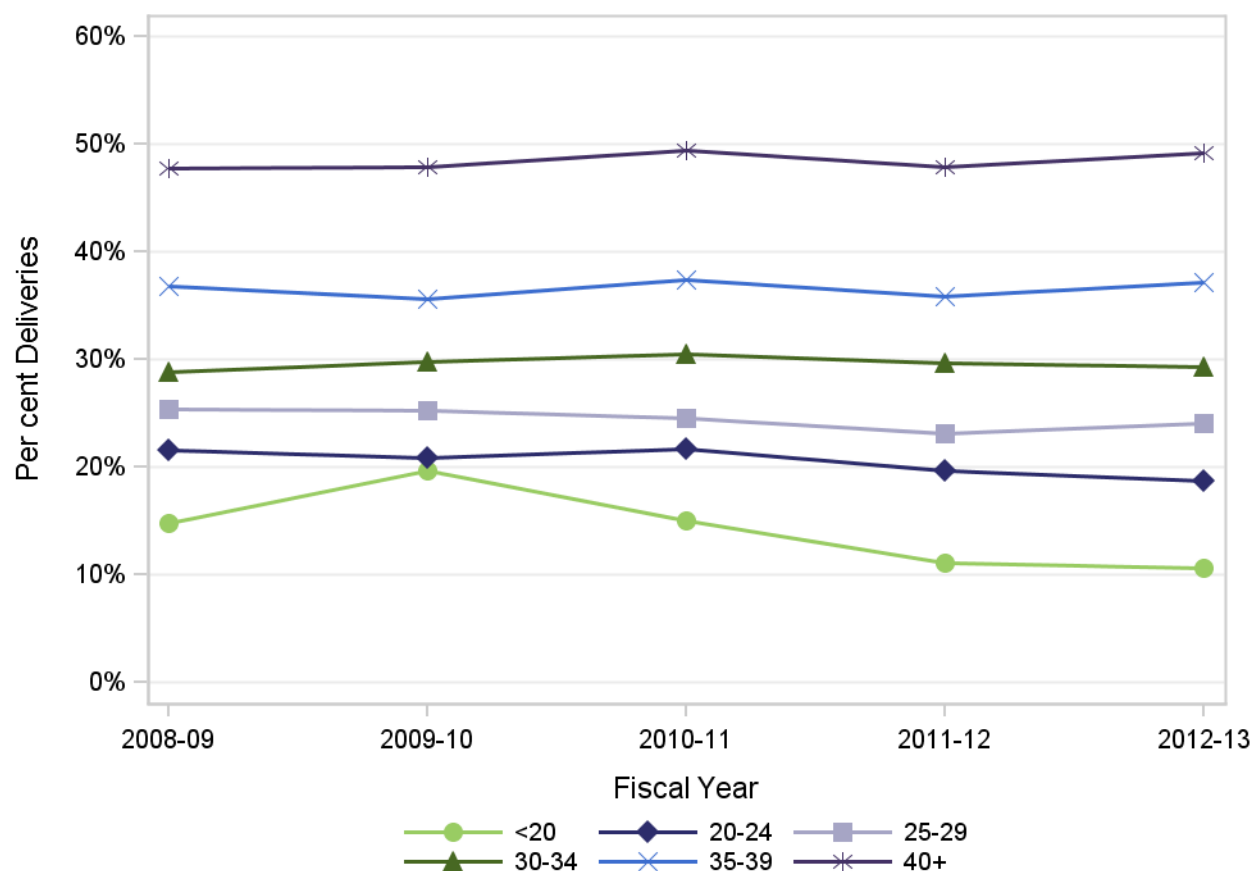


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Cesarean Delivery	30.9%	31.1%	31.8%	30.7%	31.3%

Definitions and specifications begin on Page 75 of this document.

Cesarean Delivery Rate by Maternal Age

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

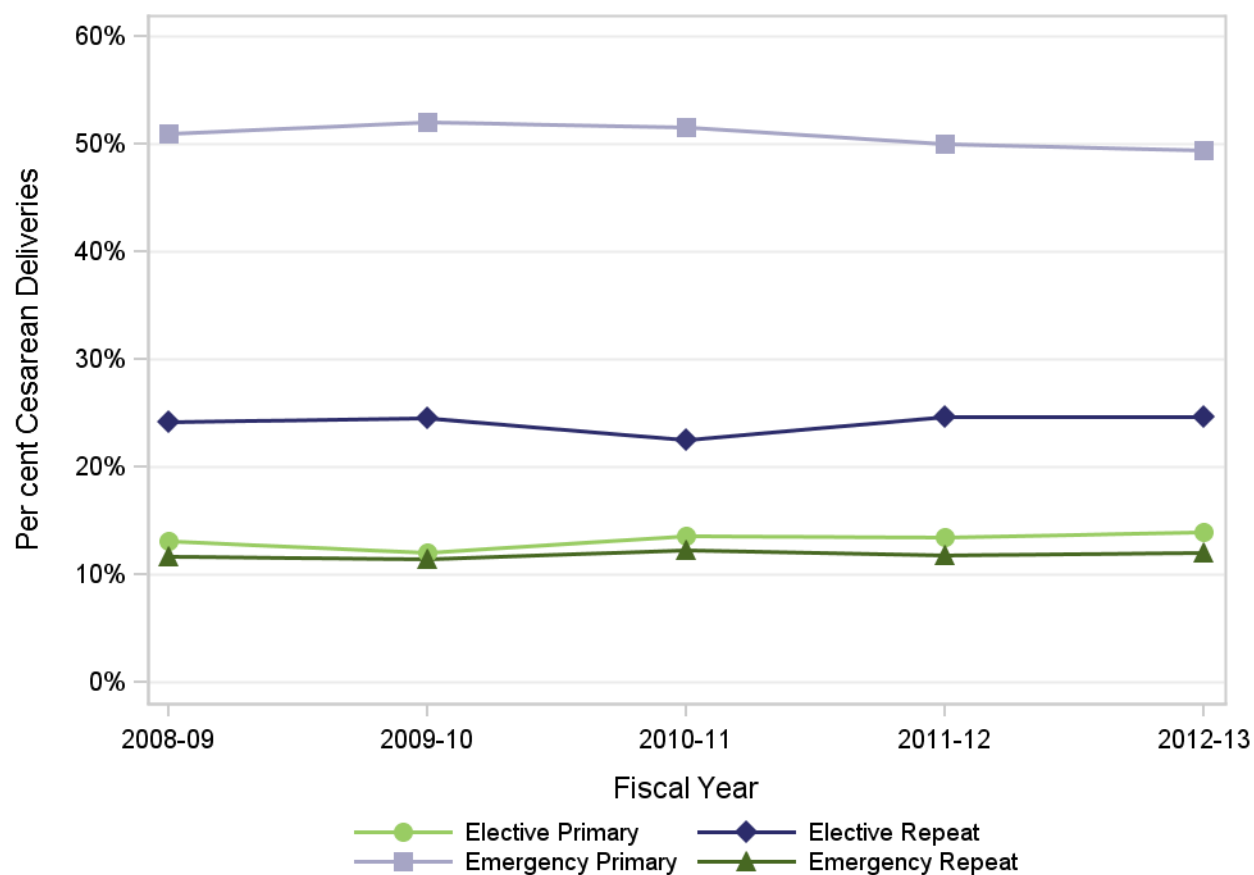


Maternal Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
<20 years	14.7%	19.7%	15.0%	11.1%	10.6%
20-24 years	21.5%	20.9%	21.6%	19.7%	18.8%
25-29 years	25.4%	25.2%	24.5%	23.1%	24.0%
30-34 years	28.8%	29.8%	30.5%	29.6%	29.3%
35-39 years	36.7%	35.6%	37.4%	35.8%	37.2%
40+ years	47.7%	47.8%	49.4%	47.9%	49.1%

Definitions and specifications begin on Page 75 of this document.

Type of Cesarean Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

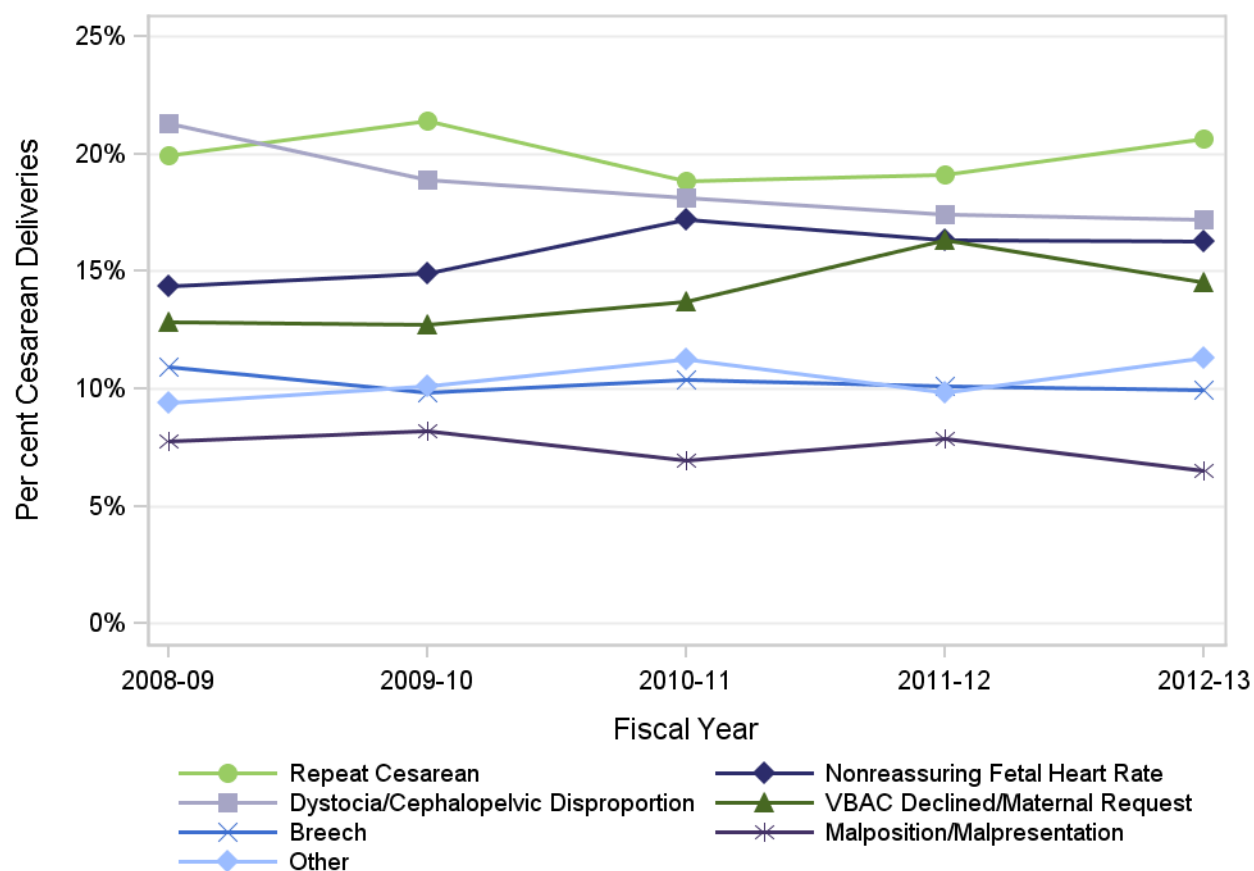


Type of Cesarean Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Elective Primary	13.2%	12.1%	13.6%	13.5%	13.9%
Elective Repeat	24.2%	24.5%	22.5%	24.7%	24.6%
Emergency Primary	51.0%	52.0%	51.6%	50.0%	49.4%
Emergency Repeat	11.7%	11.4%	12.3%	11.9%	12.0%

Definitions and specifications begin on Page 75 of this document.

Primary Indication for Cesarean Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Primary Indication for Cesarean Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Repeat Cesarean	19.9%	21.4%	18.8%	19.1%	20.7%
Nonreassuring Fetal Heart Rate	14.4%	14.9%	17.2%	16.3%	16.3%
Dystocia/Cephalopelvic Disproportion	21.3%	18.9%	18.1%	17.4%	17.2%
VBAC Declined/Maternal Request	12.8%	12.7%	13.7%	16.3%	14.5%
Breech	10.9%	9.8%	10.4%	10.1%	9.9%
Malposition/Malpresentation	7.7%	8.2%	6.9%	7.9%	6.5%
Placenta Previa	2.1%	2.3%	2.4%	2.3%	2.6%
Abruptio Placenta	0.8%	0.9%	1.0%	0.4%	0.8%
Active Herpes	0.3%	0.5%	0.3%	0.2%	0.1%
Other	9.4%	10.1%	11.3%	9.9%	11.3%
Unknown	0.2%	0.2%	NR	0.2%	NR

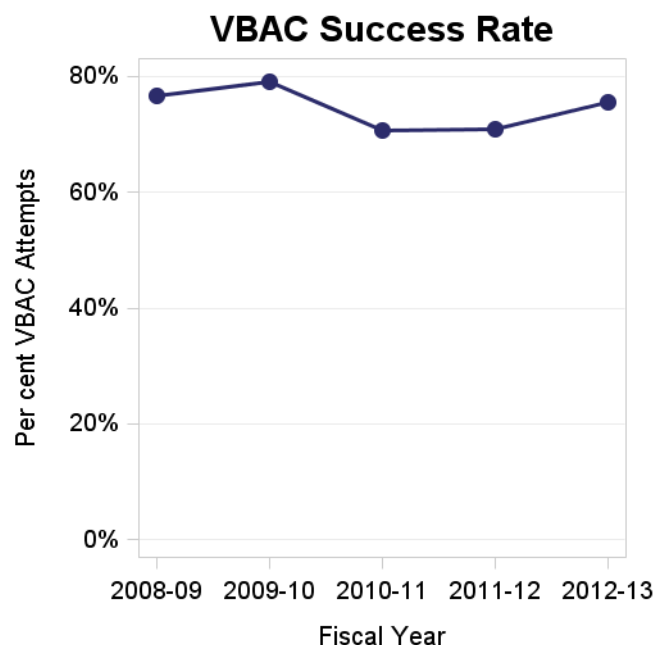
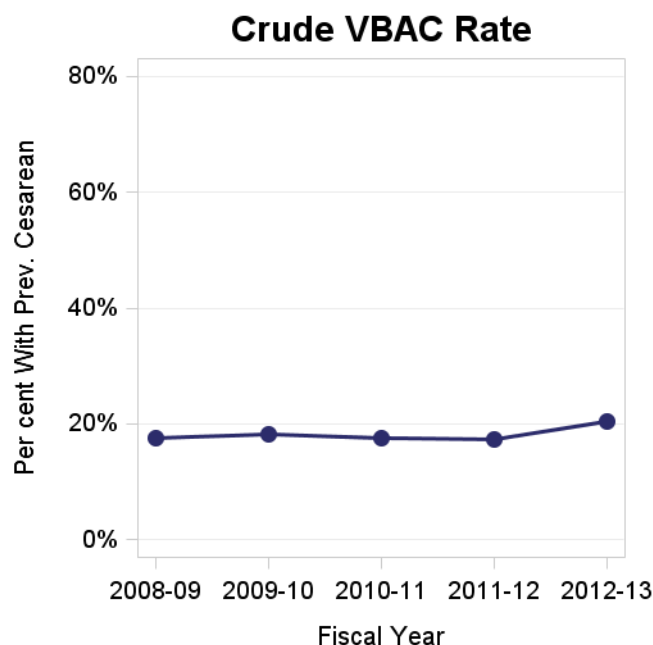
Selected indications are included in the figure; all indications are included in the table.

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

Definitions and specifications begin on Page 75 of this document.

Vaginal Birth After Cesarean (VBAC)

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Vaginal Birth After Cesarean (VBAC)

	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Crude VBAC Rate	17.5%	18.2%	17.5%	17.3%	20.4%
VBAC Eligible Rate	75.9%	75.3%	74.9%	81.1%	82.4%
VBAC Attempted Rate	29.8%	30.4%	33.1%	29.7%	32.5%
VBAC Success Rate	76.6%	79.1%	70.7%	70.9%	75.5%

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

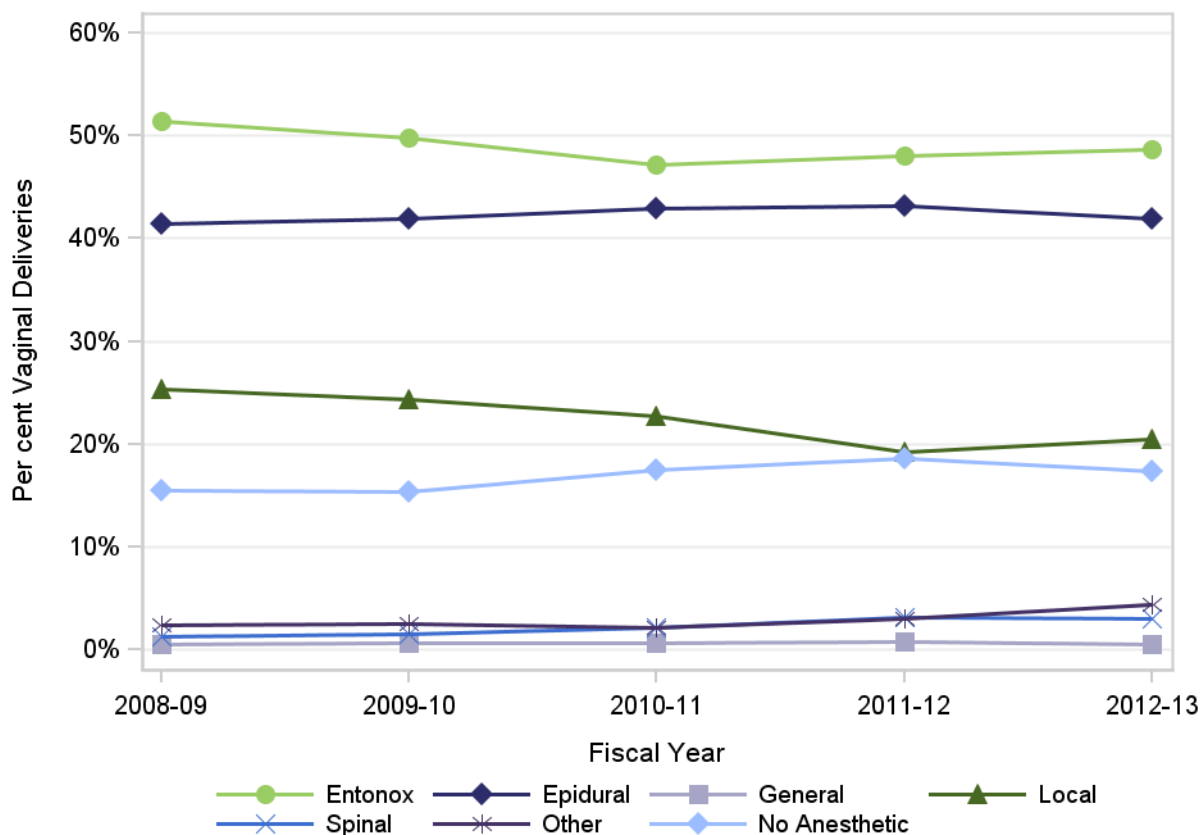
VBAC Attempted Rate: Women who attempted a VBAC / Women considered eligible for VBAC

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

Definitions and specifications begin on Page 75 of this document.

Anesthesia or Analgesia During Labour and Delivery Vaginal Deliveries

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



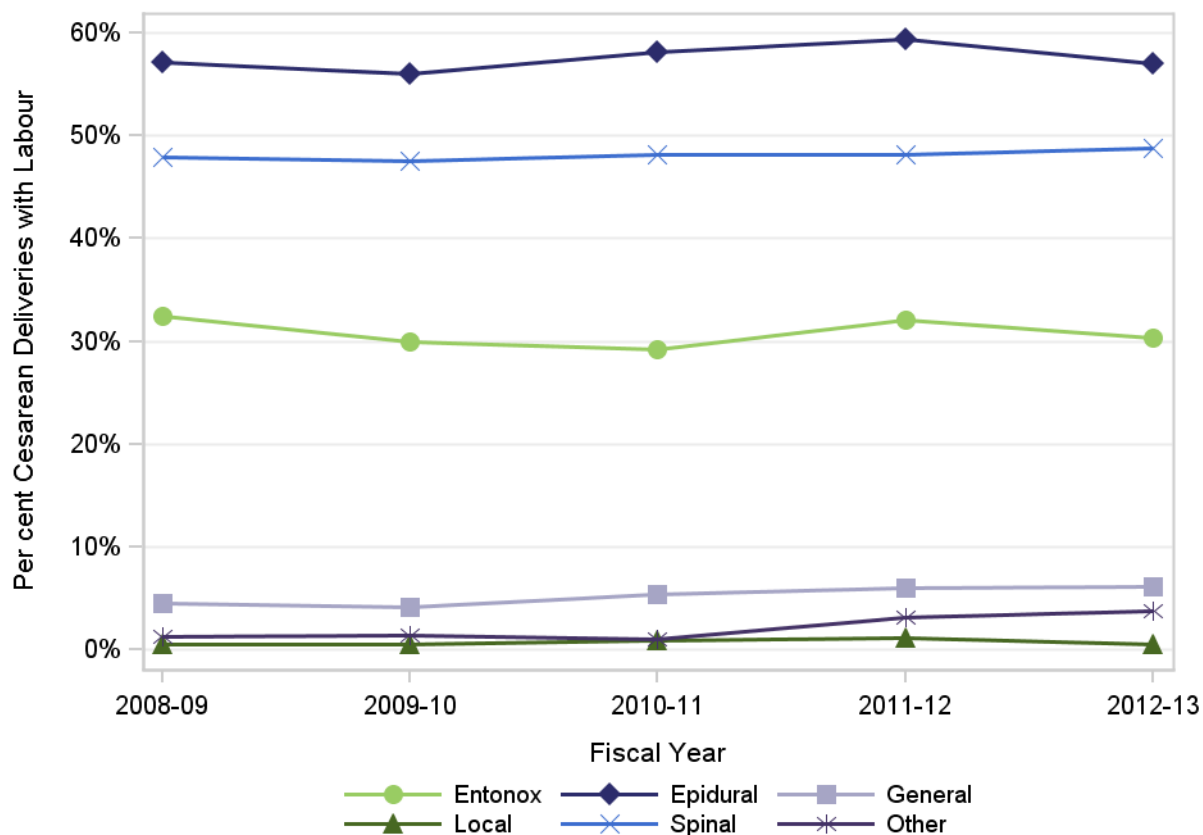
Anesthesia or Analgesia	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Entonox	51.3%	49.8%	47.2%	48.0%	48.7%
Epidural	41.4%	41.9%	42.9%	43.2%	42.0%
General	0.5%	0.6%	0.6%	0.7%	0.6%
Local	25.3%	24.3%	22.7%	19.2%	20.4%
Spinal	1.3%	1.5%	2.1%	3.1%	3.0%
Other	2.4%	2.6%	2.1%	3.1%	4.4%
No Anesthetic	15.5%	15.4%	17.5%	18.6%	17.4%

Multiple agents may be used.

