BRITISH COLUMBIA PERINATAL DATABASE REGISTRY

# Annual Report 2005


BRITISH COLUMBIA REPRODUCTIVE CARE PROGRAM

*Working to Optimize Fetal, Maternal and Infant Health in British Columbia*

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The BCRCP is pleased to present the 2005 British Columbia Perinatal Database Registry Annual Report and wishes to recognize all the above mentioned for their vision and dedication.

The BCRCP wishes to thank all individuals involved in facilitating in the development of the 2005 Annual Report:

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Dr. Alan Thomson, Consultant

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Dr. Duncan Farquharson – Preterm Birth
Dr. Brian Lupton – Newborn Readmission
Dr. Robert Liston and Dr. Alan Thomson – Postpartum Readmission

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# HIGHLIGHTS AND EXECUTIVE SUMMARY

The 2005 Annual Report includes perinatal data from four fiscal years (April 1 to March 31) 2000/2001, 2001/2002, 2002/2003 and 2003/2004. For Neonatal/Perinatal/Infant Mortality reports, the years 2000/2001, 2001/2002 and 2002/2003 are included. Complete information on infant mortality is not available until at least one year after the birth takes place. **Only singleton pregnancies, deliveries and births are included. The data provide evidence regarding issues pertaining to the care, treatment and outcomes of mothers and newborns in British Columbia (BC). BC residents who delivered out of province are not captured in this report.** Definitions for terms used throughout the report can be found on pages 59 to 61.

## Some of the key findings of this report are:

- Care provider at delivery in British Columbia reflects the national trend of increasing deliveries by obstetricians and decreasing deliveries by family physicians. Variation does exist, however, within the Health Authorities with a proportionately larger number of deliveries by family physicians in the Northern Health Authority. Midwives continue to provide care during delivery at increasing rates from 2.7% in 2000/2001 to 4.3% in 2003/2004.
- The decreasing rate of teen births province-wide may reflect increasing awareness of the risk factors associated with unprotected sex, the availability of contraceptives and other factors such as changes in sexual practice and recognition of the risks linked to these births. The rate of teen births in British Columbia has steadily decreased from 2000/2001 to 2003/2004, but the Northern Health Authority continues to report the highest rates with 8.4% in 2003/2004 compared to the provincial rate of 3.6%.
- The rate of smoking during pregnancy has continuously decreased in British Columbia from 13.2% in 2000/2001 to 10.9% in 2003/2004. Although the figures appear favourable, the overwhelming evidence documenting the negative health consequences of cigarette smoking necessitates the endorsement of effective cessation programs for women during pregnancy and after delivery in the promotion of healthy outcomes for mothers and their babies.
- The health benefits of breastfeeding affect not only the baby, but the mother as well. The World Health Organization in conjunction with UNICEF recommends exclusive breastfeeding for the first six months of life, introduction of solids at six months of age with continued breastfeeding up to two years of life to prevent disease and promote long-term health gain for the mother and her baby. BC's breastfeeding rate at discharge has remained high at approximately 90% over the last four years.
- Induction of labour is indicated when the risks of continuing with the pregnancy outweigh the benefits. Decision to proceed is based on indications for induction as well as discussions with the patient regarding the benefits and potential risks associated with induction of labour. The labour induction rate in British Columbia of 21.2% (2003/2004) has remained comparable from 2000/2001 to 2003/2004. It is noted that, in British Columbia, induction is associated with an increased probability of caesarean section deliveries in nulliparous women, but no difference is noted in women who have given birth at least once.
- Despite the lack of evidence to suggest that continuous electronic fetal monitoring (EFM) in uncomplicated pregnancies is beneficial to the outcome of the fetus, the EFM rates in British Columbia remain relatively high. The rates have, however, decreased across the province from 83.9% in 2000/2001 to 79.0% in 2003/2004 with the Vancouver Island Health Authority demonstrating the lowest rates at 64.6% (2003/2004).
- Evidence suggests that except in cases where there are fetal or maternal concerns, the use of episiotomies serves little to benefit the vaginal delivery of a fetus. With the potential for long-term maternal morbidity, the routine use of episiotomies appears to be unjustified. The episiotomy rates in British Columbia are decreasing with the Northern Health Authority showing the lowest rates at 11.0% in 2003/2004 compared to the provincial rate of 16.3%.
- Caesarean section rates have increased in British Columbia from 23.6% in 2000/2001 to 27.7% in 2003/2004 despite the WHO recommendations that rates not exceed 15%. The increase in caesarean section rates may be attributed to maternal characteristics such as higher maternal age as well as changes in practice such as availability of advanced diagnostic tests and accessibility to larger facilities providing services (BCPDR Annual Report 2004, In Focus).
- The postpartum length of stay for caesarean section deliveries is decreasing across the province, the Fraser Health Authority (FHA) consistently presenting with the shortest length of stay at 91.3% discharged within 96 hours post delivery compared to the provincial average of 77.5%. The data are similar to the vaginal deliveries where 79.8% of FHA mothers were discharged less than 48 hours post delivery compared to 61.4% of mothers in the province (2003/2004).

- The total low birth weight rate (≤ 2500 grams) has continued to remain stable at approximately 4% from 2000/2001 to 2003/2004. Because of the increased risk of complications associated with low birth weight such as feeding problems and poor weight gain, infections, respiratory problems, gastrointestinal problems, etc., focus on health promotion in the prevention of low birth weight is an ongoing public health challenge.
- Fetal and infant mortality rates can be a reflection of the country's healthcare services, public health system and socio-economic development. Over the years, industrialized countries such as Canada have seen significant decreases in infant mortality, with rates of 5.4 per 1000 births in 2002 (BC Vital Statistics Agency). However, identification and management of risks during the prenatal period remain essential components in the ultimate goal to achieve the lowest achievable infant mortality rates.

Table 1 lists the category of perinatal data and the source of this data.

**Table 1 Sources of Perinatal Data**

| Perinatal Data | BC Vital Statistics Agency | Discharge Abstract Database | BC Perinatal Database Registry |
|---|---|---|---|
| Miscarriages/Abortions | No | No, unless admitted to hospital | No |
| Therapeutic Abortions (<20 weeks gestational age) | No | Yes | No |
| Stillbirths | Yes | Yes | Yes |
| BC residents delivering out of province | No, but Stats Canada makes adjustments for these events | Yes, if in hospital in Canada (excluding Quebec) | No |
| Non-residents of BC delivering in BC hospitals | Yes | Yes | Yes |
| Fiscal/Calendar | Calendar | Fiscal | Fiscal |
| Home Births | Yes | No | Yes |
| Pregnancies vs Births (i.e., are multiple births identified separately as 1 or as 2, 3, 4, 5, etc. | Both | Both | Both |

**Source:** BC Vital Statistics Agency, Canadian Institute for Health Information, BC Perinatal Database Registry

# BACKGROUND

The Ministry of Health (MOH) and the British Columbia Medical Association (BCMA) under the auspices of the Continuing Advisory Subcommittee on Perinatal Care (CASC) initiated the British Columbia Reproductive Care Program (BCRCP) in June 1988. The BCRCP is overseen by a Provincial Perinatal Steering Committee and has representation from the Ministry of Health (Hospital Programs), the Provincial Health Services Authority (PHSA), Children's and Women's Health Centre of BC, health care providers, health authorities and academic organizations.

One of the mandates of the BCRCP is "the collection and analysis of data to evaluate perinatal outcomes, care processes and resources via a province-wide computerized database". This mandate led to the development of the British Columbia Perinatal Database Registry (BCPDR), with its stated mission to collect, maintain, analyze and disseminate comprehensive, province-wide perinatal data for the purposes of monitoring and improving perinatal care. Rollout of the Registry began in 1994, with collection of data from a small number of hospital sites. Participation increased every year, resulting in full provincial data collection commencing April 1, 2000. The BCPDR is a relational database containing over 300 fields, and now with complete provincial data, is a valuable source of perinatal information.

## Data Collection

The BCPDR consists of data collected from obstetrical facilities as well as births occurring at home attended by BC Registered Midwives. Participation in the Registry is voluntary.

BC women who deliver in Alberta or in hospitals out of province are not captured in the BC Perinatal Database Registry. Therefore data from high outflow communities bordering Alberta will be under-reported.

The perinatal data presented in this report are collected from facilities throughout the province and imported into the central BC Perinatal Database Registry. Data from the Canadian Institute for Health Information (CIHI) and matched files from the British Columbia Vital Statistics Agency complement the data elements. The 2000/2001, 2001/2002 and 2002/2003 deaths represented in this report consist of singleton pregnancy deaths identified by the BCPDR supplemented by deaths identified by Vital Statistics records, in order to provide complete mortality data for babies up to one year of age.

# INTRODUCTION

The British Columbia Perinatal Database Registry Annual Report 2005 describes the current state of perinatal health in British Columbia (BC). In the 2005 Annual Report, there are four years of data to monitor trends for the selected indicators. These indicators have been chosen by the Reports Development Committee because they are clinically relevant and lend themselves to analysis that may suggest changes in care delivery. It must be remembered that this report is only one source of data to monitor trends and guide policy and clinical practice.

Definitions for terms used throughout the report can be found on pages 59 to 61.

## Methodological Issues:

The 2005 Annual Report includes perinatal data from four fiscal years (April 1 to March 31) 2000/2001, 2001/2002, 2002/2003 and 2003/2004. Where possible, data for all fiscal years are reported. For the Neonatal/Perinatal/Infant Mortality reports, data from the fiscal years 2000/2001, 2001/2002 and 2002/2003 are available. **Only singleton pregnancies, deliveries and births are included, as presented in Table 2. Late terminations are excluded.**

**Table 2 Total Births Per Fiscal Year**

| | Singleton Births | | Multiple Births (includes twins and other multiple births) | | Total Births |
|---|---|---|---|---|---|
| Fiscal Year | # | % | # | % | # |
| 2000/2001 | 39,411 | 97.3 | 1,078 | 2.7 | 40,489 |
| 2001/2002 | 39,282 | 97.3 | 1,073 | 2.7 | 40,355 |
| 2002/2003 | 39,151 | 96.9 | 1,259 | 3.1 | 40,410 |
| 2003/2004 | 39,199 | 97.0 | 1,202 | 3.0 | 40,401 |

**Source:** BC Perinatal Database Registry
**Note:** The numbers correspond to births, not pregnancies. Late terminations are excluded.

The data presented in this report are categorized according to either place of delivery (i.e. where the birth occurs) or place of residence (i.e. where the mother lives). Data limitations or methodological issues concerning the data source are noted in the text that accompanies each indicator.

The data contain only linked mothers and newborns for each fiscal year. The year in which this data set is contained is dependent on when the discharge occurs. If the data for mother and newborn are from different fiscal years then the data are reported in the fiscal year in which the last individual is discharged. For example,

- if a woman gives birth March 28, 2002 and is discharged March 31, 2002 and the newborn is also discharged March 31, 2002, then their information is contained in the 2001/2002 fiscal year data.
- if a woman gives birth March 28, 2002 and is discharged March 31, 2002 and the newborn is discharged April 4, 2002, then the data for both mother and newborn will be contained in the fiscal year 2002/2003 data set, not the 2001/2002 data set.

The updated data for fiscal years 2000/2001, 2001/2002 and 2002/2003 have been incorporated in the 2005 Annual Report and slight differences may be noted from previous BCPDR Annual Reports. It is therefore advisable that readers follow trends based on the current data rather than compare tables from earlier publications of the annual report.

## In Focus Section:

The In Focus section highlights topics in greater detail than in Sections I, II or III. The criteria for selecting an In Focus topic are that it deals with a clinically interesting question (in part, this is determined by the number and type of requests received by BCRCP) and gives expanded details on selected issues. Strategies employed in the selection of a topic include:

- examining the number of requests received by BCRCP to determine if there exists a critical mass for a topic and
- identifying a recent issue in the media (either public or research) that could be enhanced with analysis of data from BCRCP.

For this issue of the Annual Report, the In Focus question deals with Pre-Pregnancy Body Mass Index, Preterm Live Birth, Postpartum Readmission and Newborn Readmission.

# SECTION I

## DEMOGRAPHICS AND TYPES OF CARE PROVIDER

**Table 3 Population of Women in BC Aged 15 to 54, 2001, 2002, 2003 and 2004**

| Age | 2001 | | 2002 | | 2003 | | 2004 | |
|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % |
| 15-19 | 135,396 | 11.2 | 136,985 | 11.3 | 136,537 | 11.2 | 135,717 | 11.0 |
| 20-24 | 131,632 | 10.9 | 135,595 | 11.1 | 139,811 | 11.4 | 144,798 | 11.8 |
| 25-29 | 134,100 | 11.1 | 132,942 | 10.9 | 132,316 | 10.8 | 133,734 | 10.9 |
| 30-34 | 151,954 | 12.6 | 151,740 | 12.5 | 150,234 | 12.3 | 147,592 | 12.0 |
| 35-39 | 171,069 | 14.2 | 166,721 | 13.7 | 161,927 | 13.3 | 158,848 | 12.9 |
| 40-44 | 176,337 | 14.6 | 177,071 | 14.6 | 178,322 | 14.6 | 179,548 | 14.6 |
| 45-49 | 162,915 | 13.5 | 167,744 | 13.8 | 172,068 | 14.1 | 175,485 | 14.3 |
| 50-54 | 145,268 | 12.0 | 147,508 | 12.1 | 150,760 | 12.3 | 155,299 | 12.6 |
| Total | 1,208,671 | 100.0 | 1,216,306 | 100.0 | 1,221,975 | 100.0 | 1,231,021 | 100.0 |