Definitions and specifications begin on Page 75 of this document.

Anesthesia or Analgesia During Labour and Delivery Cesarean Deliveries with Labour

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



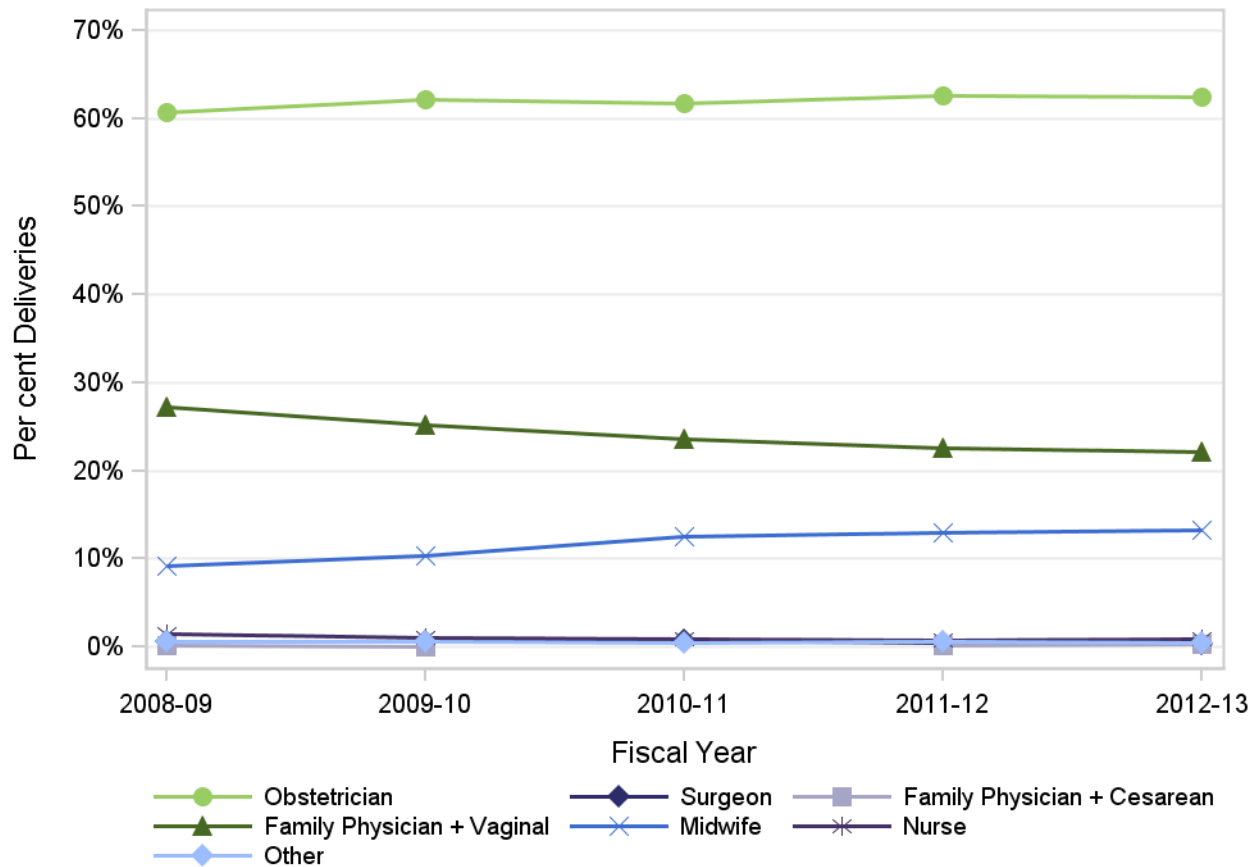
Anesthesia or Analgesia	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Entonox	32.4%	29.9%	29.2%	32.1%	30.3%
Epidural	57.1%	56.0%	58.1%	59.3%	57.1%
General	4.5%	4.1%	5.4%	6.0%	6.1%
Local	0.6%	0.5%	0.9%	1.1%	0.5%
Spinal	47.9%	47.5%	48.1%	48.1%	48.7%
Other	1.3%	1.4%	1.0%	3.1%	3.8%

Multiple agents may be used.

Definitions and specifications begin on Page 75 of this document.

Delivery Provider

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Delivery Provider	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Obstetrician	60.6%	62.1%	61.6%	62.5%	62.4%
Surgeon	0.6%	0.6%	0.8%	0.5%	0.4%
Family Physician + Cesarean	0.2%	0.1%	NR	0.1%	0.3%
Family Physician + Vaginal	27.2%	25.2%	23.6%	22.5%	22.2%
Midwife	9.3%	10.4%	12.5%	12.9%	13.3%
Nurse	1.4%	1.0%	1.0%	0.8%	0.9%
Other	0.6%	0.6%	0.5%	0.6%	0.4%

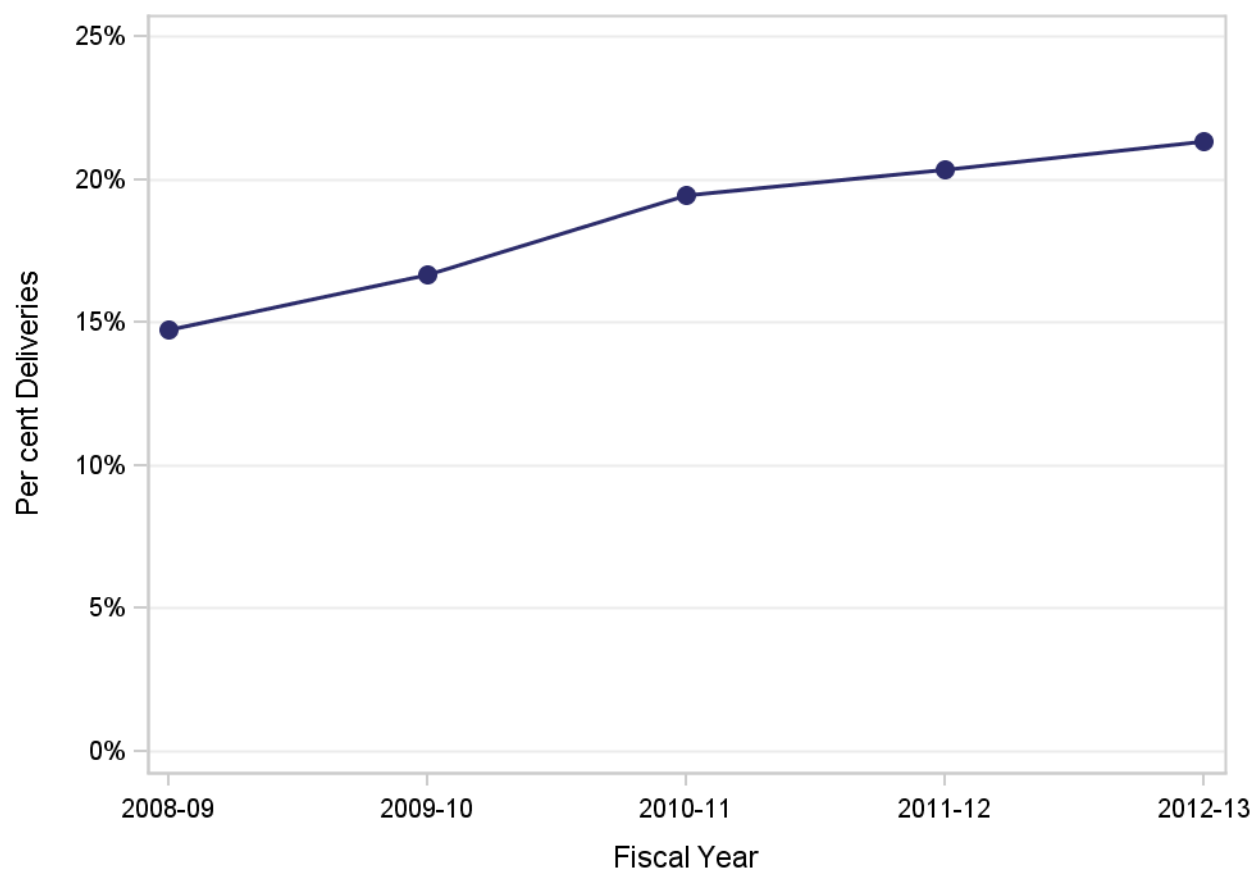
Describes the training of the provider who delivered the baby. This may not be the same type of health care professional who provided antenatal care.

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

Definitions and specifications begin on Page 75 of this document.

Any Care Provided by a Registered Midwife

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

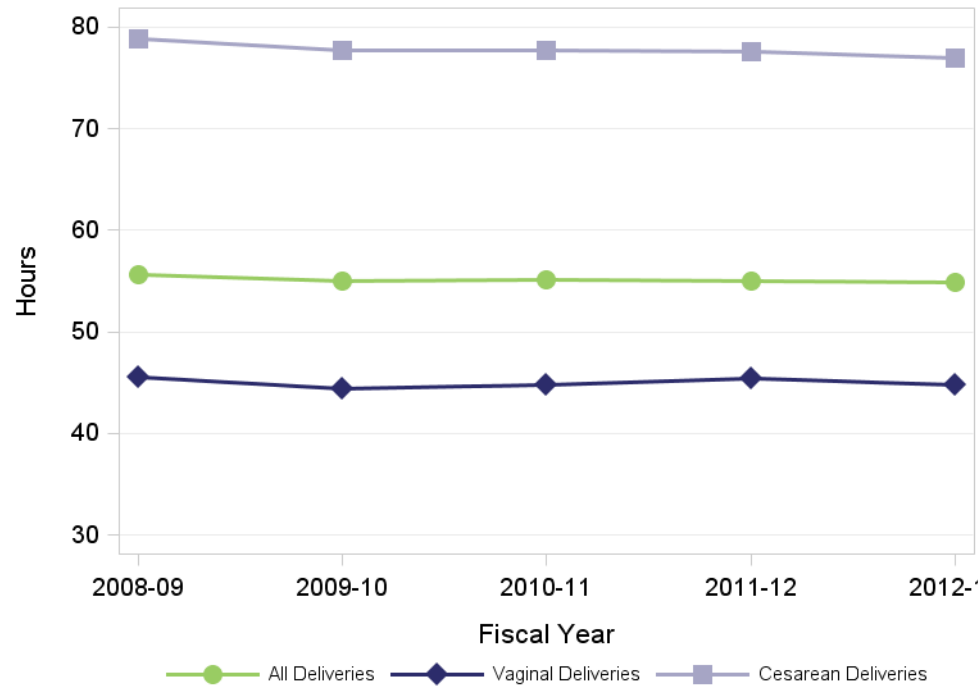


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Any Care by a Registered Midwife	14.7%	16.7%	19.5%	20.3%	21.3%

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 75 of this document.

Median Total Length of Stay (Hours) for the Delivery Episode of Care by Mode of Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



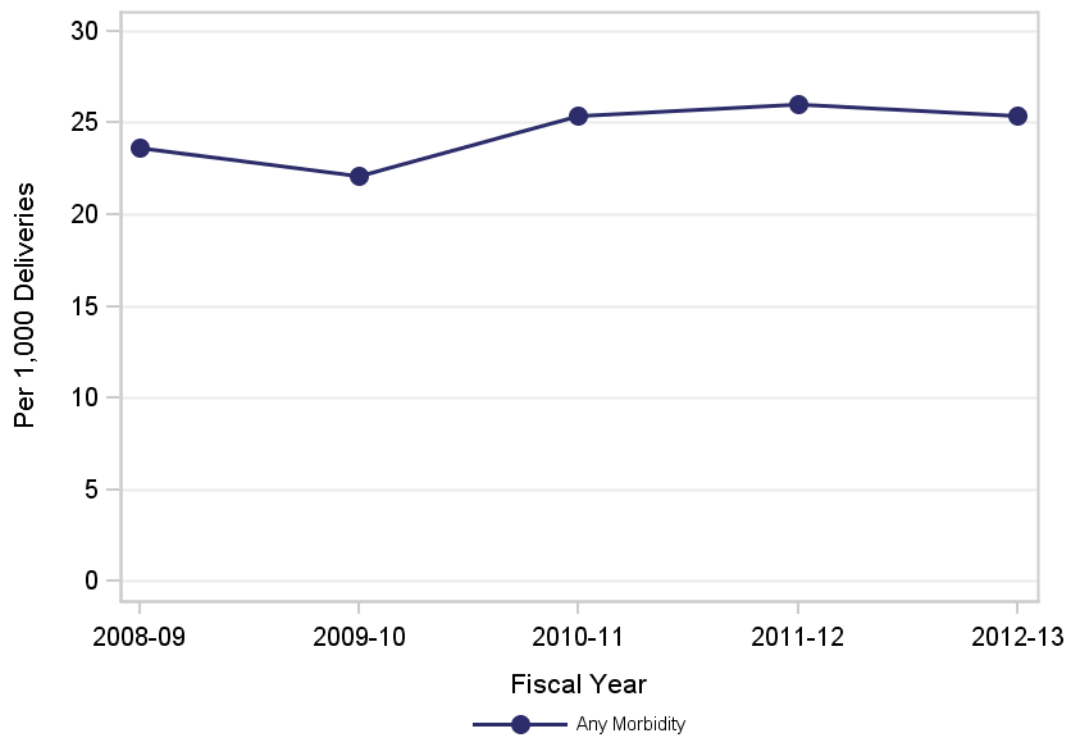
Median Antepartum, Postpartum, and Total Length of Stay (Hours) for the Delivery Episode of Care

Mode of Delivery	Antepartum LOS (Hours)					Postpartum LOS (Hours)					Total LOS (Hours)				
	Fiscal Year					Fiscal Year					Fiscal Year				
	08-09	09-10	10-11	11-12	12-13	08-09	09-10	10-11	11-12	12-13	08-09	09-10	10-11	11-12	12-13
All Deliveries	6.9	6.5	6.5	6.4	6.2	46.8	47.1	47.5	47.4	47.4	55.7	55.0	55.1	55.1	54.8
Vaginal Deliveries	7.2	6.8	6.8	6.7	6.6	36.9	36.4	36.9	37.2	36.7	45.6	44.4	44.8	45.5	44.8
Cesarean Deliveries	5.9	5.6	5.6	5.1	5.1	71.3	69.3	69.4	69.3	67.7	78.9	77.8	77.8	77.5	77.0

Deliveries outside acute care facilities are excluded. Definitions and specifications begin on Page 75 of this document.

Maternal Morbidity Rate

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Rate of Selected Maternal Morbidities per 1,000 Deliveries

Type of Morbidity	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Any Morbidity	23.6	22.1	25.4	26.0	25.4
Liver Complications	NR	1.8	3.8	4.9	5.1
Postpartum Hemorrhage with Transfusion	5.1	5.2	6.0	6.1	5.3
Urinary Tract Infection	5.6	4.1	4.0	3.1	3.7
Sepsis	5.1	2.7	4.5	5.3	4.4
Wound Infection	6.7	5.3	4.9	4.4	2.8
HELLP	4.7	4.1	4.3	2.9	3.1
Anesthetic Complications	2.3	2.1	2.9	2.4	3.0
Antepartum Hemorrhage with Transfusion	1.0	1.3	1.6	1.3	2.6
Eclampsia	NR	0.6	NR	NR	NR
Shock	0.7	NR	NR	NR	0.6
Pulmonary Embolism	NR	0.6	0.5	0.0	NR
Postpartum Hemorrhage with Hysterectomy	0.5	0.7	NR	0.5	0.6
Stroke	0.0	NR	1.0	NR	0.5

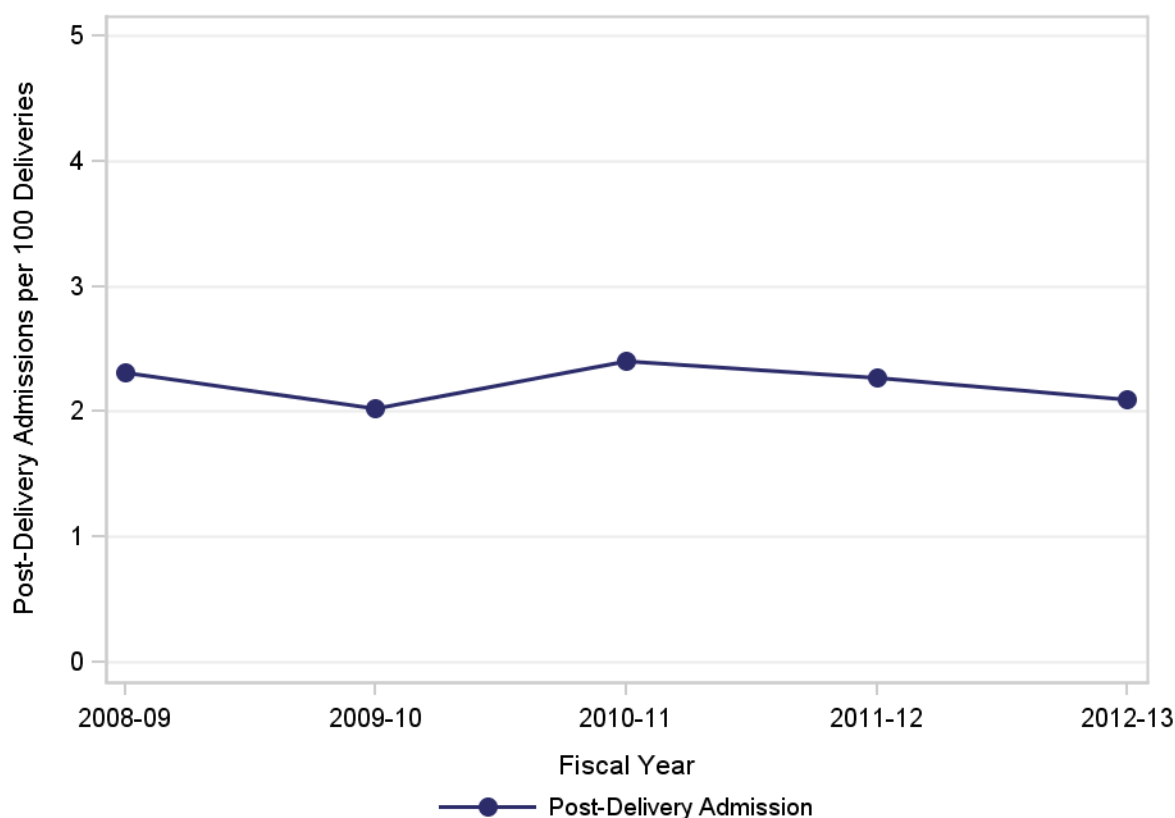
Cholestasis was added to the code for Liver Complications effective April 1, 2009 discharges. This may cause a break in the trend between 2008-09 and 2009-10.

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

Definitions and specifications begin on Page 75 of this document.

Post-Delivery Admissions

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Leading Diagnoses Associated with Post-Delivery Admissions Per 100 Post-Delivery Admissions

Most Responsible Diagnosis	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Postpartum Hemorrhage	23.7%	25.6%	23.4%	18.8%	15.6%
Postpartum Infection	22.0%	17.9%	21.3%	18.8%	20.1%
Routine Postpartum Care	15.4%	15.5%	13.9%	12.7%	15.2%
Other Diseases Complicating Pregnancy	9.1%	9.7%	10.7%	14.4%	14.3%
Other Wound Issues	7.1%	6.3%	4.9%	5.7%	8.0%
Hypertension or Eclampsia	5.8%	9.2%	7.8%	8.7%	6.3%
Retained Placenta Without Hemorrhage	2.9%	3.9%	2.5%	2.6%	2.7%
Care of Breasts	3.3%	2.4%	3.7%	4.8%	2.7%
Complications of Anesthesia	2.1%	NR	2.5%	NR	2.2%
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.