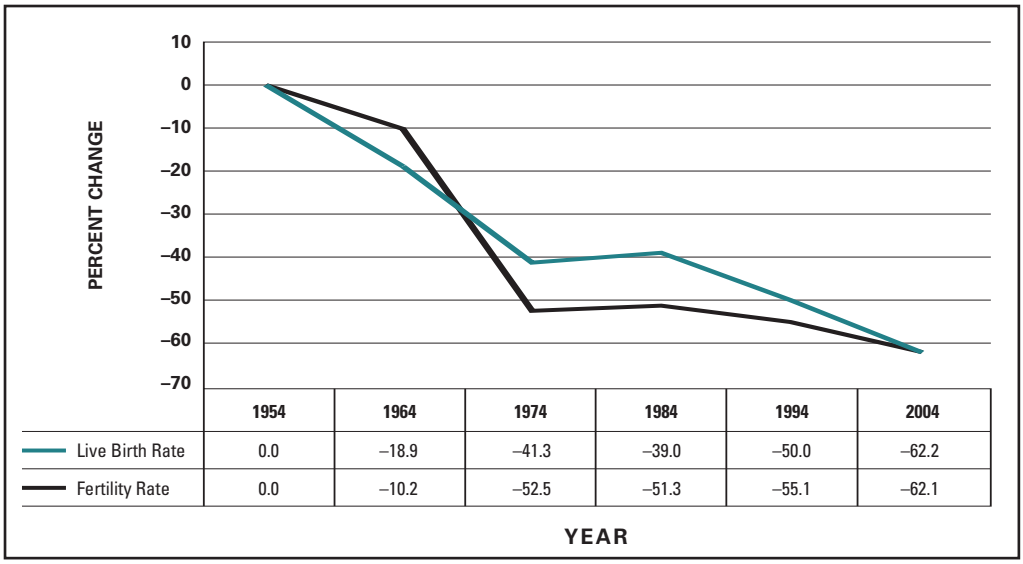
**Source:** Statistics Canada
**Prepared by:** BC Statistics Agency
Population counts based on calendar year. Figures as of July 1 of the year stated.

## Changes in Birth Rate and Fertility Rate in BC, 1954 to 2004

The proportion of women delaying childbirth until later in life has noticeably increased in Canada in recent years.[1] Evidence shows that advanced maternal age may increase the risk of adverse outcomes for both mother and infant. Antepartum complications associated with this delay include miscarriage, gestational diabetes, placenta previa and operative delivery.[2] Risks to the newborn include threat of preterm birth, small for gestational age and perinatal mortality.[3] Along with the delay in childbirth, the actual rate of live births has shown a steady downward trend over the last five decades. Fertility rates have paralleled this decline, as shown in the following time-trend analysis (Figure 1).

Live birth rates and fertility rates have been extrapolated using 1954 as the baseline year of adjustment and 2004 as the ending year for the analysis. In 1954, the fertility rate per thousand and birth rate per thousand was 3,656 and 25.4, respectively. In 2004, the fertility rate per thousand was 1,384 and the birth rate per thousand was 9.6. As observed in Figure 1, both fertility rates and birth rates have decreased by 62.1% and 62.2% respectively since 1954.

**Figure 1 Changes in Birth Rate and Fertility Rate in BC, 1954 to 2004**




| | 1954 | 1964 | 1974 | 1984 | 1994 | 2004 |
|---|---|---|---|---|---|---|
| Live Birth Rate | 0.0 | –18.9 | –41.3 | –39.0 | –50.0 | –62.2 |
| Fertility Rate | 0.0 | –10.2 | –52.5 | –51.3 | –55.1 | –62.1 |

**Source:** BC Vital Statistic Agency

## Care Provider Present At Delivery by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 4A – APPENDIX 8)

The care provider at delivery is defined as the designated health care provider responsible at delivery (physically delivers the baby). This person may or may not be the primary care provider during the hospital admission. He or she may also differ from the care provider who completes the Notice of Birth for submission to the Vital Statistics Agency. For this report, care provider at delivery was analyzed by place of delivery and includes only singleton deliveries.

Deciding which care provider attends delivery relies partly on patient condition and desire, as well as service provider availability. Health care professionals that provide obstetrical services in Canada vary in terms of their beliefs,[4] education, care practices, and geographic distribution. Changes in practice patterns for family physicians, increasing numbers of registered midwives, as well as maternity ward closures and loss of physicians in rural communities have all contributed to a shifting pattern of care provider at delivery across Canada.

Family physician's attendance at deliveries is declining in Canada, from 44% of deliveries in 1996 to 39% in 2000.[5] A recent study published by the Canadian Institute for Health Information showed that in 1992, 28% of family physicians across Canada billed for obstetric services compared to only 16% in 2001 (this included prenatal care and is not necessarily indicative of deliveries).[6] Although family physicians have been delivering fewer babies overall, those family physicians still delivering babies are doing so more often; in 1986, family physicians attended an average of 30 deliveries per year compared to 41 deliveries per year in 2000.[5] In essence, deliveries by family physicians seem to be decreasing in frequency and concentrating over a smaller number of physicians.

Obstetricians continue to attend the largest proportion of deliveries; the number has been steadily increasing from 56% of vaginal deliveries and 93% of caesarean sections in 1996 to 61% and 95%, respectively, in 2000 (Canadian data).[5] Despite their increased participation in deliveries overall, there are fewer obstetricians (and anaesthesiologists) in rural communities, influencing the choice of care provider, and sometimes method of delivery, in these areas. The number of deliveries by midwives is increasing, which can be partly explained by an increase in the number of regulated midwives in Canada.[5] Although these deliveries still account for a small proportion of the total deliveries, more mothers are choosing midwives to attend delivery, either at home or in hospital.

The BC Perinatal Database Registry data shows that the trends for care provider at delivery are reflective of what is being seen nationally, although they are not as prominent. This could be explained in part by variations in definitions used to describe this measure. From 2001/2002 to 2003/2004, throughout British Columbia, deliveries by obstetricians increased slightly from 46.2% to 50.0%, while deliveries by family physicians decreased from 45.9% to 42.0%. Midwives also saw an increase during the same time period, from 2.7% to 4.3% of deliveries.

Variation was also seen geographically. In the Northern Health Authority, obstetricians accounted for only 23.0% of deliveries (2003/2004), while they accounted for 71.2% of the deliveries in the Provincial Health Services Authority. Conversely, the largest proportion of deliveries by family physicians was in the Northern Health Authority, with 70.7% of deliveries in 2003/2004, while the smallest proportion of deliveries by family physicians in the same year was in the Provincial Health Services Authority (25.0%). Some of the Health Authorities also show variation within their Health Service Delivery Area (HSDA); for example, obstetricians delivered 33.5% of the babies in the Fraser East HSDA in 2003/2004 while the proportion they delivered in the Fraser South HSDA more than doubled (66.5%).

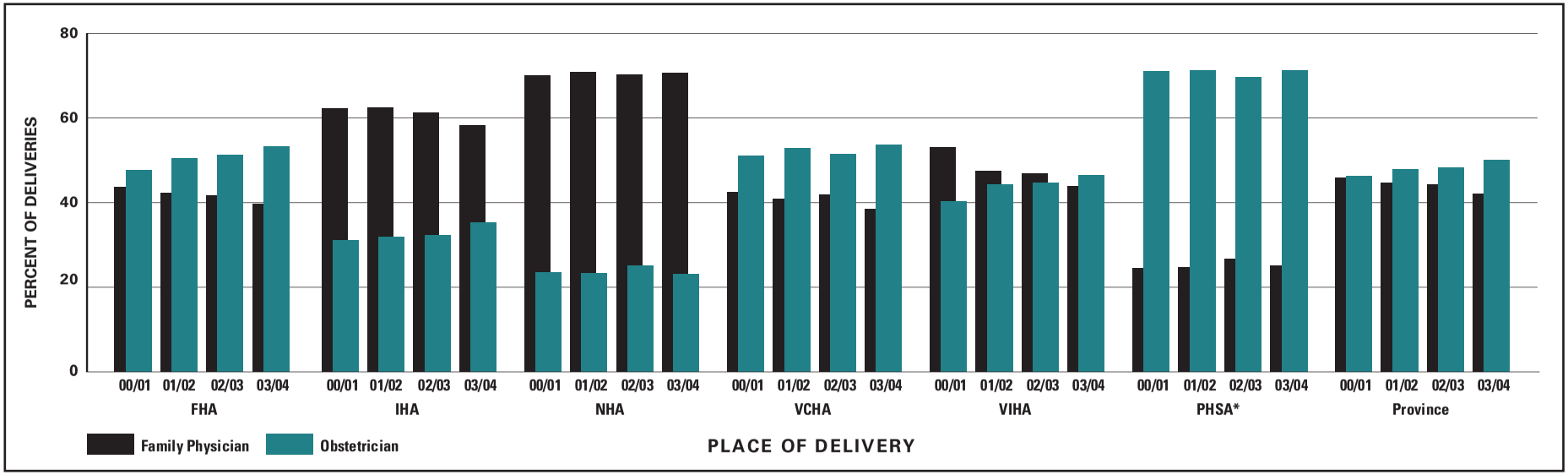
Deliveries conducted by nurses in the absence of the primary care provider have decreased from 3.8% in 2000/2001 to 2.9% in 2003/2004. The two Health Authorities with the greatest numbers of nurse deliveries have consistently been the Fraser Health Authority (4.5% of deliveries in 2003/2004) and the Northern Health Authority (4.3% of deliveries in 2003/2004).

## Table 4 Care Provider Present at Delivery by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | HB | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **Obstetrician** | **00/01** | 28.7 | 41.5 | 62.1 | **47.7** | 17.8 | 27.6 | 36.7 | 28.3 | **31.0** | 21.8 | 24.3 | 23.4 | **23.4** | 32.5 | 50.5 | 73.8 | **51.0** | 50.2 | 43.4 | 32.8 | **40.2** | **71.1** | **0.0** | **46.2** |
| | **01/02** | 29.7 | 44.0 | 65.7 | **50.4** | 16.0 | 30.0 | 38.9 | 27.4 | **31.8** | 16.2 | 26.2 | 24.7 | **23.2** | 35.4 | 55.3 | 69.2 | **52.8** | 56.8 | 47.9 | 34.6 | **44.2** | **71.2** | **0.0** | **47.8** |
| | **02/03** | 31.3 | 46.6 | 64.3 | **51.2** | 15.5 | 36.9 | 39.6 | 27.0 | **32.3** | 19.4 | 25.0 | 30.5 | **25.1** | 34.3 | 51.8 | 71.0 | **51.5** | 55.4 | 45.5 | 37.8 | **44.7** | **69.7** | **0.0** | **48.2** |
| | **03/04** | 33.5 | 48.5 | 66.5 | **53.3** | 22.7 | 22.7 | 41.8 | 34.1 | **35.3** | 10.6 | 26.1 | 30.0 | **23.0** | 34.7 | 56.9 | 72.9 | **53.7** | 58.9 | 51.5 | 37.2 | **46.5** | **71.2** | **0.0** | **50.0** |
| **Family Physician** | **00/01** | 65.3 | 50.4 | 27.4 | **43.6** | 74.0 | 62.0 | 58.6 | 63.6 | **62.3** | 75.4 | 66.1 | 71.8 | **70.0** | 58.6 | 46.5 | 19.7 | **42.5** | 44.4 | 49.8 | 59.8 | **53.1** | **24.4** | **0.0** | **45.9** |
| | **01/02** | 64.5 | 49.4 | 25.4 | **42.2** | 71.1 | 61.4 | 57.4 | 66.9 | **62.4** | 80.2 | 65.6 | 70.5 | **70.8** | 55.7 | 40.8 | 25.1 | **40.8** | 37.6 | 42.5 | 55.5 | **47.4** | **24.7** | **0.0** | **44.6** |
| | **02/03** | 61.7 | 47.2 | 27.6 | **41.6** | 72.5 | 53.8 | 56.5 | 66.3 | **61.3** | 78.5 | 68.3 | 65.7 | **70.3** | 57.1 | 43.8 | 23.0 | **41.9** | 38.2 | 42.4 | 53.8 | **46.8** | **26.6** | **0.0** | **44.3** |
| | **03/04** | 60.0 | 45.2 | 25.6 | **39.7** | 64.6 | 68.2 | 54.3 | 58.6 | **58.2** | 84.2 | 65.8 | 65.8 | **70.7** | 54.5 | 39.3 | 19.9 | **38.5** | 33.9 | 36.0 | 52.5 | **43.9** | **25.0** | **0.0** | **42.0** |
| **Midwife** | **00/01** | 1.0 | 1.7 | 1.4 | **1.4** | 0.0 | 5.0 | 0.8 | 0.0 | **0.8** | 0.0 | 0.8 | 0.1 | **0.4** | 2.4 | 0.0 | 3.8 | **2.2** | 2.2 | 5.8 | 5.5 | **4.5** | **1.4** | **98.9** | **2.7** |
| | **01/02** | 1.0 | 2.6 | 1.6 | **1.9** | 1.9 | 5.5 | 0.6 | 0.0 | **1.0** | 0.0 | 1.3 | 0.0 | **0.6** | 3.1 | 0.1 | 4.6 | **2.7** | 2.1 | 8.0 | 7.8 | **6.0** | **1.6** | **98.9** | **3.4** |
| | **02/03** | 1.2 | 2.8 | 1.6 | **1.9** | 2.3 | 6.8 | 1.1 | 0.0 | **1.4** | 0.0 | 2.2 | 0.0 | **1.0** | 3.0 | 0.1 | 4.4 | **2.7** | 3.6 | 10.1 | 6.6 | **6.2** | **1.9** | **99.2** | **3.7** |
| | **03/04** | 2.2 | 2.9 | 1.7 | **2.2** | 5.5 | 7.6 | 1.9 | 0.1 | **2.2** | 0.0 | 2.7 | 0.0 | **1.2** | 5.3 | 0.0 | 6.4 | **4.4** | 3.7 | 10.6 | 8.2 | **7.2** | **2.2** | **99.0** | **4.3** |
| **Nurse** | **00/01** | 4.7 | 3.5 | 8.8 | **5.9** | 4.0 | 2.6 | 3.4 | 5.1 | **3.9** | 2.3 | 6.5 | 3.4 | **4.6** | 3.9 | 2.8 | 1.4 | **2.8** | 2.8 | 0.7 | 1.5 | **1.8** | **2.1** | **0.3** | **3.8** |
| | **01/02** | 4.5 | 2.2 | 6.9 | **4.6** | 5.3 | 2.3 | 2.9 | 2.0 | **2.8** | 2.9 | 4.7 | 3.9 | **4.0** | 3.5 | 3.5 | 0.9 | **2.6** | 3.1 | 1.3 | 1.8 | **2.1** | **1.8** | **0.0** | **3.2** |
| | **02/03** | 5.3 | 3.0 | 6.4 | **4.9** | 5.0 | 2.1 | 2.7 | 2.6 | **2.9** | 1.8 | 3.9 | 3.5 | **3.2** | 3.6 | 4.0 | 1.3 | **3.0** | 2.4 | 1.8 | 1.7 | **1.9** | **1.2** | **0.0** | **3.1** |
| | **03/04** | 4.1 | 3.1 | 5.9 | **4.5** | 1.8 | 0.8 | 1.8 | 3.9 | **2.4** | 4.5 | 4.8 | 3.3 | **4.3** | 2.8 | 3.5 | 0.4 | **2.1** | 3.1 | 1.3 | 1.7 | **2.1** | **1.1** | **0.0** | **2.9** |
| **Other & Unknown** | **00/01** | 0.4 | 2.9 | 0.3 | **1.3** | 4.2 | 2.8 | 0.6 | 3.0 | **2.0** | 0.5 | 2.2 | 1.3 | **1.5** | 2.6 | 0.2 | 1.2 | **1.5** | 0.4 | 0.2 | 0.4 | **0.4** | **1.0** | **0.8** | **1.3** |
| | **01/02** | 0.3 | 1.8 | 0.4 | **0.9** | 5.8 | 0.8 | 0.2 | 3.7 | **2.0** | 0.7 | 2.2 | 0.9 | **1.4** | 2.3 | 0.2 | 0.3 | **1.0** | 0.3 | 0.3 | 0.3 | **0.3** | **0.7** | **1.1** | **1.0** |
| | **02/03** | 0.4 | 0.5 | 0.2 | **0.4** | 4.7 | 0.4 | 0.2 | 4.1 | **2.0** | 0.2 | 0.6 | 0.3 | **0.4** | 2.0 | 0.3 | 0.3 | **1.0** | 0.4 | 0.2 | 0.2 | **0.3** | **0.6** | **0.8** | **0.7** |
| | **03/04** | 0.3 | 0.3 | 0.3 | **0.3** | 5.4 | 0.6 | 0.2 | 3.3 | **1.9** | 0.7 | 0.6 | 0.8 | **0.7** | 2.6 | 0.3 | 0.4 | **1.2** | 0.4 | 0.7 | 0.3 | **0.4** | **0.6** | **1.0** | **0.7** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 2 Care Provider (Obstetrician/Family Physician) Present at Delivery by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