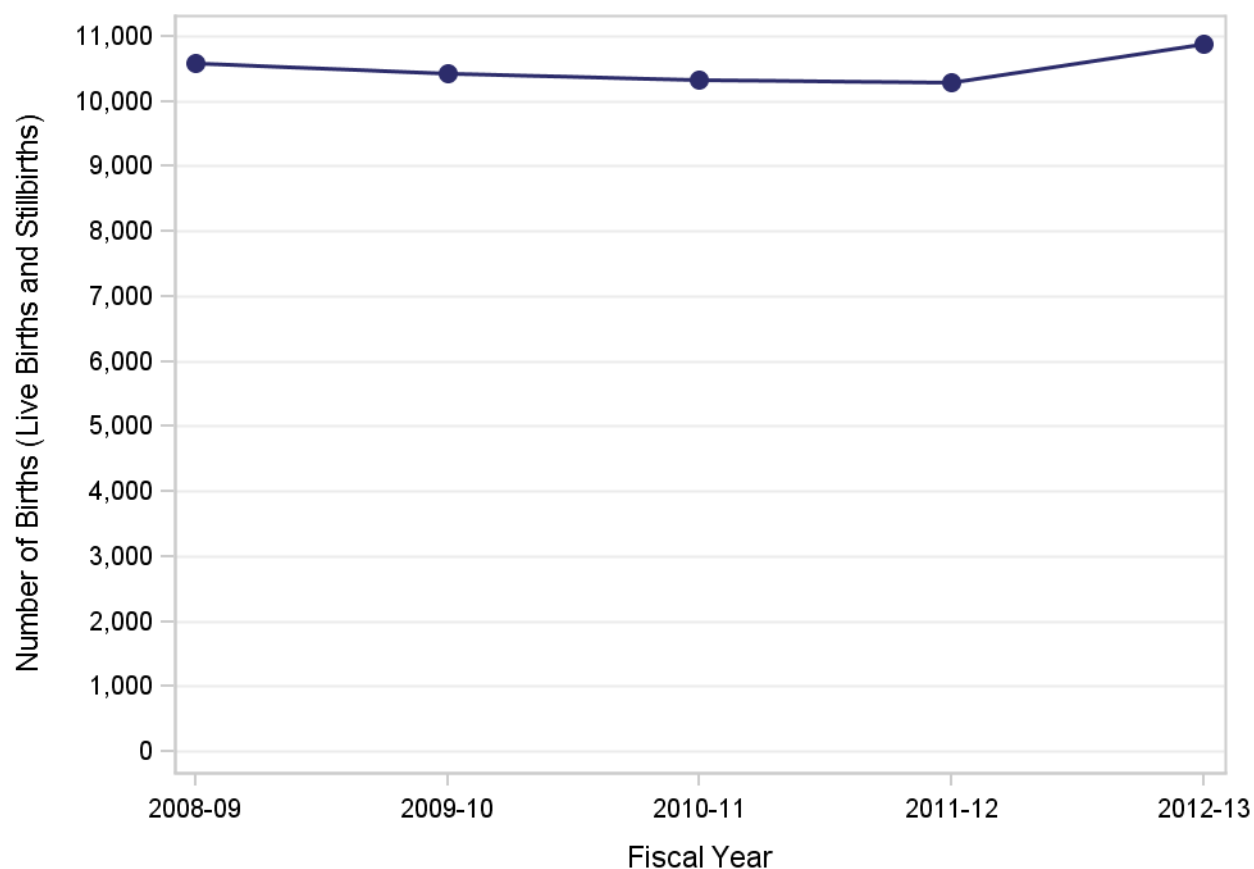
Definitions and specifications begin on Page 75 of this document.

Perinatal Health Report 2014
Residents of Vancouver Coastal Health

Section 3: Newborn Health

Total Births by Year

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

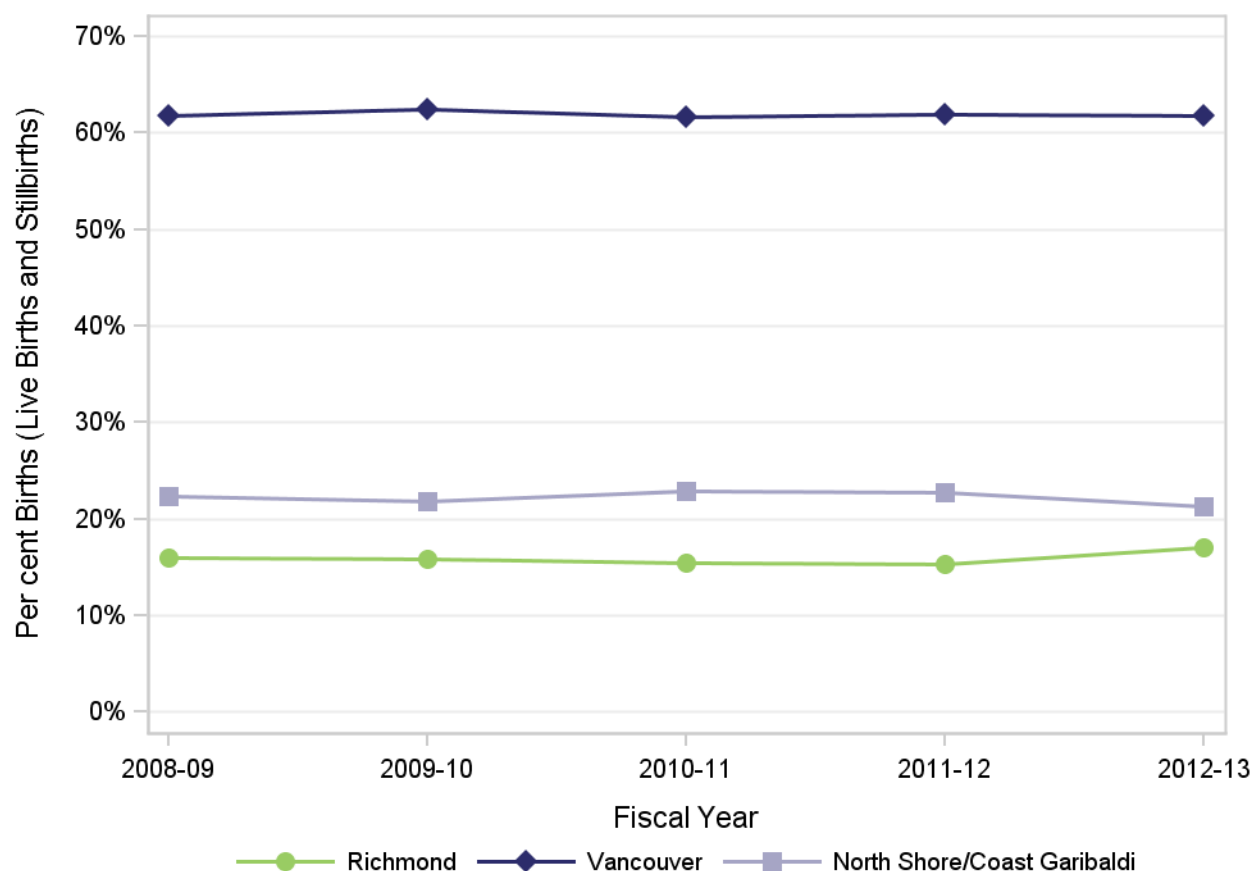


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Vancouver Coastal Health	10,592	10,425	10,321	10,282	10,879

Definitions and specifications begin on Page 75 of this document.

Total Births by Resident Health Service Delivery Area

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

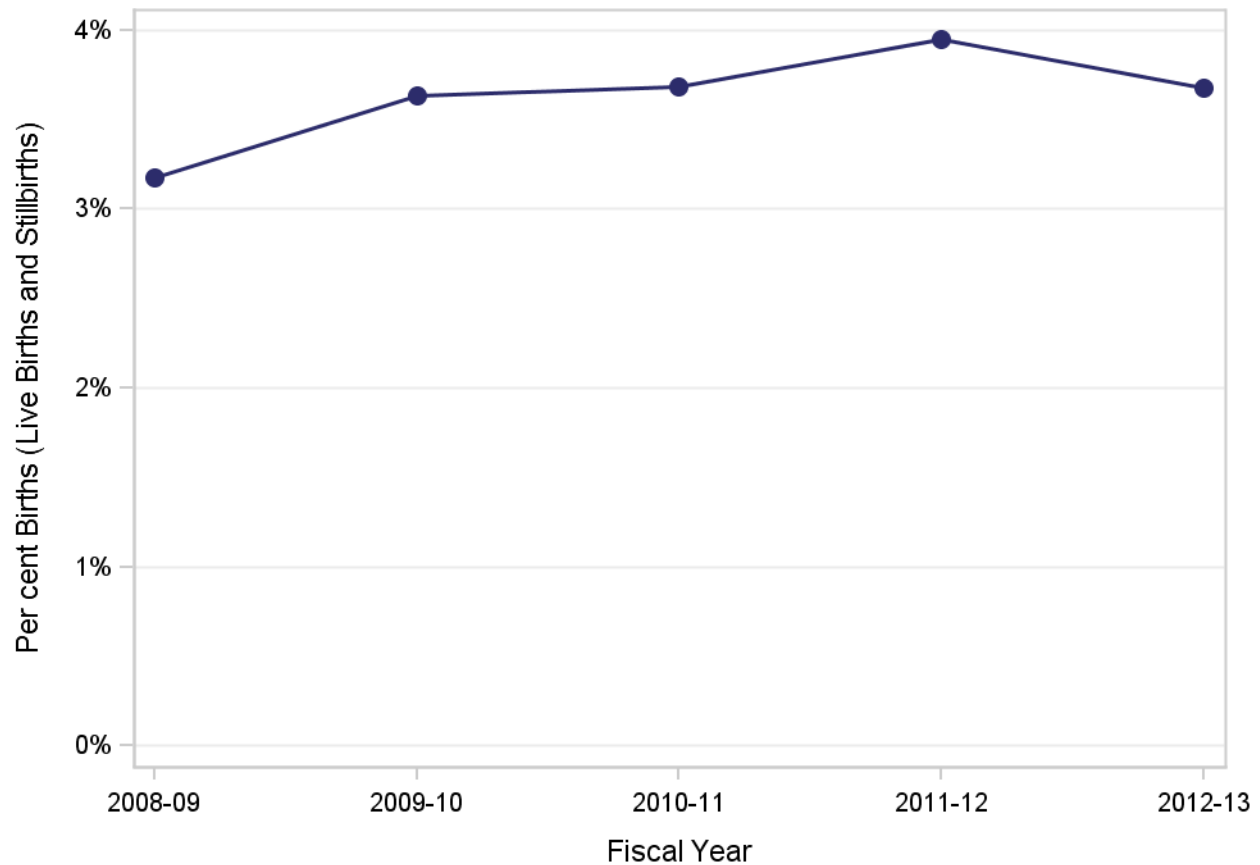


Health Service Delivery Area	Fiscal Year									
	2008-09		2009-10		2010-11		2011-12		2012-13	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Richmond	1,688	15.9%	1,648	15.8%	1,598	15.5%	1,579	15.4%	1,847	17.0%
Vancouver	6,543	61.8%	6,502	62.4%	6,367	61.7%	6,367	61.9%	6,720	61.8%
North Shore/Coast Garibaldi	2,361	22.3%	2,275	21.8%	2,356	22.8%	2,336	22.7%	2,312	21.3%

Definitions and specifications begin on Page 75 of this document.

Births Part of a Multiple Gestation

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



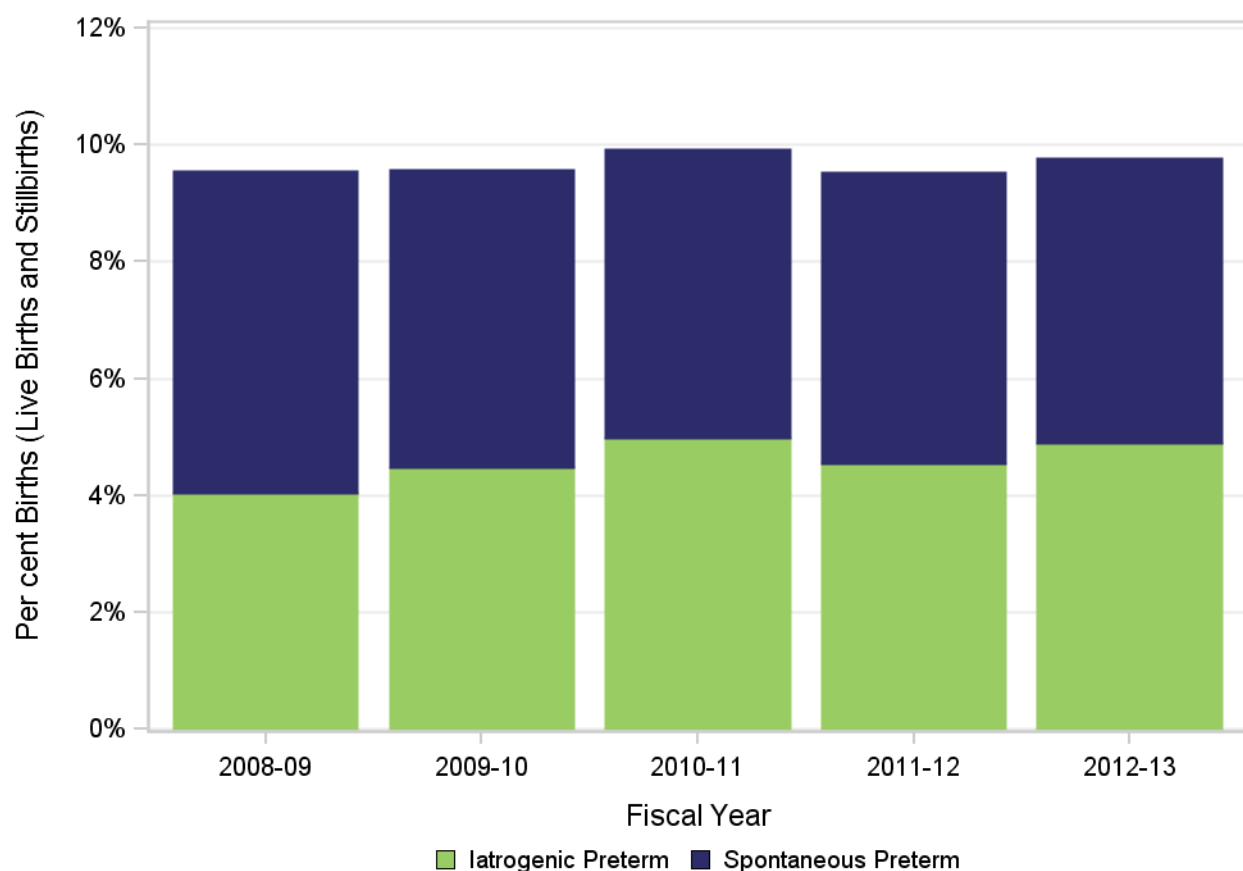
	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Multiple Gestation	3.2%	3.6%	3.7%	3.9%	3.7%

Includes twin, triplet, and quadruplet births.

Definitions and specifications begin on Page 75 of this document.

Preterm Birth

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

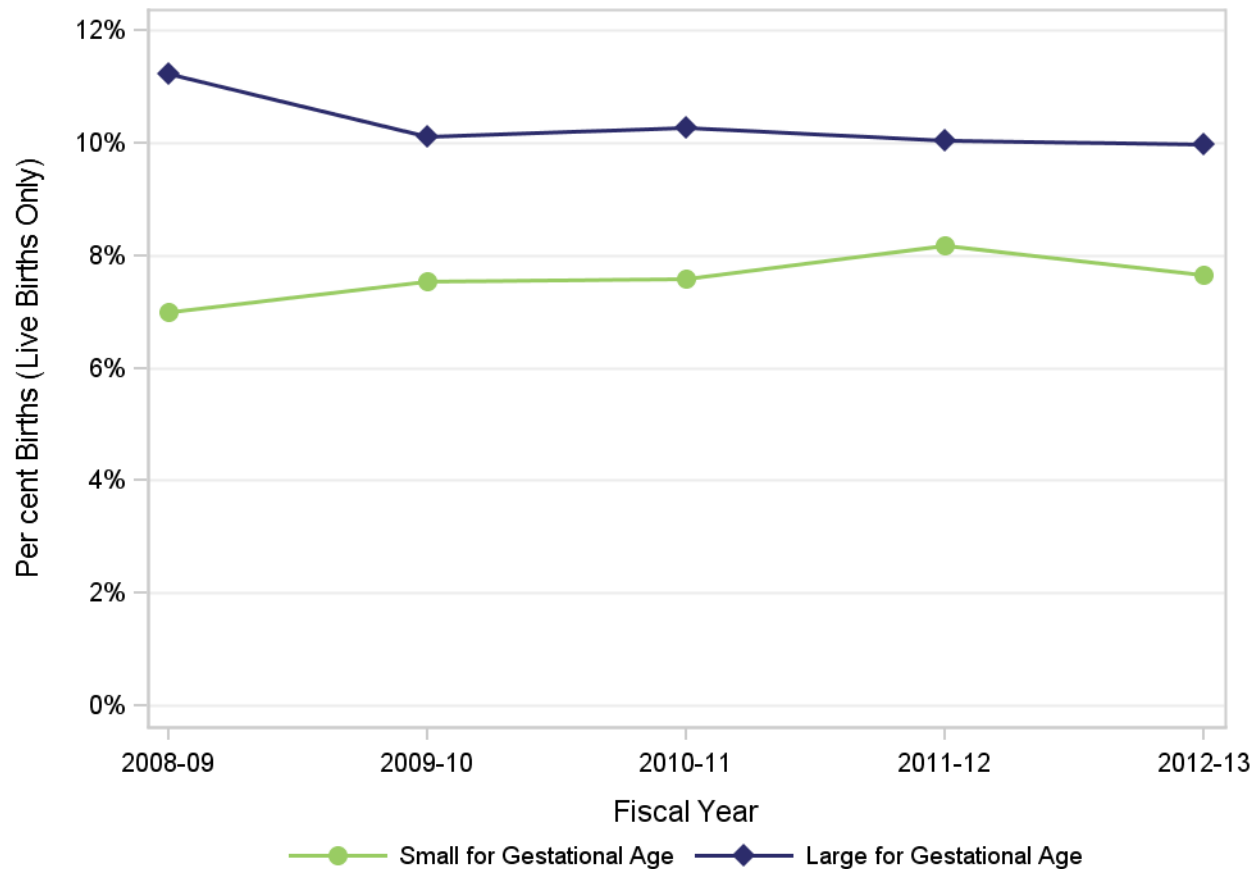


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Iatrogenic Preterm	4.0%	4.5%	5.0%	4.5%	4.9%
Spontaneous Preterm	5.5%	5.1%	4.9%	5.0%	4.9%
Total Preterm	9.6%	9.6%	9.9%	9.5%	9.8%

Definitions and specifications begin on Page 75 of this document.

Weight for Gestational Age

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

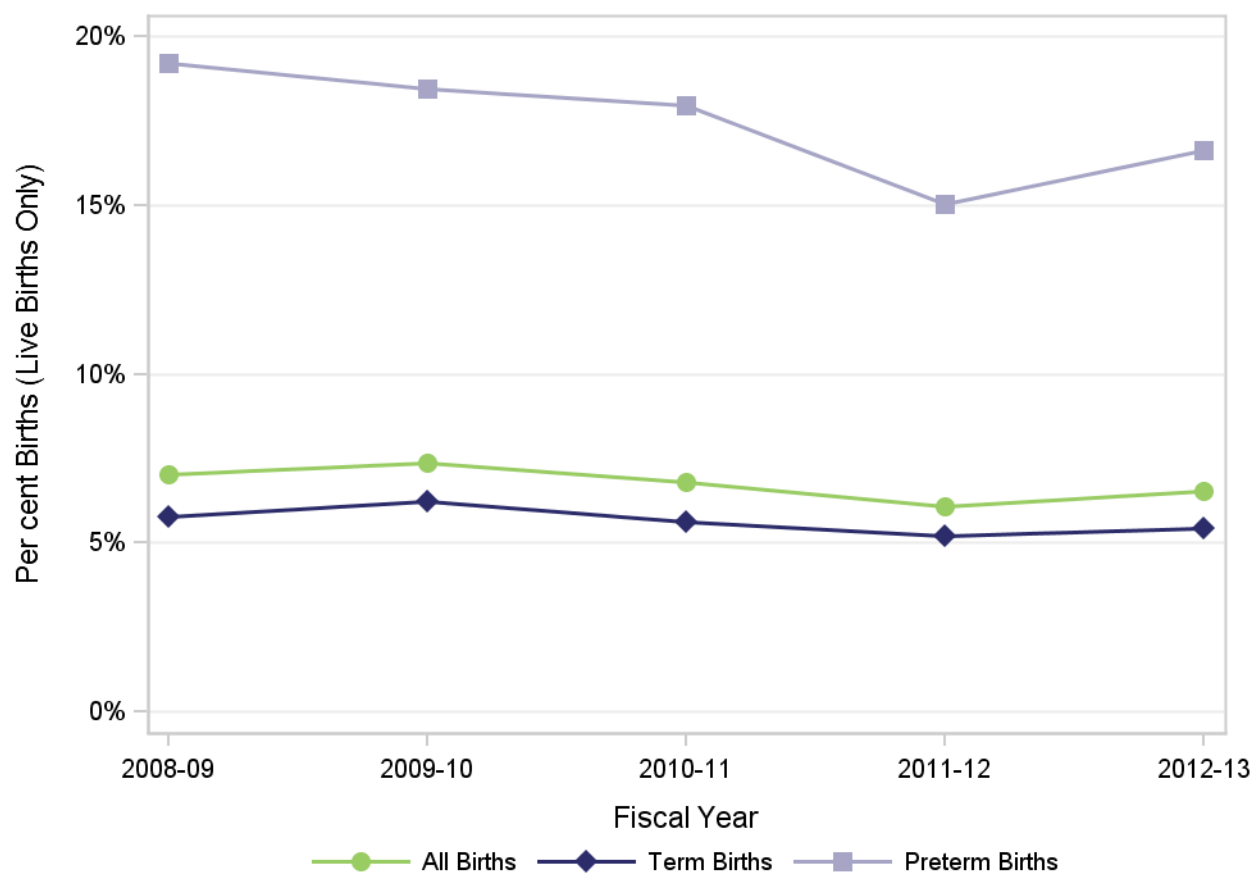


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Small for Gestational Age	7.0%	7.5%	7.6%	8.2%	7.7%
Large for Gestational Age	11.2%	10.1%	10.3%	10.0%	10.0%

Definitions and specifications begin on Page 75 of this document.