# SECTION II

## MATERNAL INDICATORS

## Teen Birth Rate by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 5A – APPENDIX 8)

The teen birth rate is defined as the number of deliveries to mothers 19 years of age or younger at the time of delivery, at a given place and time and expressed as a proportion of the total number of mothers, of any age, who deliver during the same time and at the same place. For this report, teen birth rate was analyzed by place of residence and includes only singleton deliveries.

Many studies on teen births have found that they are associated with numerous adverse outcomes for both mother and baby. Health risks include higher rates of preterm birth, low birth weights and maternal anemia, while economic and social consequences include lower education levels and greater levels of poverty and social isolation.[7,8]

Studies have recognized the difficulty in determining whether these adverse outcomes in young mothers are due to biological factors, differences in access and use of prenatal care, consequence of a socially disadvantaged lifestyle (i.e. the 'outcomes' are actually pre-existing circumstances that continue after birth and are unrelated to age), or a combination of these and other factors.[9,10] Other studies have challenged the myth that many teenage pregnancies are unwanted by identifying that many young women either feel they are ready to begin motherhood at a younger age or have feelings of isolation or lack of hope for the future and are choosing to have children at a younger age to fulfil desires for love, family and purpose.[11]

In a developed country like Canada, where more and more women are delaying childbirth until after the age of 35, the continuing prevalence of teenage births may serve as a proxy measure for economically disadvantaged or isolated teens.

In Canada the proportion of births to mothers 19 years of age or younger has been slowly decreasing, from 6.7% in 1991 to 6.1% in 2000.[12] In British Columbia the proportion of births to mothers 19 years of age or younger was 4.6% in 2000. In a younger subset of mothers, those 17 years of age or younger, the proportion of live births has also been slowly decreasing in Canada, from 2.3% in 1991 to 1.9% in 2000. In British Columbia the proportion of births to mothers aged 17 years or younger was 1.4% in 2000, representing the second lowest proportion across Canada, next to Quebec (1.1%). In the same year, 10.8% of live births in Nunavut were to mothers 17 years or younger, the highest proportion in Canada, while Alberta mothers in the same age group had a birth proportion of 2.1%.

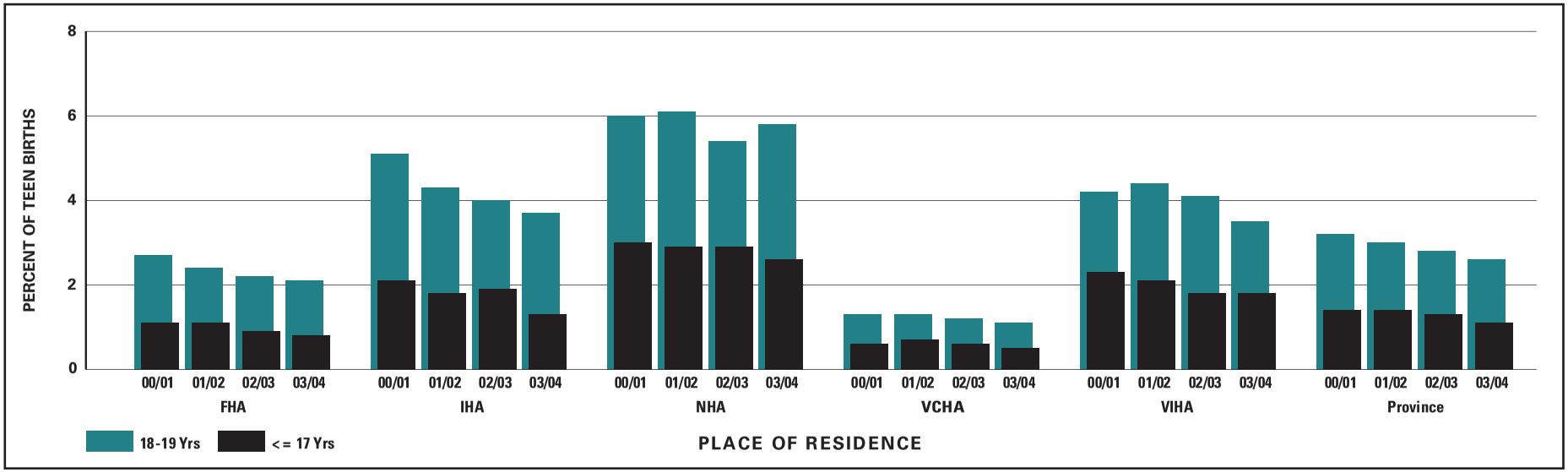
Data from the BC Perinatal Database Registry indicated that the proportion of singleton births to teenage mothers (≤ 19 years) has slowly decreased from 4.6% in 2000/2001 to 3.6% in 2003/2004. In the younger subset of mothers (≤ 17 years), the proportion of singleton births has also decreased from 1.4% in 2000/2001 to 1.1% in 2003/2004. This steady decline over the last four years is consistent throughout the province, although variation continues by Health Authority (HA) and by Health Service Delivery Area (HSDA). The Northern HA continues to have the largest proportion of births to teenage mothers aged 19 years and younger in the province (8.4% in 2003/2004), while the Vancouver Coastal HA has the lowest (1.6% in 2003/2004). Variation by HSDA shows the same pattern: the highest proportion (9.7%) was in the Northeast HSDA, while the lowest proportion (1.0%) was in the Richmond HSDA.