Newborn Resuscitation by Gestational Age

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

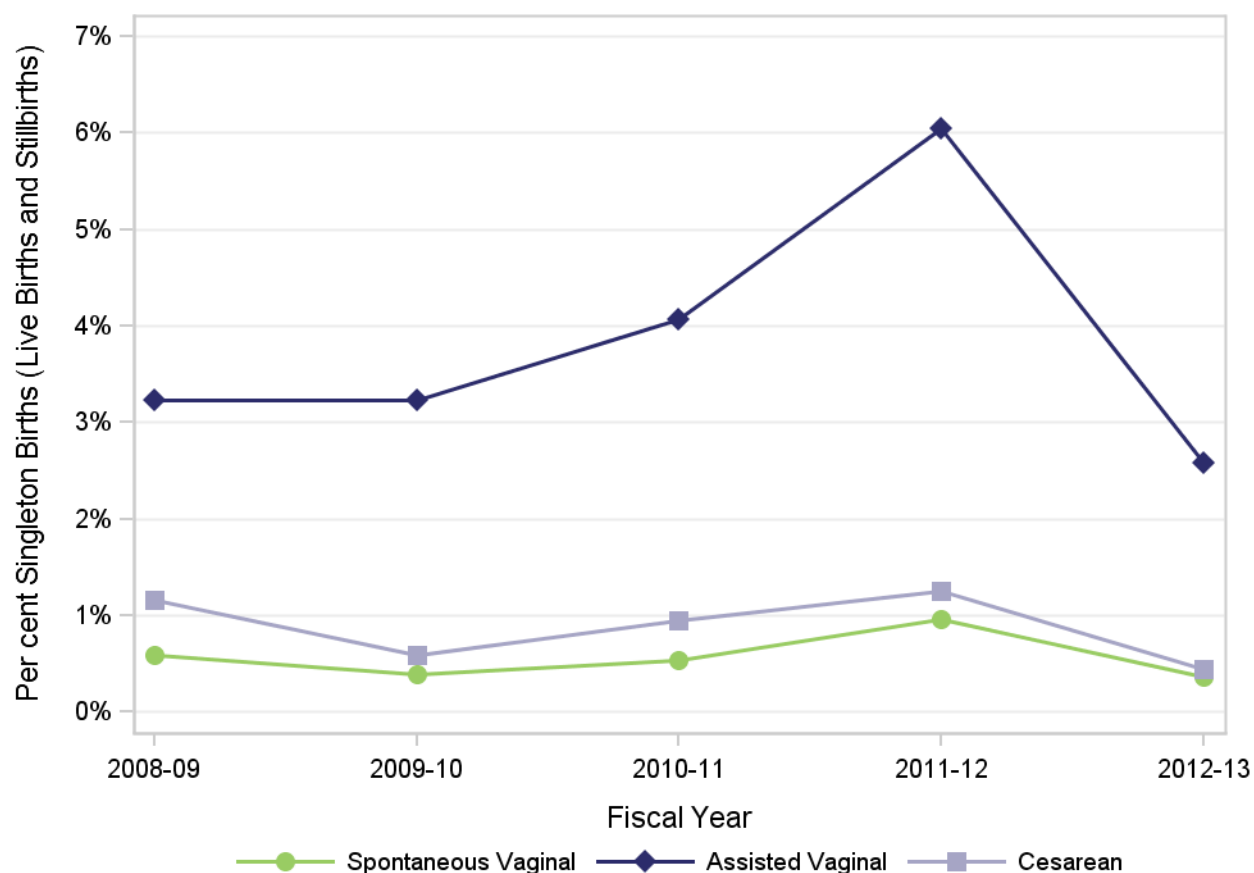


Gestational Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
All Births	7.0%	7.3%	6.8%	6.0%	6.4%
Term Births	5.8%	6.2%	5.6%	5.1%	5.4%
Preterm Births	19.1%	18.0%	18.0%	14.5%	16.0%

Definitions and specifications begin on Page 75 of this document.

Birth Injury: Singletons by Mode of Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

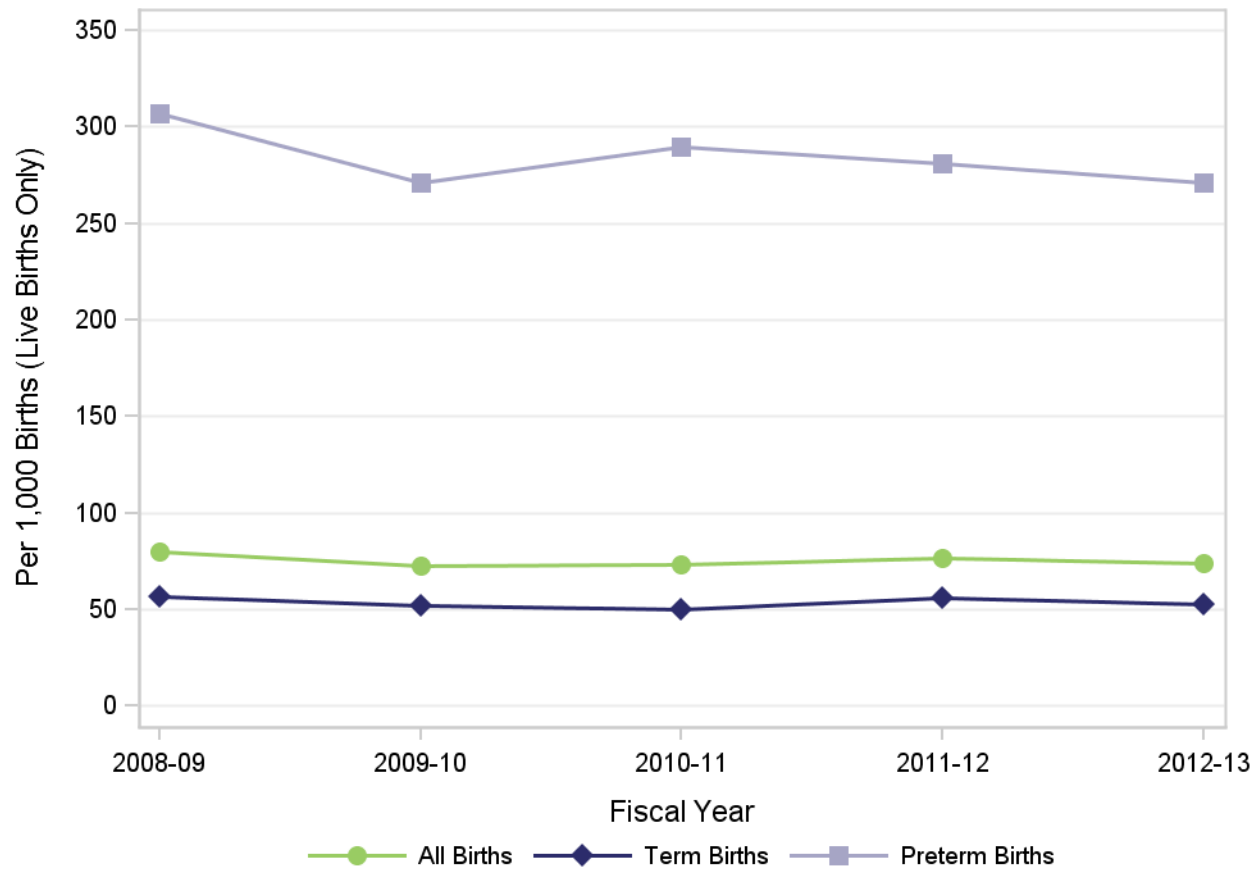


Mode of Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	0.6%	0.4%	0.5%	1.0%	0.4%
Assisted Vaginal	3.2%	3.2%	4.1%	6.0%	2.6%
Cesarean	1.2%	0.6%	0.9%	1.3%	0.4%

Definitions and specifications begin on Page 75 of this document.

Neonatal Morbidity

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

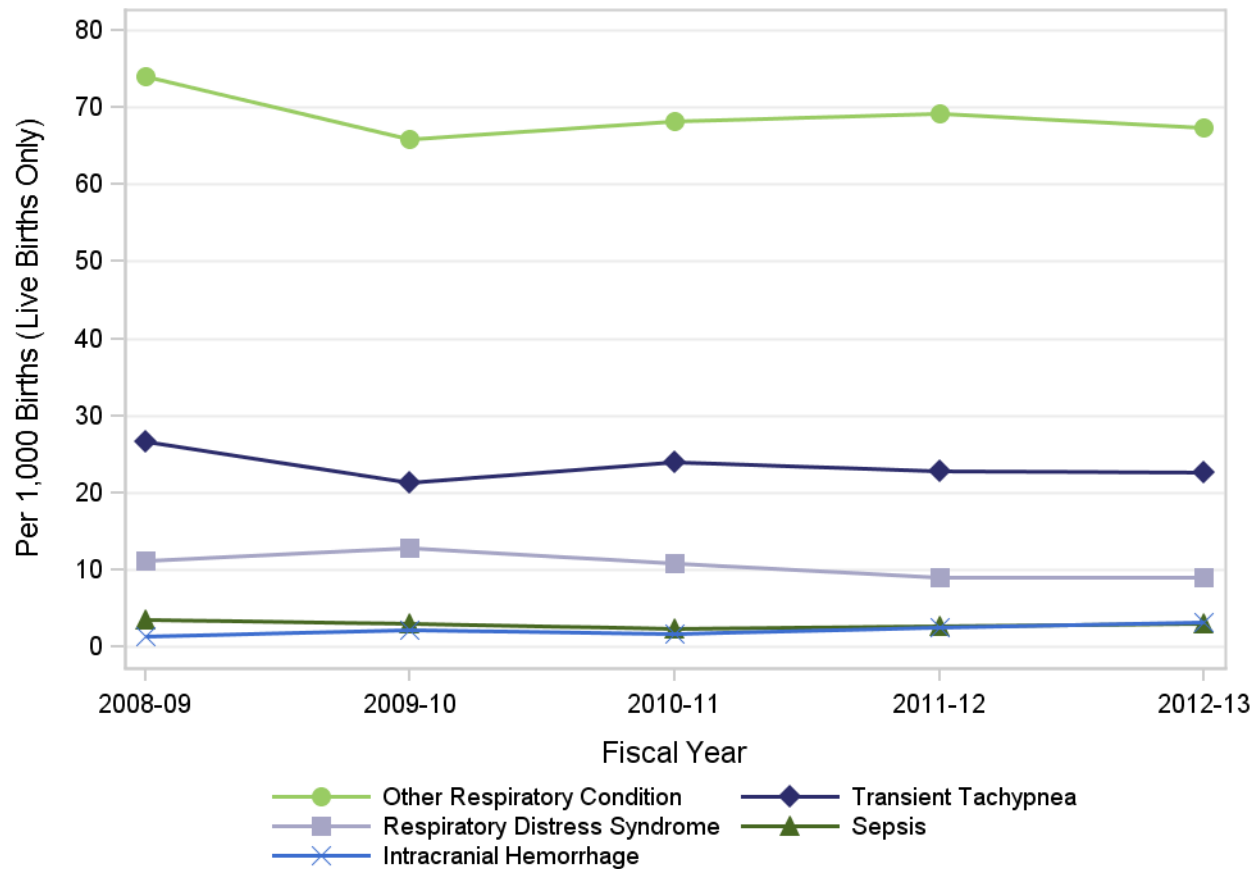


Gestational Age	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
All Births	80.0	72.7	73.0	76.5	73.8
Term Births	56.6	52.1	49.9	55.6	52.8
Preterm Births	306.6	271.1	289.3	281.2	270.6

Definitions and specifications begin on Page 75 of this document.

Type of Neonatal Morbidity

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



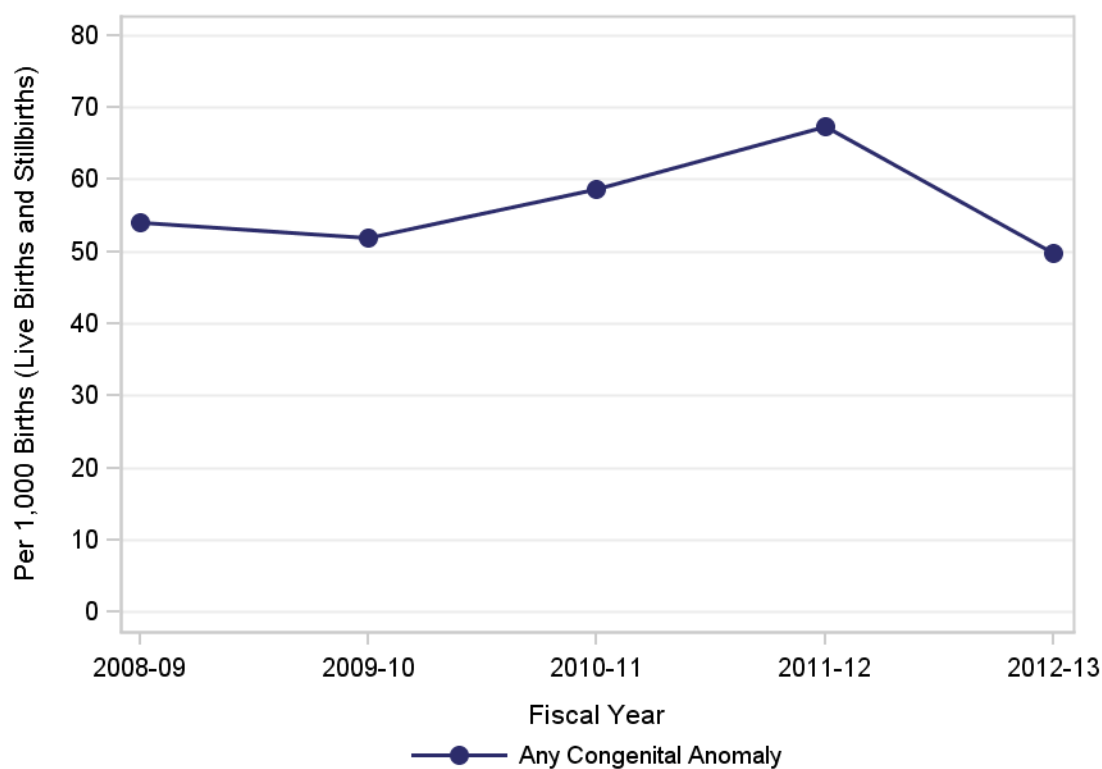
Per 1,000 Live Births

Type of Morbidity	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Other Respiratory Condition	73.9	65.8	68.1	69.1	67.3
Transient Tachypnea	26.7	21.3	23.9	22.8	22.6
Respiratory Distress Syndrome	11.2	12.9	10.8	9.1	9.0
Sepsis	3.6	3.1	2.3	2.7	3.0
Intracranial Hemorrhage	1.3	2.2	1.8	2.5	3.1

Definitions and specifications begin on Page 75 of this document.

Congenital Anomalies

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



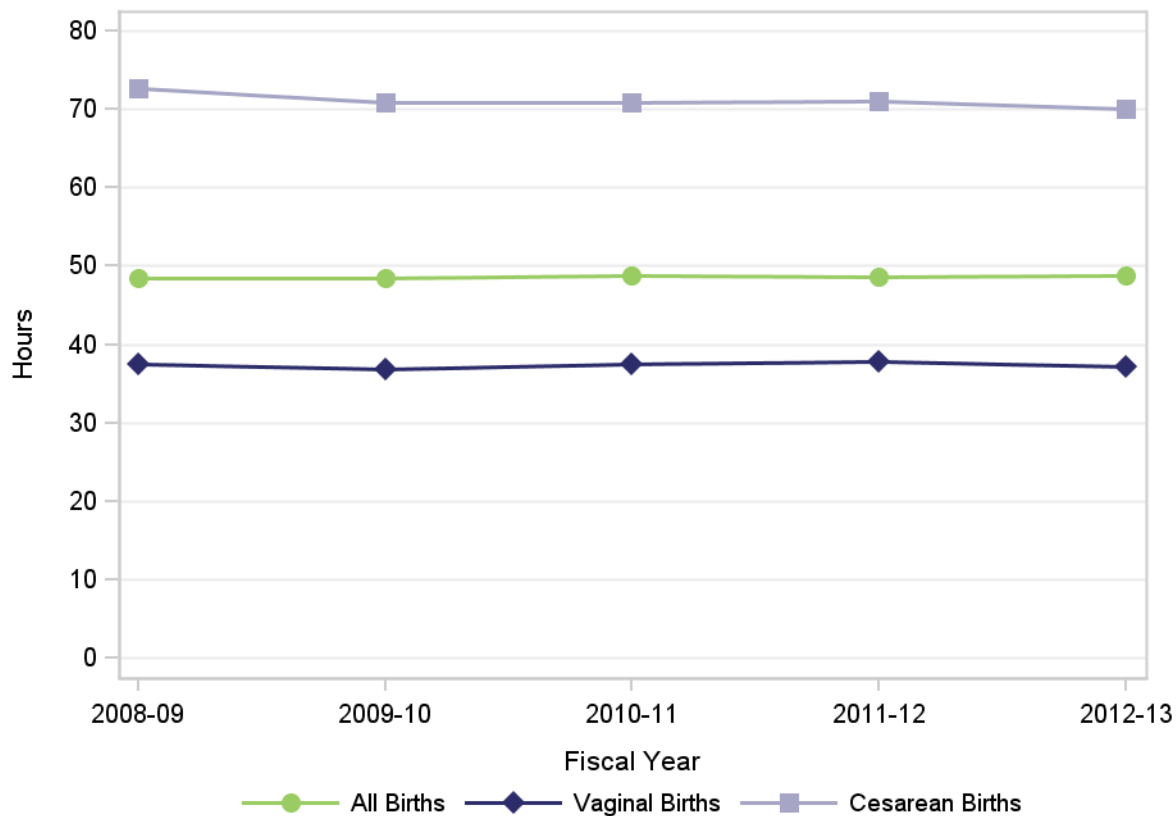
Rate of Specific Congenital Anomalies Per 1,000 Live Births and Stillbirths

Type of Congenital Anomaly	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Chromosomal	2.2	1.0	2.0	1.8	1.7
Circulatory System	10.5	12.6	12.3	12.9	13.1
Cleft Lip or Palate	0.8	1.5	1.3	1.3	1.7
Digestive System	5.9	5.3	7.9	10.5	7.3
Eye, Ear, Face, or Neck	3.3	3.4	3.6	3.9	2.4
Genital Organs	7.2	8.1	9.6	8.6	6.7
Musculoskeletal System	15.6	14.5	14.2	12.6	14.0
Nervous System	1.6	1.1	1.8	2.0	1.6
Respiratory System	1.4	1.6	1.6	2.0	0.8
Urinary System	5.3	4.1	4.1	4.4	3.6
Other Specific Anomaly	8.3	6.3	8.5	19.5	5.1

Definitions and specifications begin on Page 75 of this document.