## Table 5 Teen Births by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | BC Unspec | Non Res | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| <= 17 years | 00/01 | 1.6 | 0.9 | 1.0 | **1.1** | 3.5 | 1.2 | 1.6 | 2.5 | **2.1** | 3.2 | 2.2 | 4.2 | **3.0** | 0.9 | 0.2 | 0.6 | **0.6** | 2.8 | 3.8 | 1.3 | **2.3** | **1.6** | **0.0** | **1.4** |
| | 01/02 | 2.0 | 0.8 | 1.0 | **1.1** | 3.8 | 1.4 | 1.2 | 2.2 | **1.8** | 2.3 | 2.5 | 4.3 | **2.9** | 1.1 | 0.3 | 0.7 | **0.7** | 3.2 | 2.9 | 1.1 | **2.1** | **1.3** | **2.0** | **1.4** |
| | 02/03 | 1.7 | 0.5 | 0.8 | **0.9** | 1.4 | 1.3 | 1.8 | 2.5 | **1.9** | 2.0 | 2.9 | 3.7 | **2.9** | 1.1 | 0.3 | 0.5 | **0.6** | 2.3 | 2.6 | 1.1 | **1.8** | **4.5** | **0.7** | **1.3** |
| | 03/04 | 1.6 | 0.5 | 0.7 | **0.8** | 1.6 | 0.7 | 1.2 | 1.6 | **1.3** | 3.1 | 2.1 | 3.0 | **2.6** | 0.7 | 0.4 | 0.4 | **0.5** | 2.1 | 2.9 | 1.1 | **1.8** | **3.6** | **0.0** | **1.1** |
| 18-19 Years | 00/01 | 4.4 | 2.2 | 2.4 | **2.7** | 7.9 | 2.2 | 3.9 | 6.6 | **5.1** | 7.1 | 5.8 | 5.4 | **6.0** | 1.8 | 1.3 | 1.0 | **1.3** | 5.5 | 4.8 | 3.0 | **4.2** | **4.8** | **4.7** | **3.2** |
| | 01/02 | 4.2 | 2.0 | 2.1 | **2.4** | 6.7 | 2.5 | 3.6 | 4.9 | **4.3** | 5.7 | 5.8 | 7.0 | **6.1** | 1.6 | 1.2 | 1.3 | **1.3** | 5.9 | 6.0 | 2.8 | **4.4** | **6.7** | **4.1** | **3.0** |
| | 02/03 | 3.7 | 1.6 | 2.1 | **2.2** | 6.1 | 3.0 | 2.8 | 5.2 | **4.0** | 5.5 | 4.8 | 6.3 | **5.4** | 1.9 | 0.9 | 1.0 | **1.2** | 5.6 | 5.1 | 2.6 | **4.1** | **6.8** | **5.7** | **2.8** |
| | 03/04 | 3.2 | 1.8 | 1.9 | **2.1** | 5.2 | 2.0 | 3.6 | 4.0 | **3.7** | 6.5 | 4.9 | 6.7 | **5.8** | 1.8 | 0.6 | 0.9 | **1.1** | 4.3 | 5.6 | 2.3 | **3.5** | **1.8** | **2.2** | **2.6** |
| Total Teen Moms | 00/01 | 6.0 | 3.1 | 3.3 | **3.7** | 11.4 | 3.3 | 5.5 | 9.2 | **7.2** | 10.3 | 8.0 | 9.6 | **9.0** | 2.7 | 1.5 | 1.7 | **1.9** | 8.2 | 8.7 | 4.3 | **6.5** | **6.3** | **4.7** | **4.6** |
| | 01/02 | 6.2 | 2.8 | 3.0 | **3.6** | 10.5 | 3.9 | 4.8 | 7.1 | **6.1** | 7.9 | 8.2 | 11.3 | **9.0** | 2.7 | 1.5 | 1.9 | **2.0** | 9.1 | 8.9 | 3.8 | **6.5** | **8.0** | **6.1** | **4.5** |
| | 02/03 | 5.4 | 2.2 | 2.9 | **3.1** | 7.5 | 4.3 | 4.6 | 7.6 | **5.9** | 7.4 | 7.7 | 9.9 | **8.3** | 3.0 | 1.2 | 1.5 | **1.8** | 7.9 | 7.7 | 3.7 | **5.9** | **11.4** | **6.4** | **4.0** |
| | 03/04 | 4.7 | 2.2 | 2.6 | **2.9** | 6.8 | 2.7 | 4.8 | 5.6 | **4.3** | 9.7 | 7.0 | 9.6 | **8.4** | 2.5 | 1.0 | 1.3 | **1.6** | 6.4 | 8.5 | 3.4 | **5.3** | **5.4** | **2.2** | **3.6** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 3 Teen Births by Place of Residence for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




**Note:** Please refer to back flap for legend of the Health Authorities

## Maternal Smoking Rate by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 6A – APPENDIX 8)

The maternal smoking rate is defined as the number of pregnant women who smoked at any time in the current pregnancy expressed as a proportion of the total number of pregnant women at a given time and place. For this report, maternal smoking rates are reported by place of residence and include only singleton deliveries.

Smoking during pregnancy has been associated with many adverse health outcomes for both mother and baby.[13] Increased rates of intrauterine growth restriction (IUGR), preterm delivery, premature rupture of membranes, abruptio placenta, placenta previa, stillbirth, small for gestational age babies, sudden infant death syndrome and childhood asthma are some of these adverse outcomes.[13]

The prevalence of smoking among all women in Canada has been slowly declining and was approximately 21% in 2001.[14] Rates of smoking in pregnancy have also been declining and are reported to be slightly lower than those rates in the entire female population, decreasing from 23.5% in 1994 to 19.4% in 1998.[12] More recent data estimated a 16% prevalence of smoking in pregnancy in 2000/2001.[15] However, rates of smoking in pregnancy vary widely by factors such as age, socioeconomic status, education, home environment and region. Young mothers are the most likely to smoke before, during and after pregnancy. In 1998/1999, 53.2% of moms under the age of 20 reported smoking during pregnancy compared with 11.8% of women who were 35 years or older.[9,16]

Women who quit smoking before or during pregnancy have been found to reduce the risk of some of the negative outcomes associated with smoking; however, cessation is often temporary with relapse rates varying but reported as high as 70-90% by one year postpartum,[16] putting the health of themselves and their newborns back at risk.[17] As well, exposure to second-hand smoke during pregnancy can put a mother and her unborn child at undue risk. A recent Canadian study estimated between 13% and 36% of pregnant women who had never smoked were exposed to second-hand smoke during their pregnancy.[15]

With the availability of information on smoking and its negative health consequences for the woman and her unborn baby, many women are more likely to attempt to stop smoking and avail themselves of help during the pre-pregnancy and pregnancy period. However, some women may find appropriate cessation programs difficult to access, or non-existent, particularly with reports suggesting that some smoking cessation programs are culturally and linguistically biased, missing significant proportions of the smoking population.[17] Moreover, the increased knowledge of the negative health consequences of smoking may translate to an under-reporting of smoking by women during antenatal care.

In British Columbia, the provincial prevalence of smoking during pregnancy has been slowly decreasing from 13.2% during 2000/2001 to 10.9% in 2003/2004. There is variation throughout the BC Health Authorities. The Northern Health Authority continues to have the highest rate (19.7% in 2003/2004), four times higher than the lowest rate in the province, in the Vancouver Coastal Health Authority (4.5% in 2003/2004). A number of Health Service Delivery Areas (HSDAs) showed an increase in smoking rates during pregnancy from the 2002/2003 to the 2003/2004 year. These include the Kootenay Boundary HSDA, the North Vancouver Island HSDA and all the HSDAs in the Northern Health Authority.

Smoking during pregnancy is a self-reported measure identified during antenatal care and as such has the potential to be under-reported. The rate of smoking during pregnancy as identified by the BC Perinatal Database Registry may therefore be a conservative estimate of the true rates. As well, rates of second-hand smoke exposure and smoking relapse are not collected in the database.

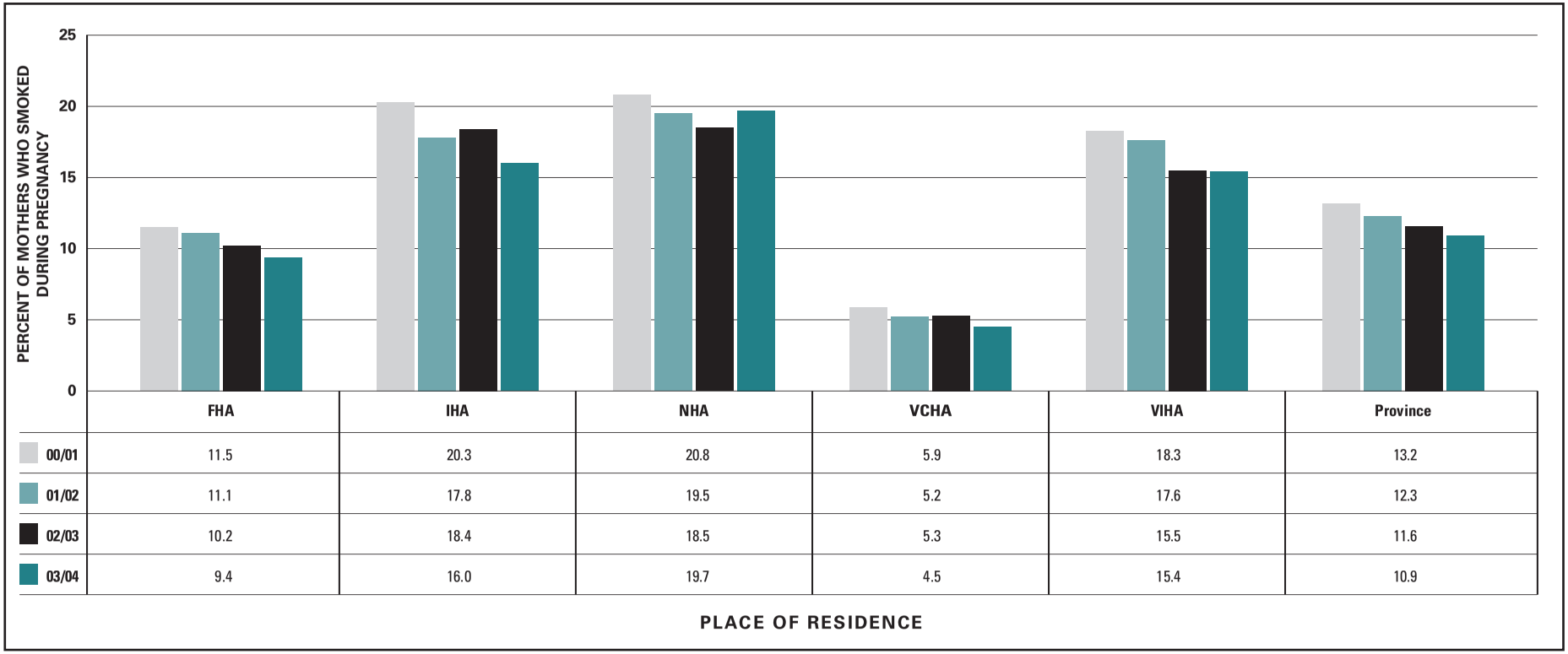
Due to the well documented harmful effects of tobacco use, it is important to promote effective smoking cessation programs for pregnant women in BC in order to encourage women to stop smoking during pregnancy, prevent postpartum relapse and to offer continued support for all women to live smoke-free.

## Table 6 Maternal Smoking During Pregnancy by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | BC Unspec | Non Res | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **00/01** | 14.9 | 10.6 | 11.0 | **11.5** | 22.2 | 16.3 | 18.7 | 23.0 | **20.3** | 22.4 | 20.2 | 20.5 | **20.8** | 8.6 | 4.3 | 5.2 | **5.9** | 19.6 | 20.8 | 16.4 | **18.3** | **20.6** | **11.7** | **13.2** |
| **01/02** | 15.9 | 10.0 | 10.0 | **11.1** | 20.5 | 19.8 | 15.0 | 20.0 | **17.8** | 23.1 | 18.8 | 17.6 | **19.5** | 6.8 | 4.5 | 4.8 | **5.2** | 19.8 | 20.3 | 15.1 | **17.6** | **18.7** | **12.2** | **12.3** |
| **02/03** | 15.4 | 8.0 | 9.8 | **10.2** | 21.7 | 13.0 | 16.5 | 21.5 | **18.4** | 19.4 | 18.9 | 16.9 | **18.5** | 7.8 | 4.3 | 4.5 | **5.3** | 17.3 | 16.1 | 14.0 | **15.5** | **25.0** | **9.9** | **11.6** |
| **03/04** | 14.0 | 7.7 | 8.7 | **9.4** | 17.1 | 14.7 | 14.6 | 18.1 | **16.0** | 21.2 | 19.9 | 17.8 | **19.7** | 6.0 | 4.0 | 4.0 | **4.5** | 16.1 | 17.2 | 14.4 | **15.4** | **30.4** | **6.6** | **10.9** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 4 Maternal Smoking During Pregnancy by Place of Residence for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




| | FHA | IHA | NHA | VCHA | VIHA | Province |
|---|---|---|---|---|---|---|
| 00/01 | 11.5 | 20.3 | 20.8 | 5.9 | 18.3 | 13.2 |
| 01/02 | 11.1 | 17.8 | 19.5 | 5.2 | 17.6 | 12.3 |
| 02/03 | 10.2 | 18.4 | 18.5 | 5.3 | 15.5 | 11.6 |
| 03/04 | 9.4 | 16.0 | 19.7 | 4.5 | 15.4 | 10.9 |

**Note:** Please refer to back flap for legend of the Health Authorities

## Breastfeeding at Discharge Rate by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 7A – APPENDIX 8)

Breastfeeding at discharge is defined as the number of live-born singletons breastfed, either exclusively or in conjunction with breastmilk substitutes (formula), expressed as a proportion of all singletons discharged alive from their delivery admission. For this report, breastfeeding at discharge was analyzed by place of residence and includes only singleton deliveries.[i]

Breastfeeding is an unequalled way of providing optimum nutritional, immunological and emotional benefits for the growth and development of infants.[18] WHO/UNICEF recommendations include exclusive breastfeeding for the first six months of life, after which, infants should receive complementary foods along with continued breastfeeding for up to two years of life or beyond.[19] The WHO/UNICEF definition for exclusive breastfeeding includes breastmilk from the mother or donor or expressed milk and no other food or liquid, not even water, with the exception of undiluted drops and syrups consisting of vitamins, mineral supplements or medicines.