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



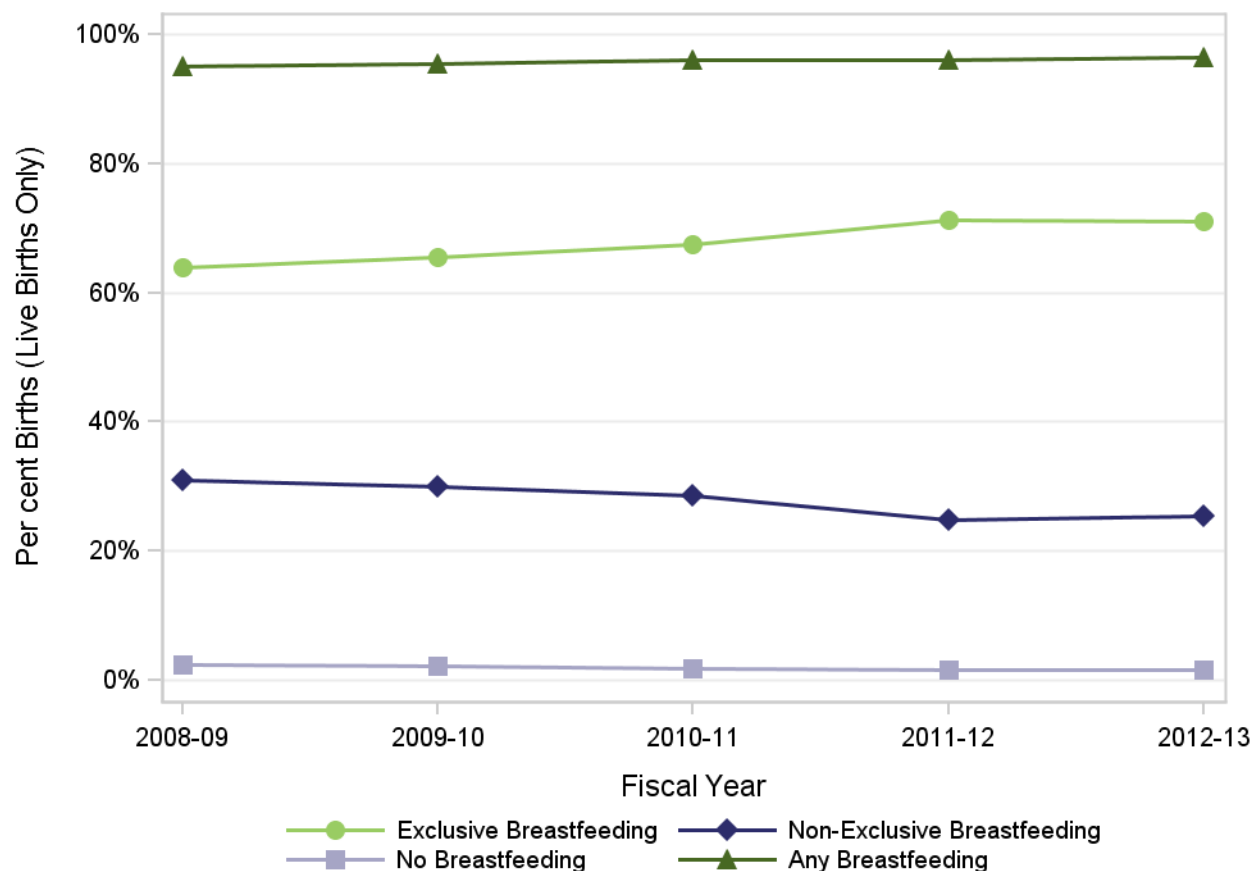
	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
All Births	48.4	48.4	48.8	48.7	48.8
Vaginal Births	37.5	36.8	37.5	37.7	37.2
Cesarean Births	72.6	70.8	70.8	70.9	70.0

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 75 of this document.

Breastfeeding During the Birth Admission

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

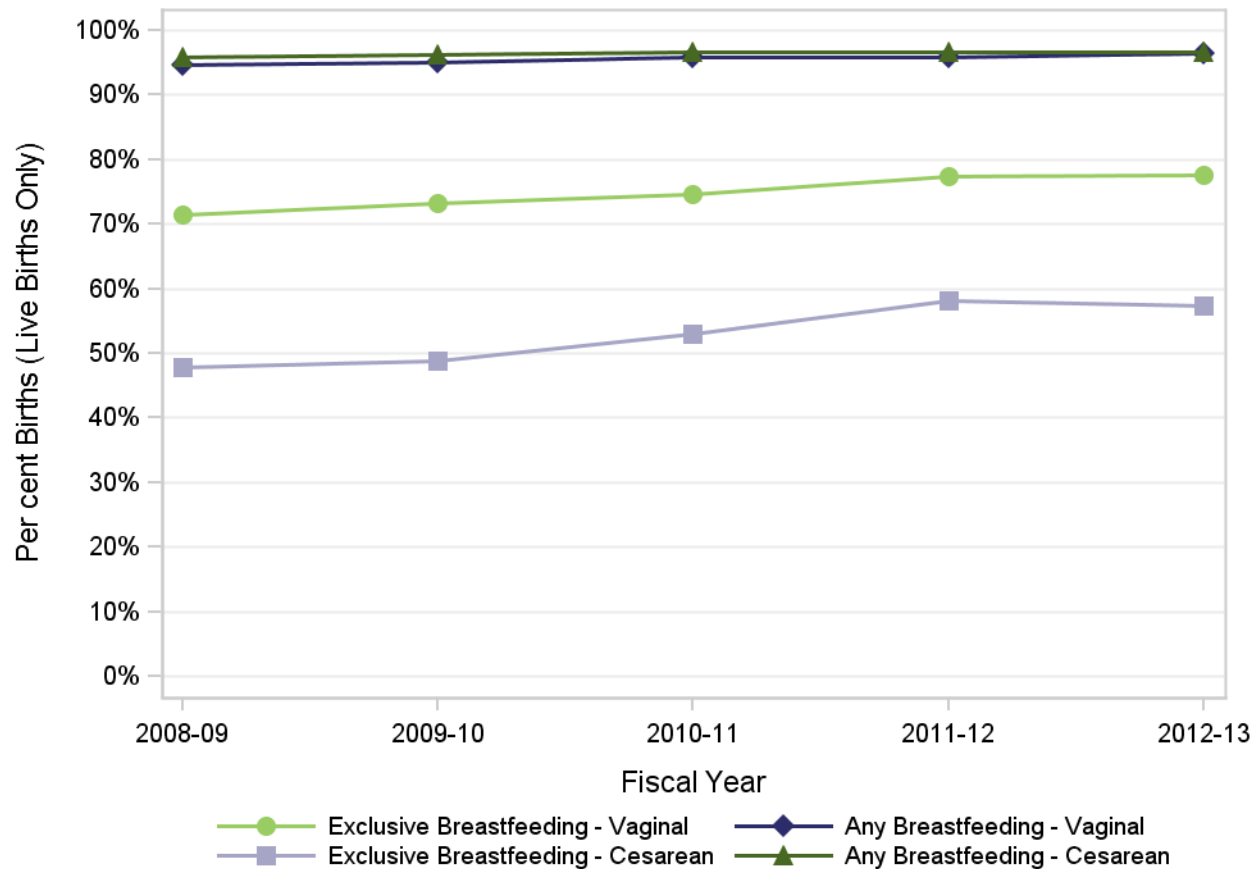


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Exclusive Breastfeeding	64.0%	65.4%	67.5%	71.2%	71.1%
Non-Exclusive Breastfeeding	31.1%	29.9%	28.6%	24.8%	25.4%
No Breastfeeding	2.4%	2.2%	1.8%	1.6%	1.7%
Any Breastfeeding	95.0%	95.4%	96.1%	96.0%	96.5%

Definitions and specifications begin on Page 75 of this document.

Breastfeeding During the Birth Admission by Mode of Delivery

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

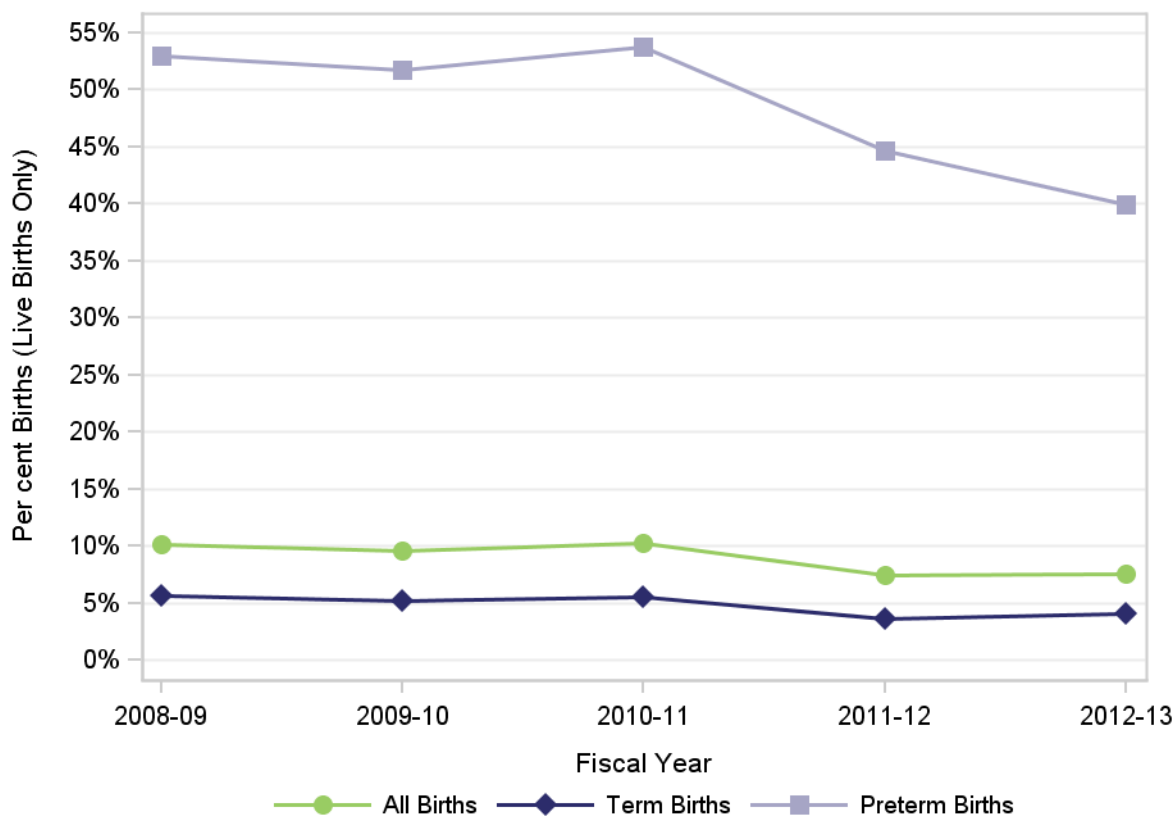


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Exclusive Breastfeeding - Vaginal	71.4%	73.2%	74.5%	77.3%	77.7%
Any Breastfeeding - Vaginal	94.6%	95.0%	95.8%	95.7%	96.4%
Exclusive Breastfeeding - Cesarean	47.8%	48.9%	52.9%	58.1%	57.3%
Any Breastfeeding - Cesarean	95.9%	96.2%	96.7%	96.6%	96.7%

Definitions and specifications begin on Page 75 of this document.

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



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

	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
All Births	3.0	3.0	4.5	3.0	3.0
Term Births	1.0	1.0	1.0	1.0	1.0
Preterm Births	11.0	13.0	13.0	7.0	8.0

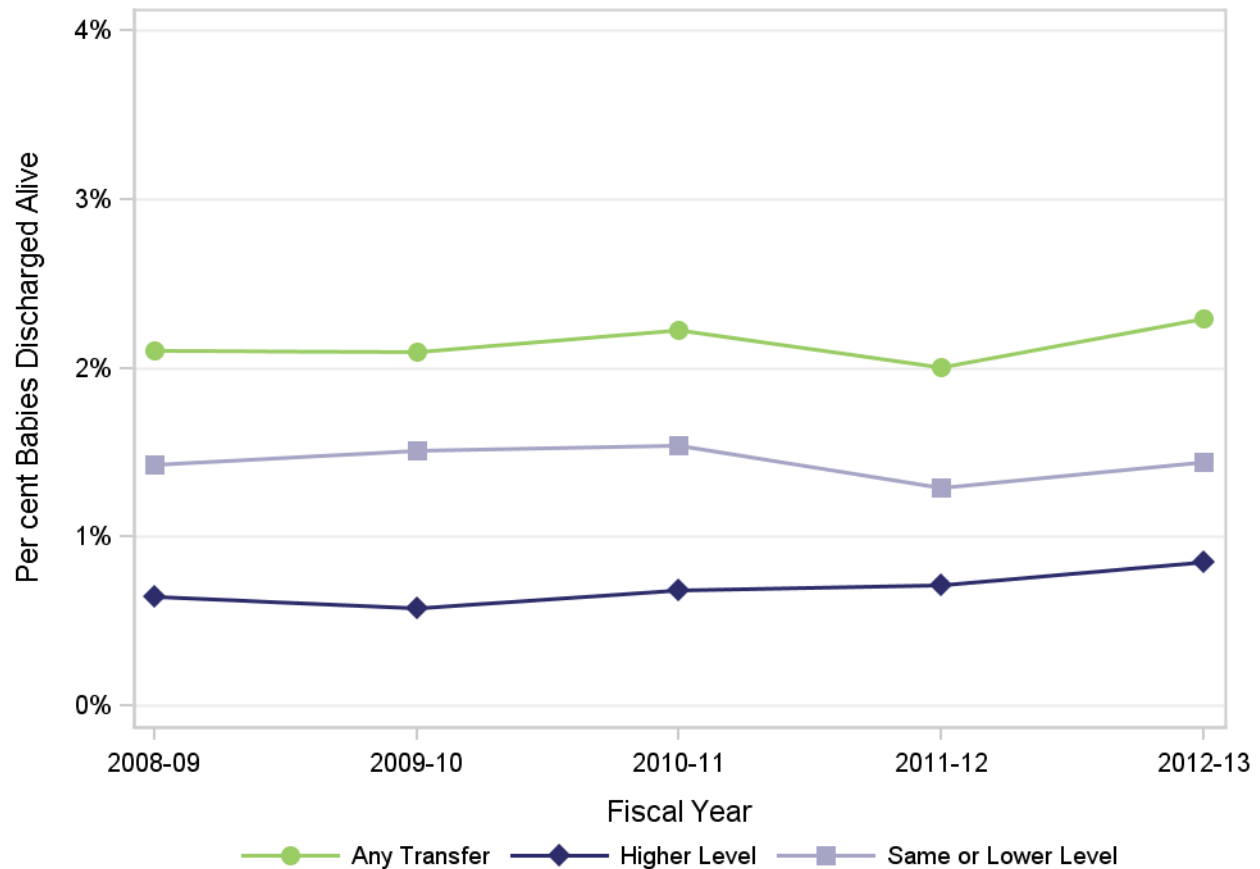
Between April 1, 2008 and March 31, 2010 discharges, NICU days were assigned when the baby received Level II or III care per the DAD abstraction manual. Effective April 1, 2010 discharges, NICU days are assigned based on baby's needs as defined by PSBC Neonatal Daily Classification Tool. Data for 2010-11 to 2012-13 should be interpreted with caution.

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

Definitions and specifications begin on Page 75 of this document.

Transfer to Another Hospital from the Birth Admission

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

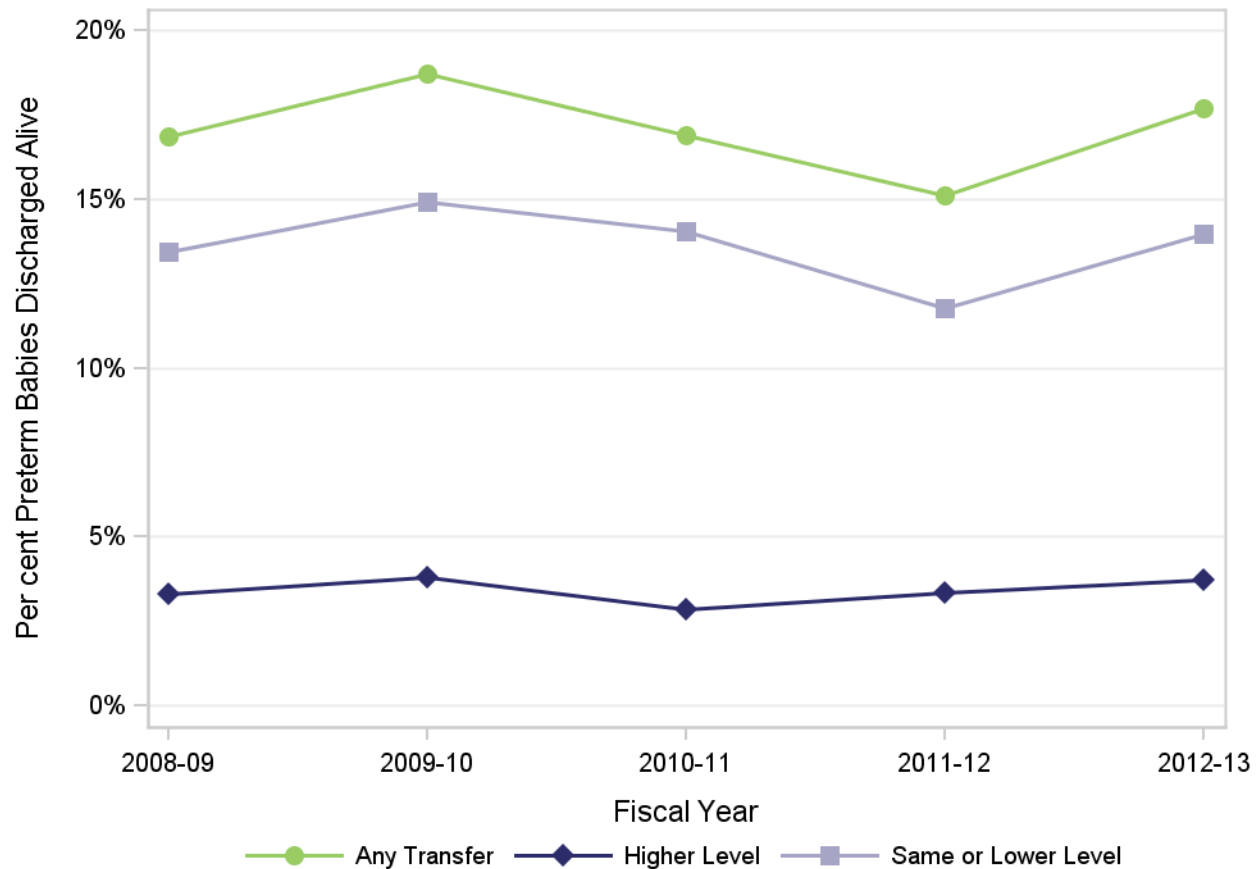


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Any Transfer	2.1%	2.1%	2.2%	2.0%	2.3%
Higher Level	0.6%	0.6%	0.7%	0.7%	0.8%
Same or Lower Level	1.4%	1.5%	1.5%	1.3%	1.4%

Definitions and specifications begin on Page 75 of this document.

Neonatal Transfer Among Babies Born Preterm

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

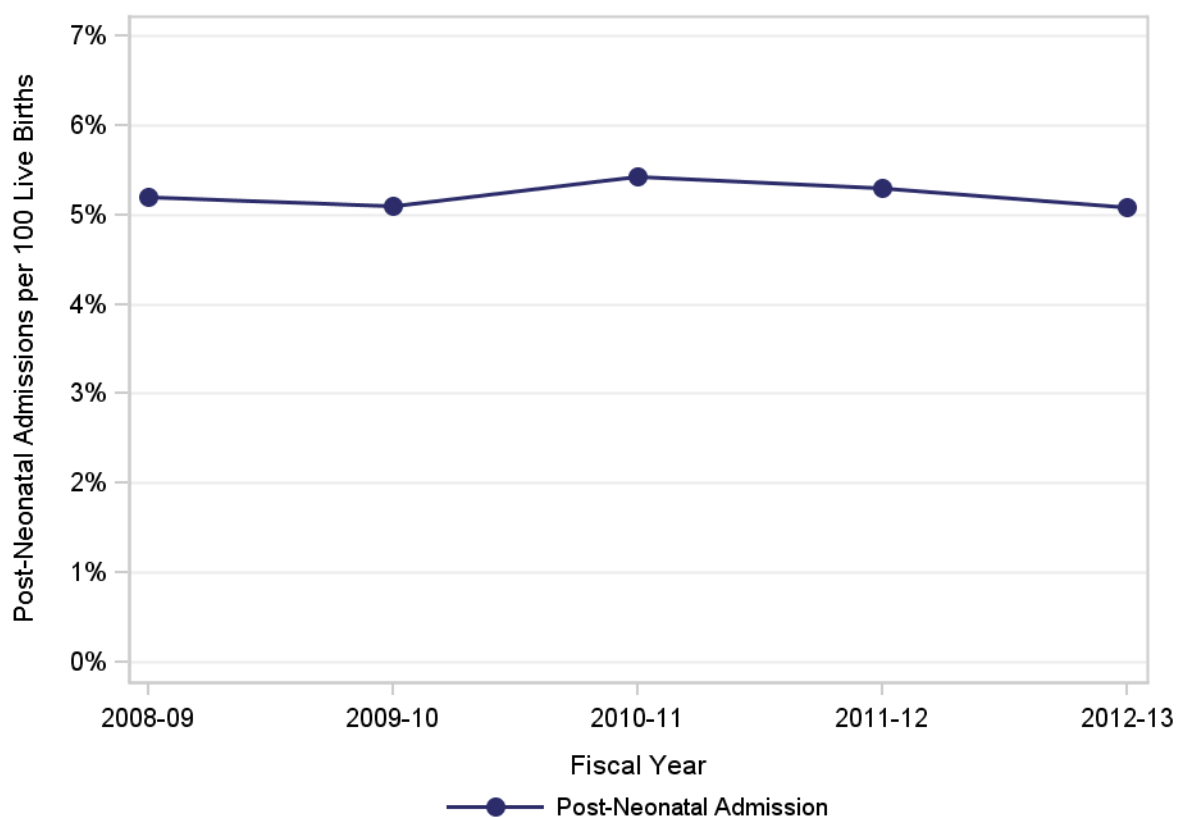


	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Any Transfer	16.9%	18.7%	16.9%	15.1%	17.7%
Higher Level	3.3%	3.8%	2.8%	3.3%	3.7%
Same or Lower Level	13.4%	14.9%	14.0%	11.8%	14.0%

Definitions and specifications begin on Page 75 of this document.

Post-Neonatal Admissions

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Leading Diagnoses Associated with Post-Neonatal Admissions Per 100 Post-Neonatal Admissions

Most Responsible Diagnosis	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Jaundice	40.9%	36.3%	39.1%	42.1%	34.8%
Low Birth Weight or Preterm Birth	31.0%	35.2%	29.4%	21.4%	30.1%
Congenital Anomalies	4.6%	5.3%	9.0%	7.4%	8.0%
Feeding Problems	5.1%	4.7%	5.7%	5.5%	6.2%
Respiratory Infections	6.9%	5.9%	4.5%	5.4%	4.7%
Respiratory Distress	2.7%	2.6%	2.2%	5.5%	5.1%
Other Infections	3.6%	4.2%	3.6%	5.5%	3.4%
Apnea	1.1%	1.3%	1.4%	2.6%	2.4%
Urinary Tract Infections	2.0%	1.7%	1.6%	1.7%	3.3%
Isoimmunization	2.0%	2.8%	3.6%	3.0%	2.0%

Post-Neonatal Admissions include inter-hospital transfers and readmissions from home.
Definitions and specifications begin on Page 75 of this document.

In-Hospital Perinatal Mortality

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
In-Hospital Perinatal Mortality	per 1,000	per 1,000	per 1,000	per 1,000	per 1,000
Total Stillbirth Rate = Total Stillbirths / (Live Births + Stillbirths)	3.6	4.1	4.4	3.6	2.7
Stillbirth Rate = Stillbirths \geq 500g / (Live Births + Stillbirths \geq 500g)	2.5	1.9	2.1	1.6	1.3
Early Neonatal Mortality Rate = Early Neonatal Deaths / Live Births	1.9	1.9	1.1	2.3	1.5
Perinatal Mortality Rate = Perinatal Deaths / (Live Births + Stillbirths \geq 500g)	4.4	3.8	3.2	3.9	2.8
Late Neonatal Mortality Rate = Late Neonatal Deaths / Live Births	NR	NR	NR	NR	0.6
Total Neonatal Mortality Rate = Total Neonatal Deaths / Live Births	2.1	2.2	1.3	2.5	2.1
Post-Neonatal Mortality Rate = Post-Neonatal Deaths / Live Births	NR	NR	NR	NR	NR
Infant Mortality Rate = Infant Deaths / Live Births	2.3	2.5	1.4	2.7	2.4

DEFINITIONS:

Total Stillbirths: Infant born deceased at any birthweight \geq 20 weeks' gestation. Includes selective fetal reductions.

Stillbirths \geq 500g: Infant born deceased weighing \geq 500g and \geq 20 weeks' gestation. Includes selective fetal reductions.

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

Perinatal Deaths: Stillbirths \geq 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.

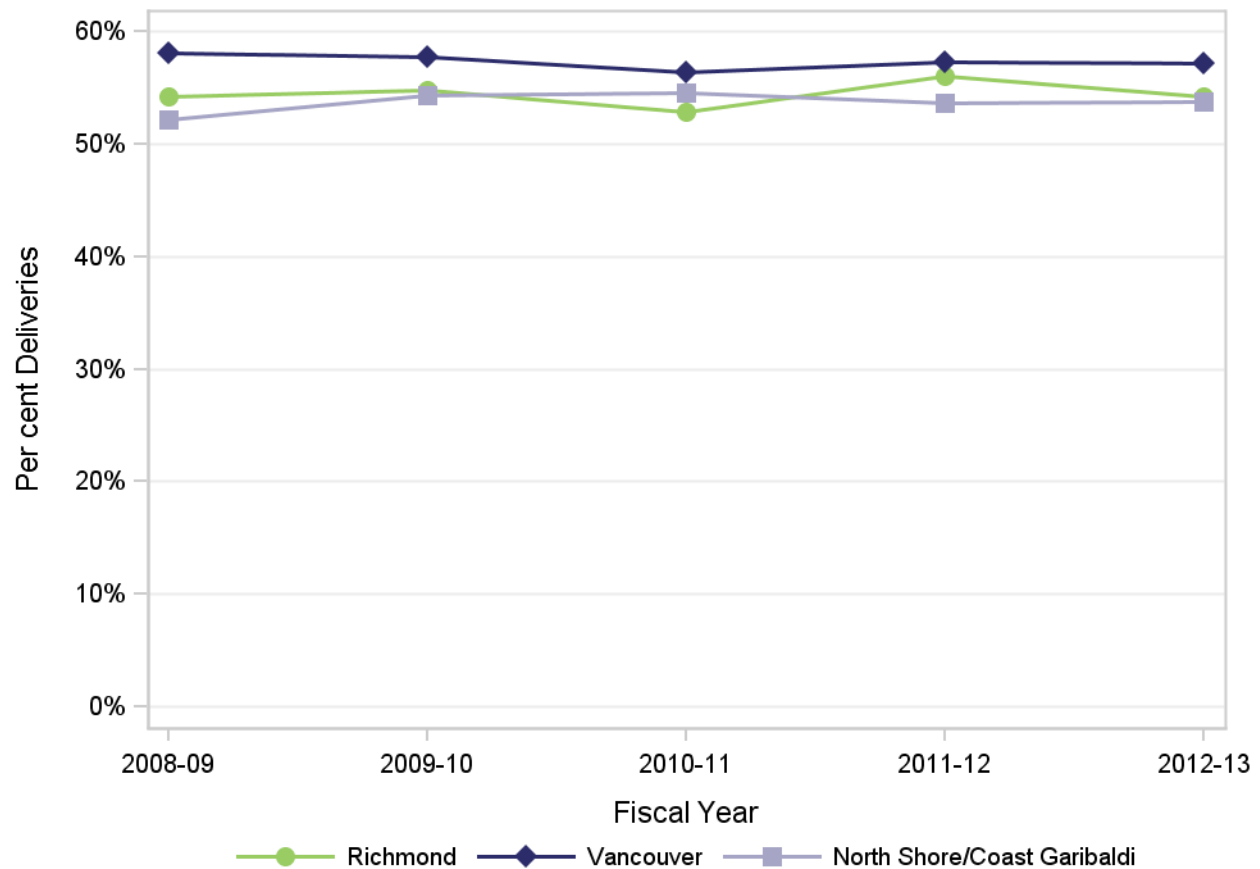
Definitions and specifications begin on Page 75 of this document.

Perinatal Health Report 2014
Residents of Vancouver Coastal Health

Section 4: 'Normal Labour'

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



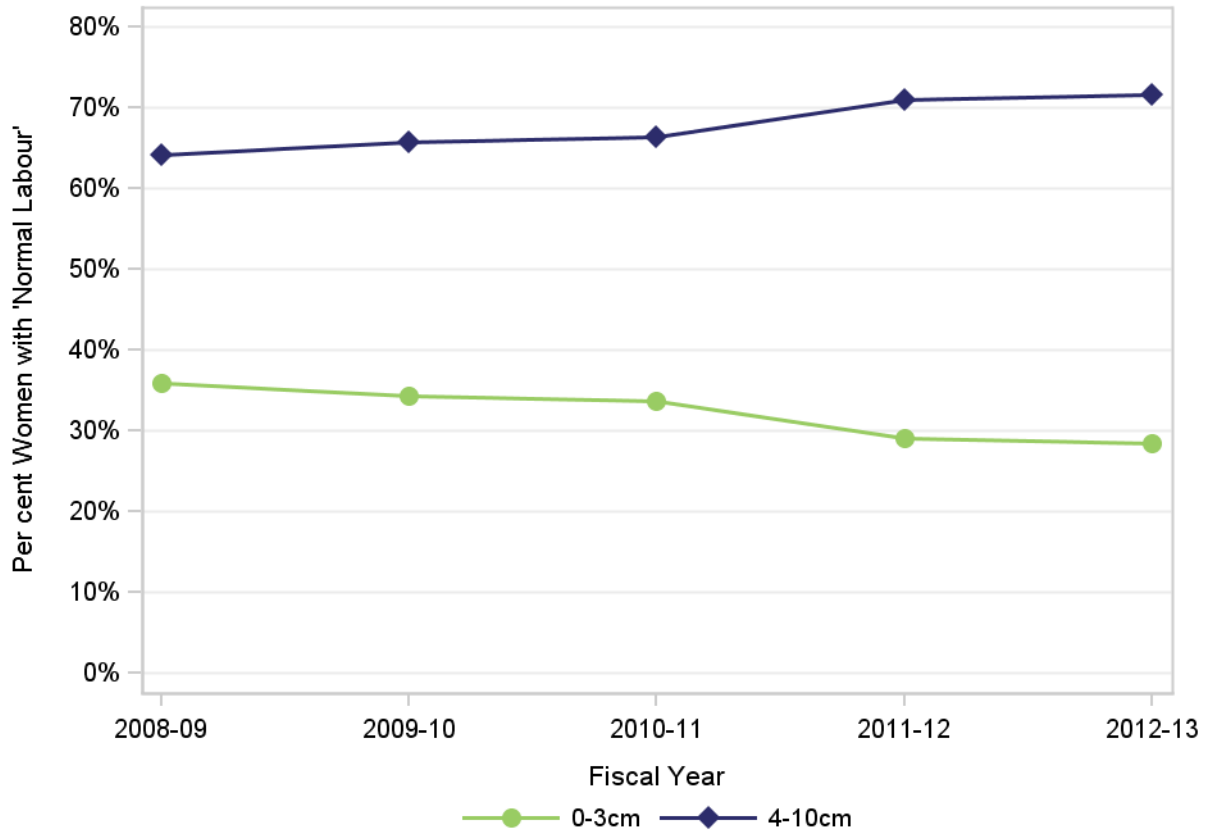
Health Service Delivery Area	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Richmond	54.2%	54.8%	52.9%	56.0%	54.2%
Vancouver	58.0%	57.7%	56.4%	57.3%	57.1%
North Shore/Coast Garibaldi	52.2%	54.3%	54.5%	53.6%	53.8%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Cervical Dilation at Admission Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



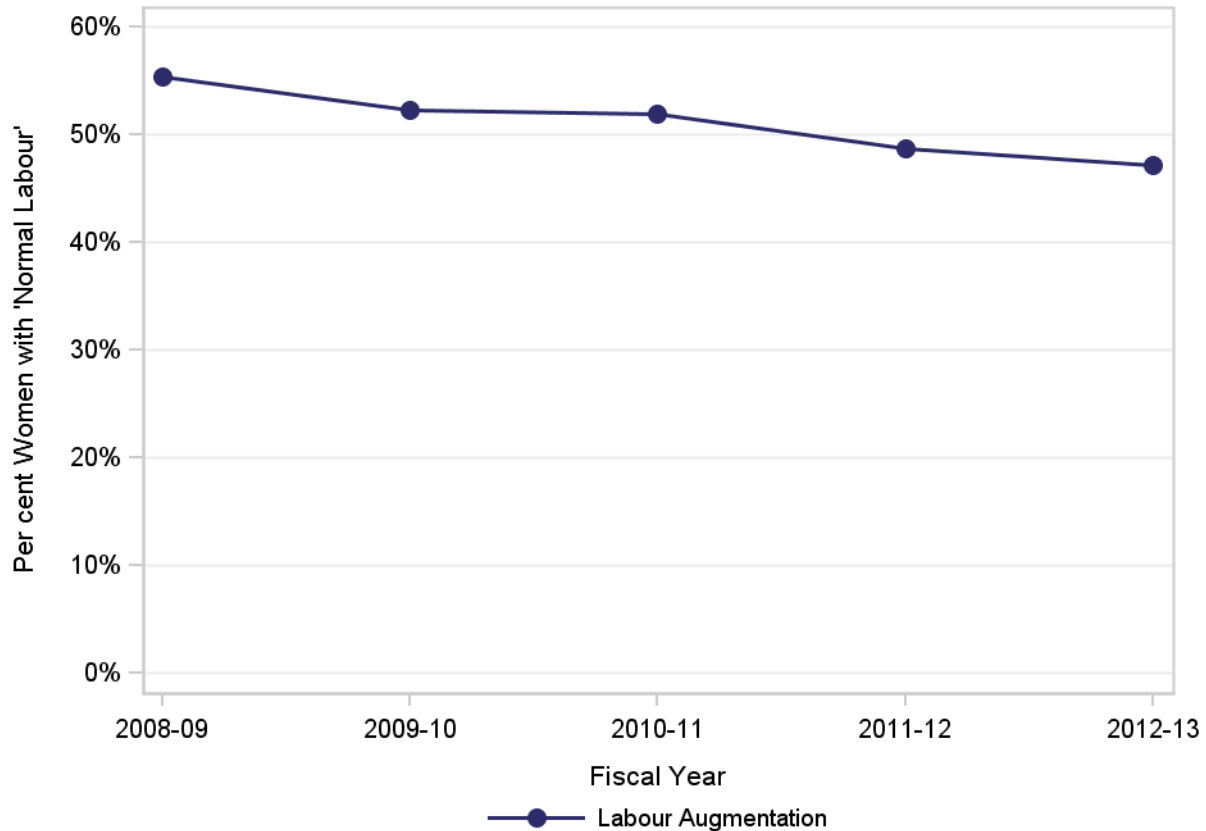
Cervical Dilation at Admission	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
0-3cm	35.9%	34.3%	33.6%	29.0%	28.4%
4-10cm	64.1%	65.7%	66.4%	71.0%	71.6%
Missing	20.2%	19.5%	22.0%	29.7%	31.3%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Labour Augmentation Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



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

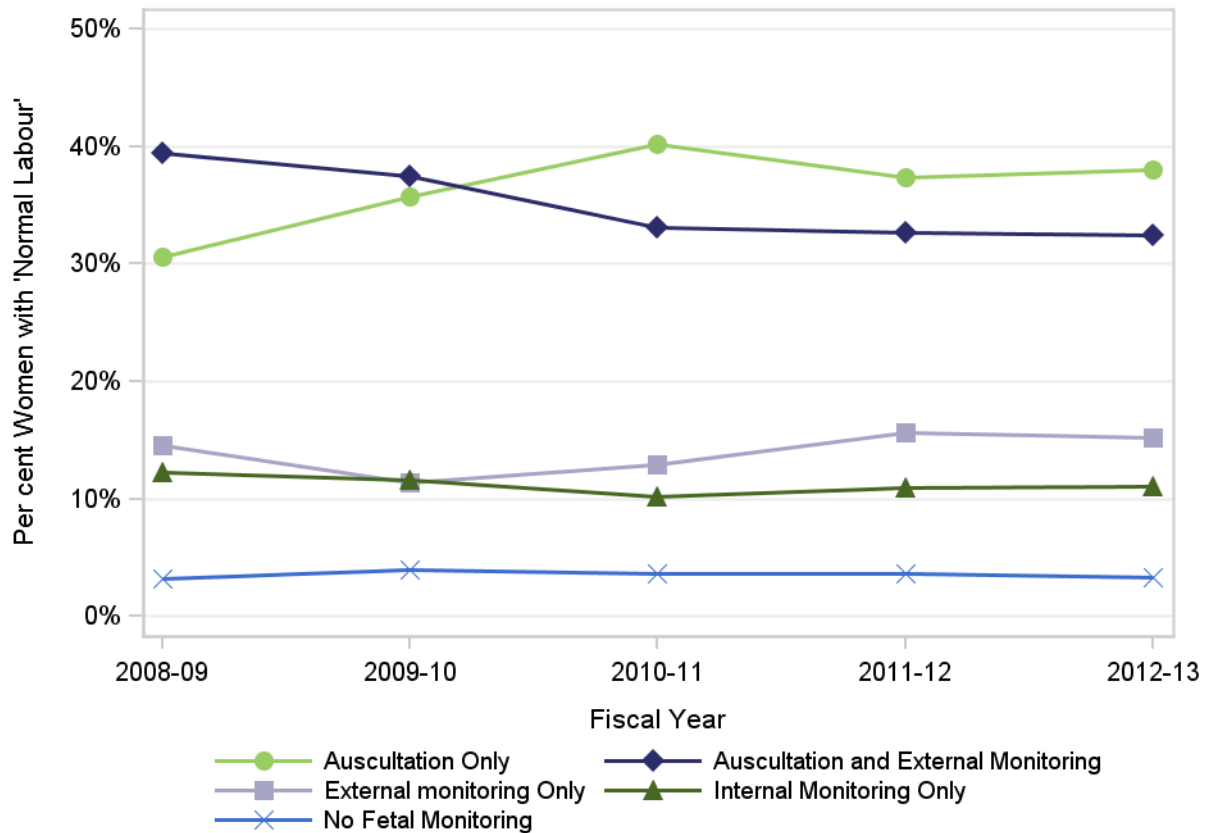
Mode of Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	49.3%	45.7%	44.9%	41.4%	39.1%
Assisted Vaginal	71.0%	67.7%	70.1%	65.4%	66.3%
Cesarean	74.6%	72.0%	73.9%	73.3%	72.1%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



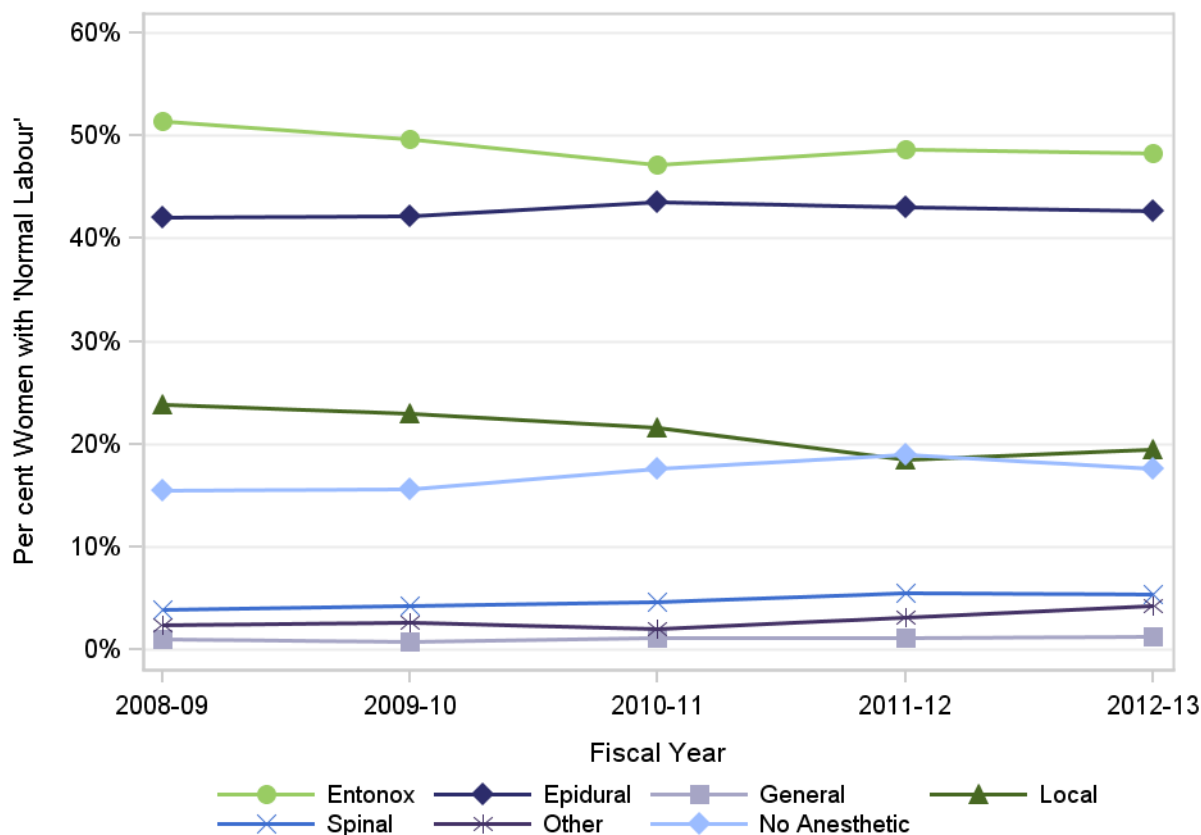
Method of Fetal Surveillance	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Auscultation Only	30.6%	35.7%	40.2%	37.3%	38.0%
Auscultation and External Monitoring	39.4%	37.4%	33.1%	32.6%	32.5%
External Monitoring Only	14.6%	11.3%	12.9%	15.6%	15.2%
Internal Monitoring Only	12.2%	11.6%	10.2%	10.9%	11.1%
No Fetal Monitoring	3.2%	4.0%	3.7%	3.6%	3.3%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Anesthesia or Analgesia During Labour and Delivery Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Type of Anesthesia or Analgesia	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Entonox	51.4%	49.6%	47.2%	48.7%	48.3%
Epidural	42.0%	42.2%	43.6%	43.0%	42.7%
General	1.0%	0.8%	1.1%	1.1%	1.3%
Local	23.9%	22.9%	21.6%	18.5%	19.4%
Spinal	3.9%	4.3%	4.7%	5.5%	5.4%
Other	2.4%	2.6%	2.0%	3.2%	4.2%
No Anesthetic	15.5%	15.6%	17.6%	18.9%	17.6%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

Mode of Delivery	First Stage (Hours)					Second Stage (Hours)				
	08-09	09-10	10-11	11-12	12-13	08-09	09-10	10-11	11-12	12-13
Spontaneous Vaginal	5.8	5.5	5.5	5.5	5.3	0.5	0.5	0.5	0.5	0.5
Assisted Vaginal	9.4	9.7	10.0	9.3	8.9	2.2	2.3	2.4	2.2	2.4
Cesarean	12.0	11.3	10.5	11.2	10.5	4.1	4.2	3.9	3.9	4.1

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

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013

Mode of Delivery	Antepartum LOS (Hours)					Postpartum LOS (Hours)					Total LOS (Hours)				
	08-09	09-10	10-11	11-12	12-13	08-09	09-10	10-11	11-12	12-13	08-09	09-10	10-11	11-12	12-13
Spontaneous Vaginal	4.8	4.6	4.5	4.6	4.3	33.3	33.2	33.1	33.6	32.9	38.7	38.3	38.3	38.9	38.0
Assisted Vaginal	11.2	10.6	10.9	10.1	10.3	45.3	46.6	45.5	45.2	48.3	57.8	58.1	57.8	56.8	58.5
Cesarean	13.2	12.8	12.9	12.5	12.4	72.4	70.7	70.5	70.2	70.6	85.6	84.1	83.6	84.1	82.7

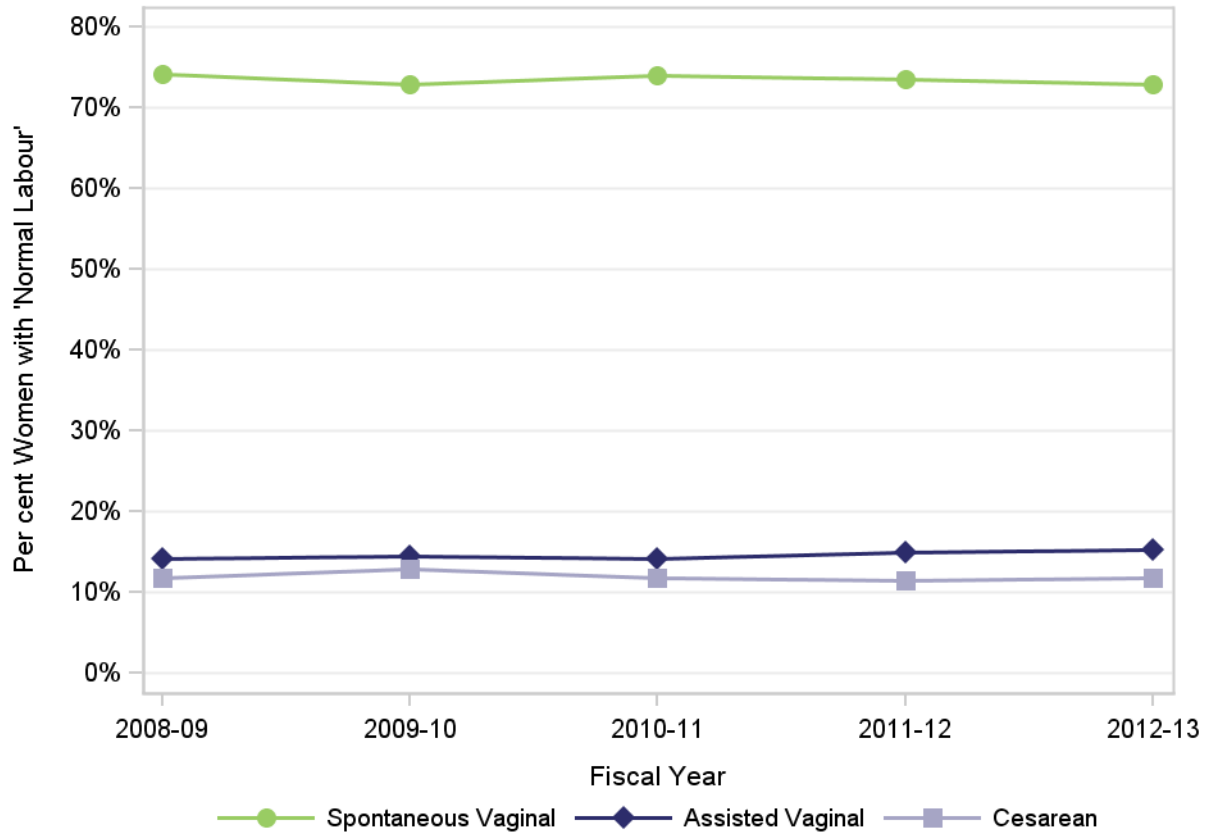
Women with 'Normal Labour' have no history of cesarean delivery and deliver a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

Deliveries outside acute care facilities are excluded.

Definitions and specifications begin on Page 75 of this document.

Mode of Delivery Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



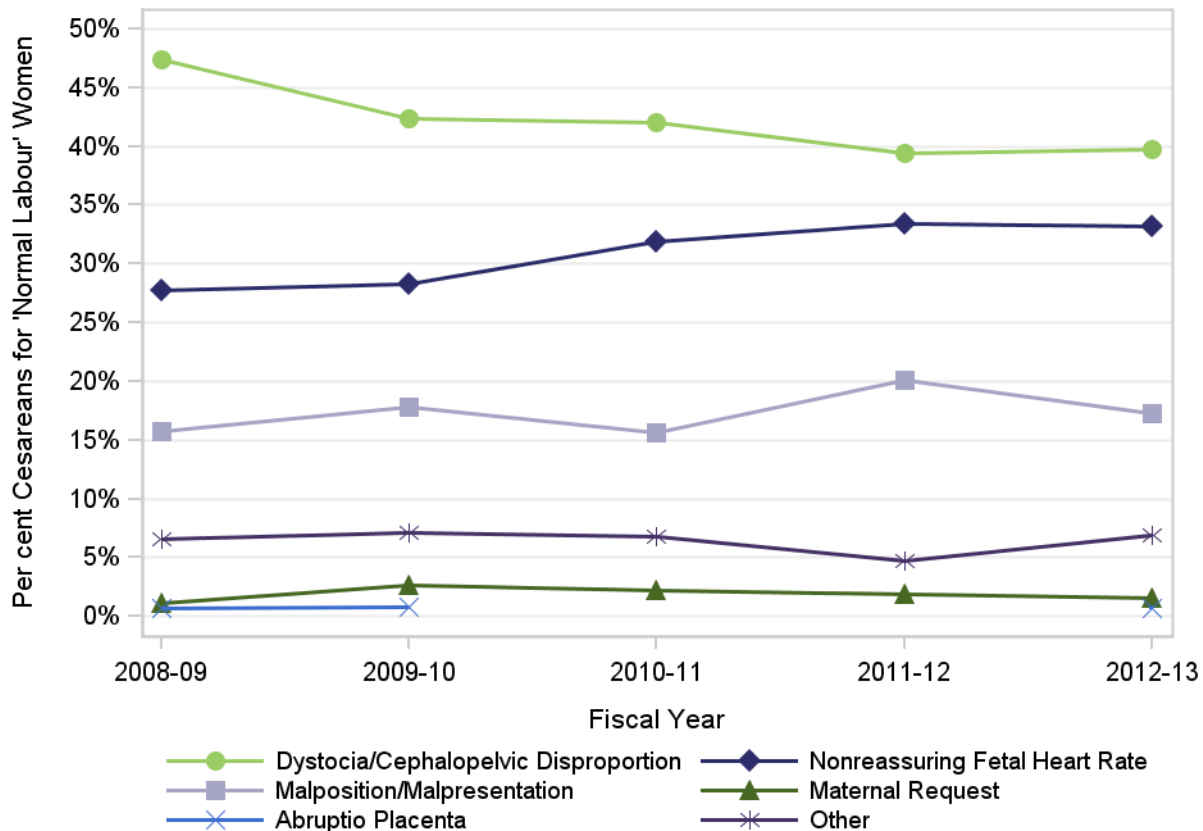
Mode of Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	74.1%	72.8%	74.0%	73.5%	72.9%
Assisted Vaginal	14.1%	14.4%	14.2%	15.0%	15.3%
Cesarean	11.7%	12.8%	11.8%	11.5%	11.8%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Primary Indication for Cesarean Delivery Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Primary Indication for Cesarean Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Dystocia/Cephalopelvic Disproportion	47.4%	42.3%	42.0%	39.4%	39.7%
Nonreassuring Fetal Heart Rate	27.7%	28.3%	31.9%	33.4%	33.2%
Malposition/Malpresentation	15.7%	17.8%	15.7%	20.1%	17.3%
Maternal Request	1.2%	2.7%	2.3%	1.8%	1.6%
Abruptio Placenta	0.7%	0.8%	NR	NR	0.7%
Placenta Previa	NR	NR	NR	NR	NR
Active Herpes	NR	NR	NR	NR	NR
Other	6.6%	7.1%	6.8%	4.8%	7.0%

Women with 'Normal Labour' have no history of cesarean delivery and deliver a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

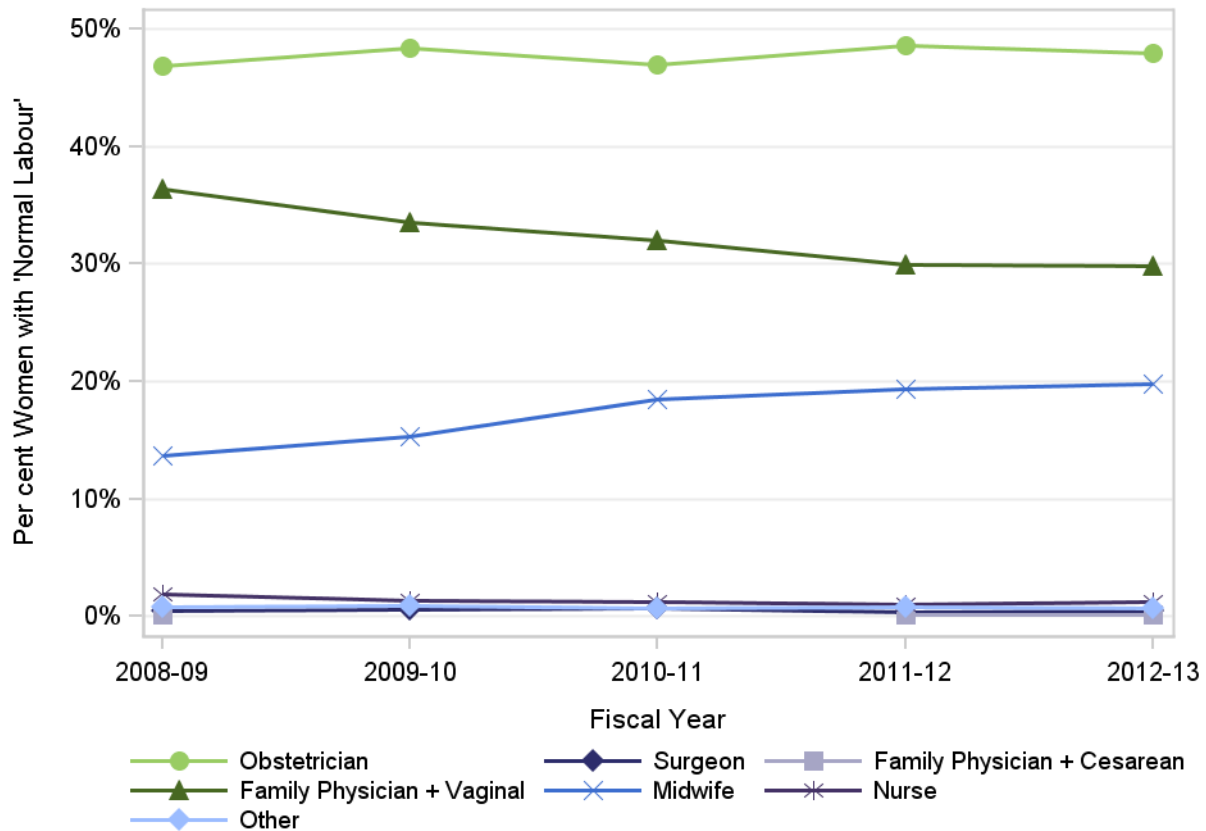
Selected indications are included in the figure; all indications are included in the table.

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

Definitions and specifications begin on Page 75 of this document.

Delivery Provider Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Delivery Provider	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Obstetrician	46.8%	48.4%	47.0%	48.6%	47.9%
Surgeon	0.5%	0.5%	0.7%	0.4%	0.5%
Family Physician + Cesarean	0.2%	NR	NR	0.1%	0.2%
Family Physician + Vaginal	36.3%	33.6%	32.0%	29.9%	29.9%
Midwife	13.7%	15.3%	18.4%	19.3%	19.8%
Nurse	1.8%	1.3%	1.2%	1.0%	1.2%
Other	0.8%	0.9%	0.7%	0.7%	0.6%

Women with 'Normal Labour' have no history of cesarean delivery and deliver a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

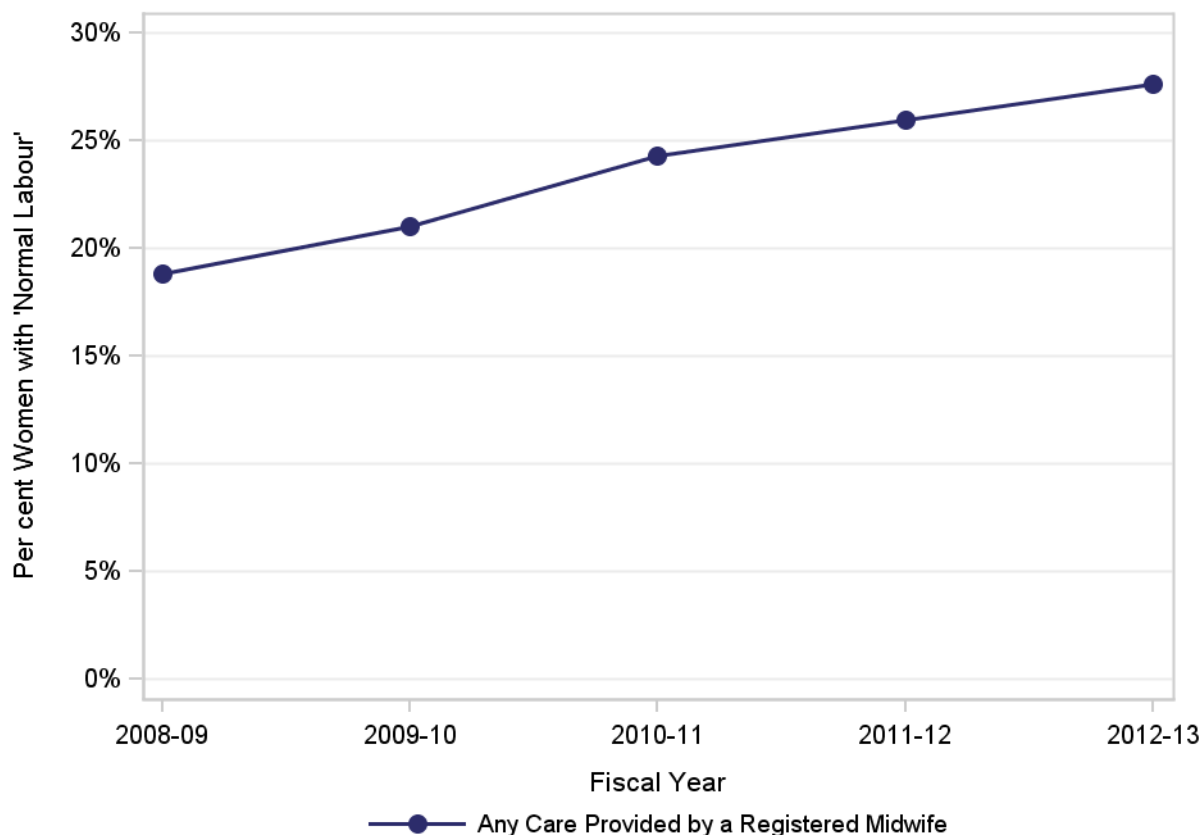
Describes the training level of the provider who delivered the baby. This may not be the same type of health care professional who provided antenatal care.

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

Definitions and specifications begin on Page 75 of this document.

Any Care Provided by a Registered Midwife Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Any Care Provided by a Registered Midwife by Mode of Delivery Women with 'Normal Labour'

	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	20.1%	22.4%	26.3%	27.7%	29.2%
Assisted Vaginal	13.9%	17.9%	17.8%	20.8%	21.7%
Cesarean	16.3%	16.4%	19.0%	21.3%	25.5%

Women with 'Normal Labour' have no history of cesarean delivery and deliver a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

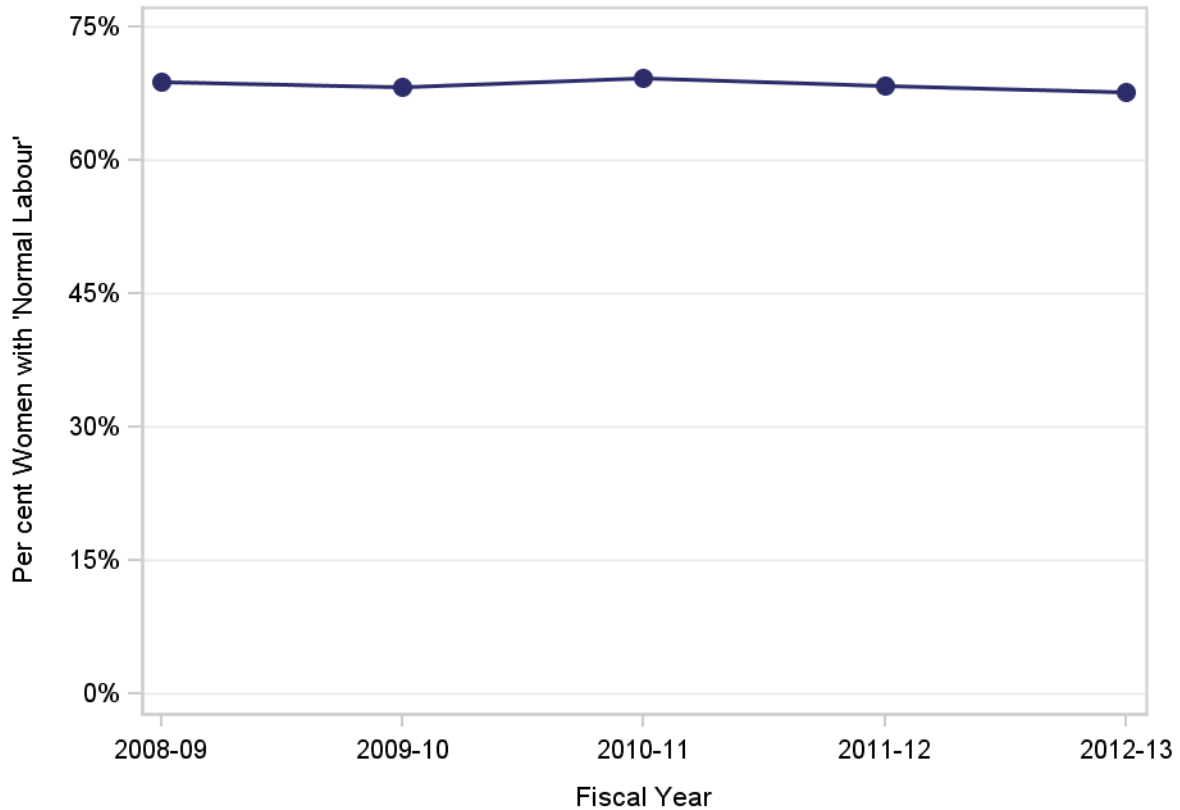
Indicates if a Registered Midwife was involved at any point during prenatal care or the delivery episode. May not be the provider who performs the delivery.

Definitions and specifications begin on Page 75 of this document.

Women with 'Normal Childbirth'

Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
'Normal Childbirth'	68.7%	68.2%	69.2%	68.4%	67.6%

Women with 'Normal Labour' have no history of cesarean delivery and deliver a singleton infant with the head as the presenting part between 37 and 41 estimated weeks' gestation after spontaneous onset of labour.

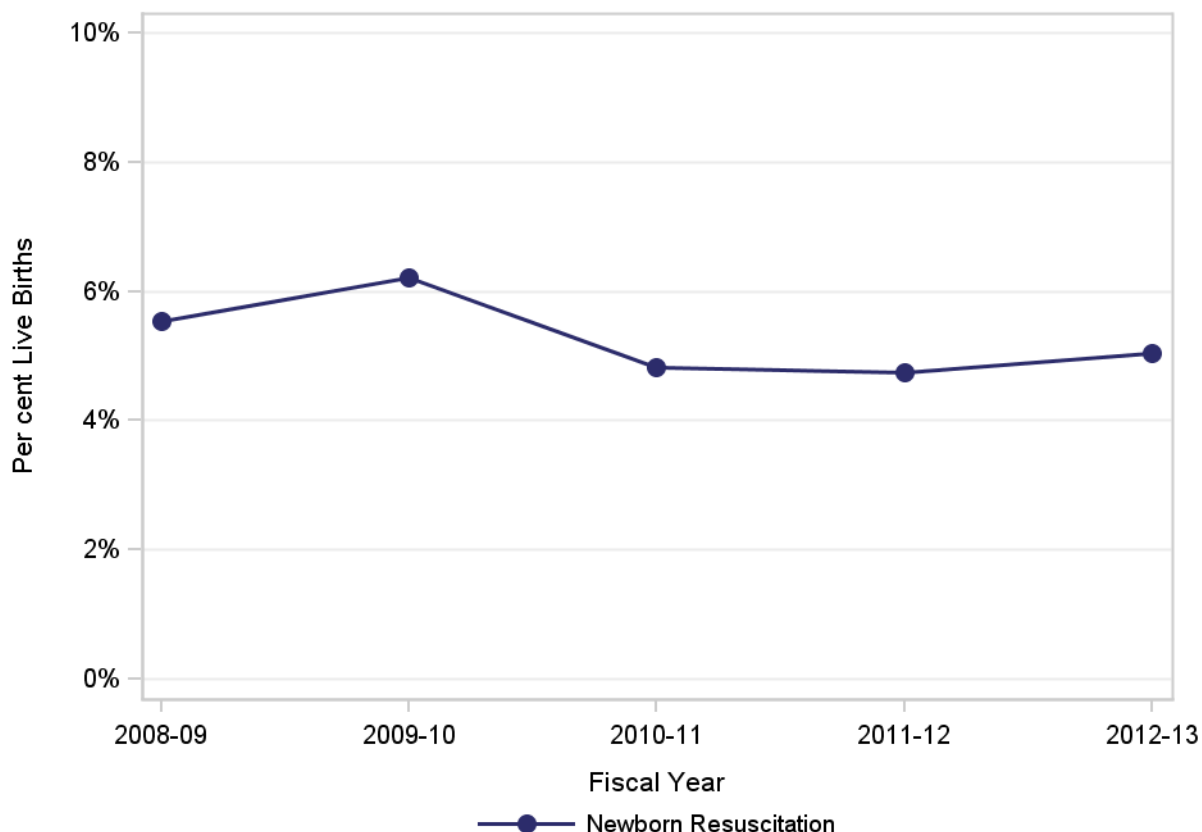
'Normal Childbirth' excludes the following: spinal anaesthesia, general anaesthesia, vacuum-assisted delivery, forceps-assisted delivery, cesarean delivery, or episiotomy.

Definitions and specifications begin on Page 75 of this document.

Newborn Resuscitation

Babies Born to Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



Newborn Resuscitation by Mode of Delivery

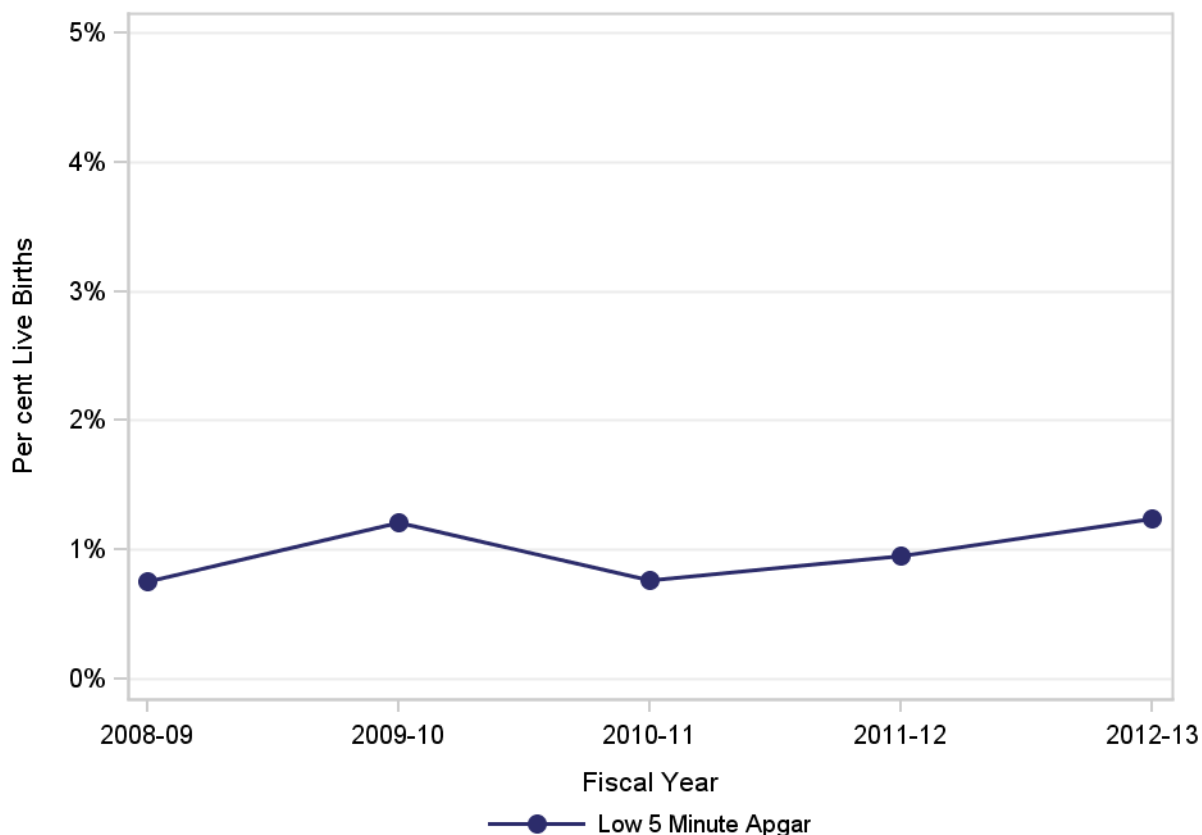
Babies Born to Women with 'Normal Labour'

Mode of Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	3.8%	4.8%	3.4%	3.4%	3.1%
Assisted Vaginal	10.8%	9.9%	9.0%	7.5%	10.6%
Cesarean	10.2%	10.1%	8.9%	10.0%	9.9%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Low 5 Minute Apgar Score **Babies Born to Women with 'Normal Labour'** Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



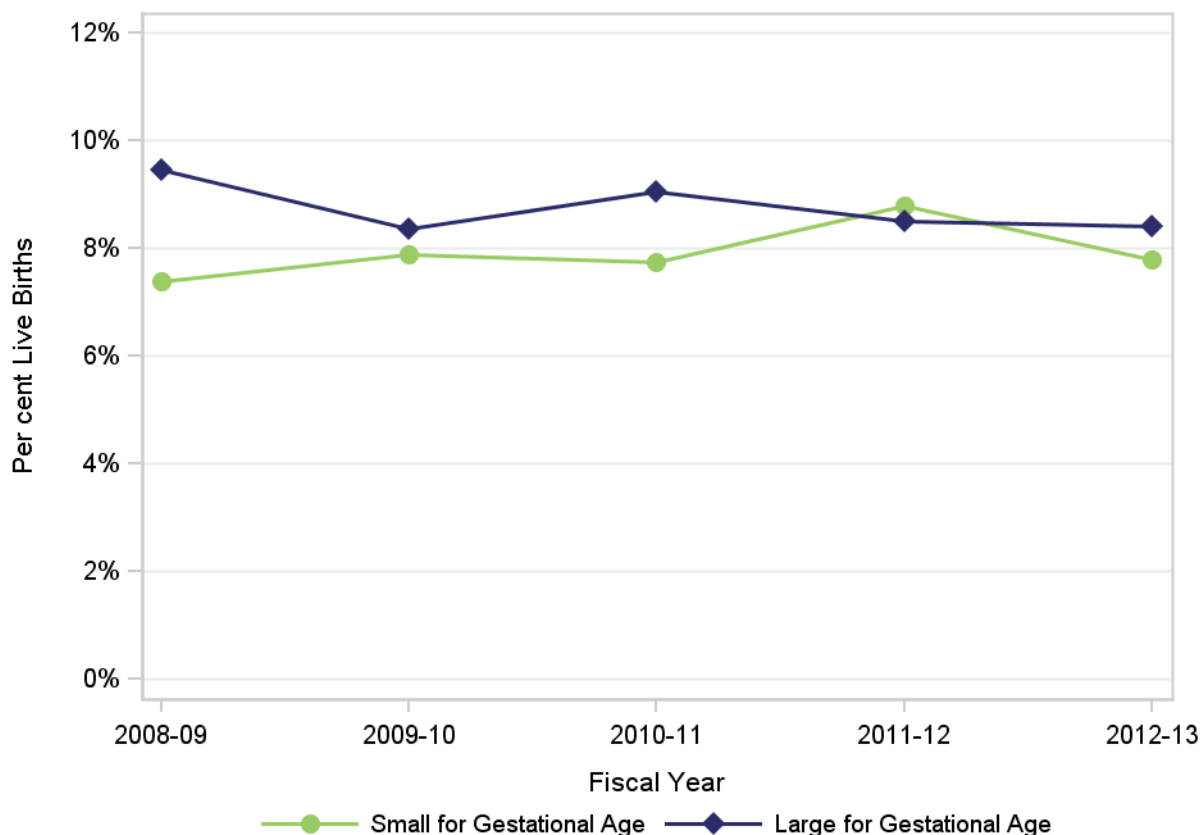
Low 5 Minute Apgar Score by Mode of Delivery **Babies Born to Women with 'Normal Labour'**

Mode of Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	0.6%	0.7%	0.5%	0.7%	0.8%
Assisted Vaginal	1.1%	2.4%	1.4%	1.5%	2.6%
Cesarean	1.5%	2.7%	1.5%	1.8%	2.1%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Weight for Gestational Age **Babies Born to Women with 'Normal Labour'** Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



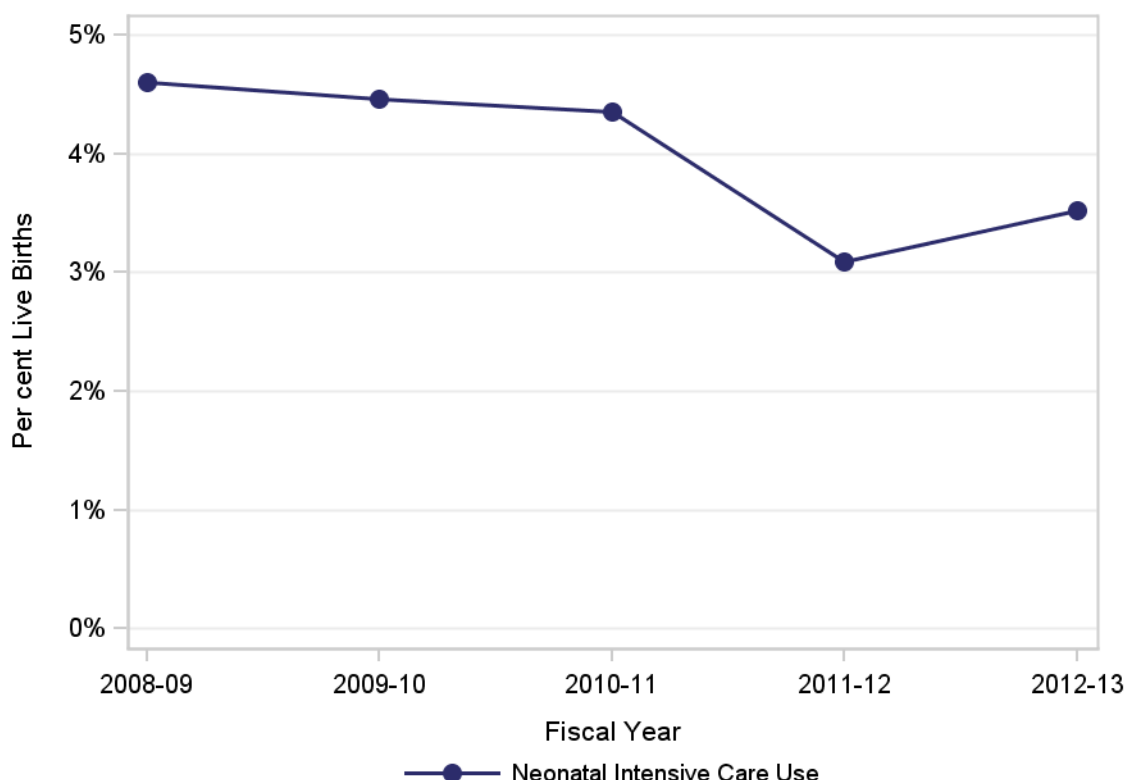
	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Small for Gestational Age	7.4%	7.9%	7.7%	8.8%	7.8%
Large for Gestational Age	9.5%	8.4%	9.1%	8.5%	8.4%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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 75 of this document.

Neonatal Intensive Care Use During Birth Episode of Care Babies Born to Women with 'Normal Labour'

Residents of Vancouver Coastal Health: April 1, 2008 - March 31, 2013



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

Mode of Delivery	Fiscal Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Spontaneous Vaginal	3.4%	2.7%	3.1%	2.0%	2.2%
Assisted Vaginal	6.9%	7.8%	6.4%	5.1%	7.1%
Cesarean	9.5%	10.5%	9.5%	7.7%	7.1%

Women with 'Normal Labour' have no history of cesarean delivery and deliver 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. Data for 2010-11 to 2012-13 should be interpreted with caution.

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

Definitions and specifications begin on Page 75 of this document.

Definitions

Section 1: Maternal Health

Parity

- Indicates whether a woman delivered a previous pregnancy ≥ 20 weeks gestation or ≥ 500 g. 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.

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.

Hypertension in Pregnancy

- No Hypertension – no hypertensive conditions were documented by a care provider.
- Pre-Existing Hypertension – mother had a documented hypertensive disorder before pregnancy. Mother may also have had gestational hypertension.
- Pre-Existing Hypertension with Pre-Eclampsia – mother had a documented hypertensive disorder before pregnancy and also had pre-eclampsia diagnosed in pregnancy.
- Gestational Hypertension – mother had hypertension diagnosed during pregnancy.
- Pre-Eclampsia – mother had pre-eclampsia diagnosed during pregnancy. Mother may also have had gestational hypertension.
- Eclampsia – mother had eclampsia diagnosed during pregnancy. Mother may have had pre-existing or gestational hypertension.
- HELLP – mother had HELLP syndrome (Hemolysis, Elevated Liver enzymes, and Low Platelet count) diagnosed during pregnancy.
 - 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.

- **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 only to testing 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.
 - **NOTE:** Artificial reproductive technology data were captured differently beginning April 1, 2009 discharges.

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.

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 .
 - NOTE: Cholestasis was added to the ICD code for liver complications effective April 1, 2009. 2008-09 data include only acute fatty liver and 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.
- 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.

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 88 per cent of diagnoses associated with Post-Delivery Admissions for 2008-09 to 2012-13, inclusive:
 - Postpartum Hemorrhage
 - Postpartum Infection – includes sepsis, obstetric wound infection, urinary tract infection, or post-procedural infection.
 - Routine Postpartum Care – care and examination immediately after delivery or routine postpartum follow-up.
 - 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](#).

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 (Down's Syndrome); 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, bile 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.

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.
 - **PSBC has recently become aware of data quality issues related to NICU days for discharges beginning April 1, 2010. Data for 2010-11 to 2012-13 should be interpreted with caution.**

Transfer to Another Hospital

- 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 82 per cent of diagnoses associated with Post-Neonatal Admissions for 2008-09 to 2012-13, 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.

- Total Stillbirths – baby was born deceased.
 - Total 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

<u>Include:</u>	
Delivery	MOTHER_ADMISSION.screen_source = "DL" AND April 1, 2008 ≤ discharge_date ≤ March 31, 2013
Linked maternal-newborn records	BABY_ADMISSION.screen_source = "NB" AND BABY_ADMISSION.mother_id is not null
<u>Exclude:</u>	
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

<u>Admission type</u>		<u>Criteria</u>
<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, 2008 ≤ discharge_date ≤ March 31, 2013
	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:	<p>BABY_ADMISSION.screen_source = "XF" and discharge_to = "O" and 101 ≤ institution_to < 973</p>
	Episode end	<p>BABY_ADMISSION.screen_source = "NB" or "XF" AND (discharge_to ≠ "O" or institution_to = 973 or 974)</p> <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			
2008-09	<code>screen_source</code> = "DL" AND April 1, 2008 ≤ MOTHER_ADMISSION. <code>discharge_date</code> ≤ March 31, 2009		
2009-10	<code>screen_source</code> = "DL" AND April 1, 2009 ≤ MOTHER_ADMISSION. <code>discharge_date</code> ≤ March 31, 2010		
2010-11	<code>screen_source</code> = "DL" AND April 1, 2010 ≤ MOTHER_ADMISSION. <code>discharge_date</code> ≤ March 31, 2011		
2011-12	<code>screen_source</code> = "DL" AND April 1, 2011 ≤ MOTHER_ADMISSION. <code>discharge_date</code> ≤ March 31, 2012		
2012-13	<code>screen_source</code> = "DL" AND April 1, 2012 ≤ MOTHER_ADMISSION. <code>discharge_date</code> ≤ March 31, 2013		
Parity			
Nulliparous	(<code>term</code> = 0 and <code>premature</code> = 0 and <code>prev_cesarian_deliv</code> = 0 and <code>prev_vaginal_deliv</code> = 0) OR (<code>term</code> = null and <code>premature</code> = null and <code>prev_cesarian_deliv</code> = null and <code>prev_vaginal_deliv</code> = null and <code>living</code> = 0) OR (any of <code>term</code> , <code>premature</code> , <code>prev_cesarian_deliv</code> , or <code>prev_vaginal_deliv</code> = null and <code>gravida</code> = 1)		
Parous	(<code>term</code> ≥ 1 or <code>premature</code> ≥ 1 or <code>prev_cesarian_deliv</code> ≥ 1 or <code>prev_vaginal_deliv</code> ≥ 1) OR (<code>term</code> = null and <code>premature</code> = null and <code>prev_cesarian_deliv</code> = null and <code>prev_vaginal_deliv</code> = null and <code>living</code> ≥ 1)		

	PDR variables		CIHI Codes
Hypertension in pregnancy			
Pre-Existing Hypertension			diagnosis_code begins with O10
Pre-Existing Hypertension with Pre-Eclampsia			diagnosis_code begins with O11
Gestational Hypertension (includes mild pre-eclampsia for discharges before April 1, 2012)			diagnosis_code begins with O13
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
Eclampsia			diagnosis_code begins with O15
HELLP syndrome	pp_hellp = "Y"		
	discharge_date ≥ April 1, 2012	AND	diagnosis_code begins with O142
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
	April 1, 2008 ≤ discharge_date < April 1, 2009	AND	diagnosis_code for mother begins with Z311, Z312, or Z313
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
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
Assisted Vaginal			procedure_code begins with 5MD53, 5MD54, 5MD55, 5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, or 5MD56PJ

	PDR variables		CIHI Codes
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
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

	PDR variables		CIHI Codes
Postpartum Hemorrhage with Hysterectomy			<code>diagnosis_code</code> begins with O72 AND (<code>procedure_code</code> begins with 5MD60CB, 5MD60KE, 5MD60RC, or 5MD60RD; OR <code>procedure_code</code> begins with 1RM87LAGX and <code>extent</code> = SU; OR <code>procedure_code</code> begins with 1RM89 AND there is no <code>procedure_code</code> beginning with 1PL74, 1RS74, or 1RS80)
Antepartum Hemorrhage with Transfusion	<code>blood_transfusion_flg</code> = "Y" and <code>risk_code</code> = 8		
Eclampsia	<code>blood_transfusion_flg</code> = "Y"	AND	<code>diagnosis_code</code> begins with O441, O45, O46, O67, or O694
HELLP	<code>pp_hellp</code> = "Y"		<code>diagnosis_code</code> begins with O15
	<code>discharge_date</code> ≥ April 1, 2012	AND	<code>diagnosis_code</code> begins with O142
Anesthetic Complications			<code>diagnosis_code</code> begins with O29, O740, O741, O742, O743, O744, O747, O748, O749, O89, or T885
Shock			<code>diagnosis_code</code> begins with O751
Stroke			<code>diagnosis_code</code> begins with G459, I6, or I7
Pulmonary Embolism			<code>diagnosis_code</code> begins with O88
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		
Post-Delivery Admission Diagnoses			
Routine Postpartum Care	Post-Delivery Admission	AND	<code>diagnosis_type</code> = "M" and <code>diagnosis_cd</code> begins with Z390, Z392
Postpartum Hemorrhage	Post-Delivery Admission	AND	<code>diagnosis_type</code> = "M" and <code>diagnosis_cd</code> begins with O72

	PDR variables		CIHI Codes
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		
Perinatal Mortality			
Total Stillbirths	stillbirth = "A", "P", or "U"		
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		
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

	PDR variables		CIHI Codes
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
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"		
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)

	PDR variables		CIHI Codes
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		
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,		

	PDR variables		CIHI Codes
	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, 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		

	PDR variables		CIHI Codes
	gestational age is between 37 and 41		
“Normal Childbirth”	<code>general_flg</code> ≠ "Y" and <code>spinal_flg</code> ≠ "Y" and <code>episiotomy_flg</code> ≠ "Y"	AND	<code>procedure_code</code> does not begin with 5MD53, 5MD54, 5MD55, 5MD56NN, 5MD56NR, 5MD56NW, 5MD56PC, 5MD56PF, 5MD56PJ, or 5MD60 AND <code>anesthetic_type</code> ≠ 1, 2, or 4 for a <code>procedure_code</code> beginning with 5MD
Cervical Dilation on Admission			
0-3cm	$0 \leq \text{cervical_dilation_on_admis} < 4$		
4-10cm	<code>cervical_dilation_on_admis</code> ≥ 4		
Unknown	<code>cervical_dilation_on_admis</code> = null		
Duration of Labour Stages			
Duration of First Stage	hours between (<code>second_stage_date</code> <code>second_stage_time</code> – <code>first_stage_date</code> <code>first_stage_time</code>) where <code>first_stage_date</code> and <code>second_stage_date</code> ≠ null and <code>labour_none_flg</code> ≠ "Y"		
Duration of Second Stage	hours between (<code>delivery_date</code> <code>delivery_time</code> – <code>second_stage_date</code> <code>second_stage_time</code>) where <code>second_stage_date</code> ≠ null and <code>labour_none_flg</code> ≠ "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.