The benefits of breastfeeding to both infants and their mothers are well documented. As stated by the Canadian Paediatric Society, the American Pediatric Society and the Academy of Breastfeeding Medicine, exclusive breastfeeding for the first six months provides many benefits for the infant as well as the mother. For the infant, this includes: reduced incidence of gastrointestinal infection, bacterial meningitis, diarrhea, otitis media, respiratory tract infection, diabetes mellitus, asthma, allergies and promotion of a healthy weight.[20] Benefits of breastfeeding to the mother include more rapid uterine involution and conservation of maternal iron stores, reduced risk of inadvertent pregnancy, breast, ovarian and uterine cancer, and a protective effect on maternal bone mineral density.[20]

Breastfeeding rates across Canada vary provincially. Using data from the Canadian Community Health Survey (2003), Statistics Canada reported that rates of breastfeeding initiation (moms who initiated breastfeeding or attempted to breastfeed) ranged from a low of 62.7% in Newfoundland/Labrador to a high of 93.3% in British Columbia. The percentage of women who breastfed (any amount) for at least six months, however, drops substantially, ranging from a low of 25.7% in New Brunswick to a high of 63.8% in British Columbia.

In 2003/2004, data from the BC Perinatal Database Registry indicate that the majority of infants in BC received breastmilk, either exclusively or along with a breast milk substitute (formula), during their delivery admission. The prevalence of breastfeeding at discharge throughout the province has remained at just over 90% over the last four years (ranging from 91.1% in 2000/2001 to 92.2% in 2003/2004). The highest rates of breastfeeding at discharge are in those babies from the Vancouver Island Health Authority (93.9% in 2003/2004), while the least number of infants initiating breastfeeding were from the Northern Health Authority (86.7% in 2003/2004), suggesting geographical variation. Over the last four years, most Health Authorities have shown increases in rates of breastfeeding at discharge, although there is some variation by Health Authority (HA). For example, from 2000/2001 to 2003/2004, the Fraser HA and the Vancouver Coastal HA had the largest increases of 1.4% each, while the Northern HA showed a decrease of 0.3% (from 87.0 to 86.7%). When comparing 2002/2003 and 2003/2004, a number of Health Service Delivery Areas (HSDA) showed a decrease in the initiation rates for breastfeeding, these were the: Fraser East in the Fraser HA, East Kootenay, Kootenay Boundary and Thompson Cariboo Shuswap in the Interior HA, the Northern Interior in the Northern HA, and North Vancouver Island in the Vancouver Island HA.

In the current report, breastfeeding is described as the number of mothers breastfeeding any amount of breastmilk with or without breastmilk substitute (formula) at the time of discharge. With the recent incorporation of the Breastfeeding Definitions For Infants Up to Six Months of Age, endorsed by the Breastfeeding Committee for Canada, as of April 2004 discharges, exclusive breastfeeding, partial breastfeeding and no breastfeeding will be captured in the BC Perinatal Database Registry.

The duration of breastfeeding, currently noted as the total length of time the infant was breastfed,[21] cannot be determined by the BC Perinatal Database Registry data. Breastfeeding duration may be tracked by a number of Health Authorities through their public health information systems and updating these systems to the accepted Canadian definitions for breastfeeding will provide the ability to track duration rates at the community level in BC.

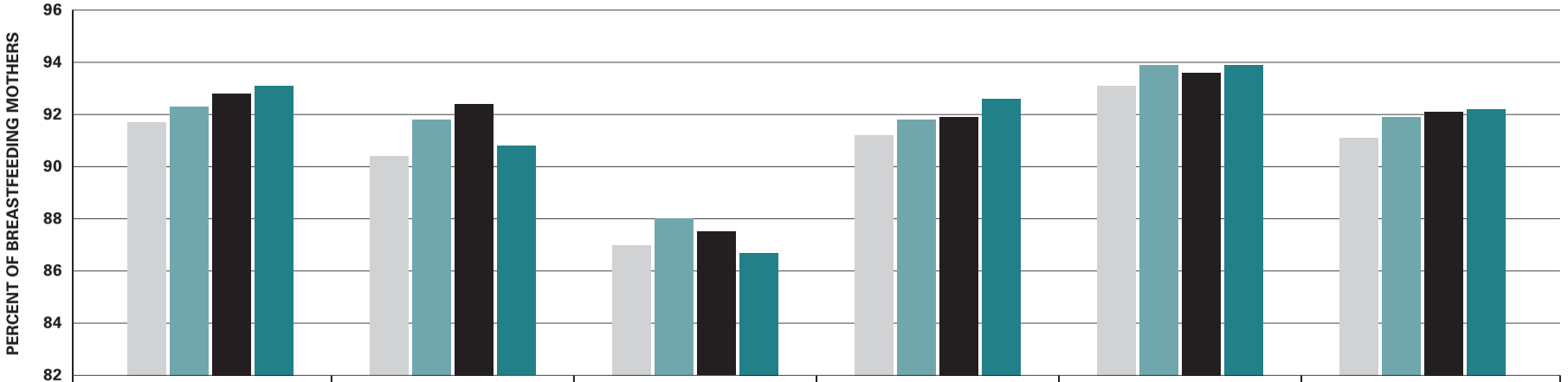
[i] As of April 2004 discharges, the breastfeeding definitions in the BC Perinatal Database Registry have been updated to include Canada-wide recognition of breastfeeding at discharge (these are: exclusive, partial and no breastmilk).

## Table 7 Breastfeeding at Discharge by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | BC Unspec | Non Res | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **00/01** | 88.9 | 92.8 | 91.8 | **91.7** | 93.5 | 91.5 | 92.6 | 86.0 | **90.4** | 88.7 | 84.7 | 89.3 | **87.0** | 96.2 | 92.4 | 88.9 | **91.2** | 92.6 | 92.0 | 93.9 | **93.1** | **75.8** | **85.7** | **91.1** |
| **01/02** | 89.3 | 93.6 | 92.5 | **92.3** | 90.1 | 93.2 | 93.3 | 89.9 | **91.8** | 88.9 | 87.4 | 88.1 | **88.0** | 97.1 | 93.3 | 89.4 | **91.8** | 92.5 | 92.2 | 95.5 | **93.9** | **86.5** | **87.4** | **91.9** |
| **02/03** | 90.8 | 93.8 | 92.8 | **92.8** | 92.3 | 93.1 | 92.2 | 92.5 | **92.4** | 88.2 | 86.3 | 88.7 | **87.5** | 96.3 | 91.6 | 90.2 | **91.9** | 92.5 | 94.3 | 94.1 | **93.6** | **61.4** | **87.9** | **92.1** |
| **03/04** | 90.1 | 94.3 | 93.6 | **93.1** | 90.2 | 91.7 | 93.8 | 86.8 | **90.8** | 88.4 | 84.5 | 89.0 | **86.7** | 96.4 | 92.3 | 91.1 | **92.6** | 93.7 | 90.2 | 95.4 | **93.9** | **83.0** | **88.6** | **92.2** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 5 Breastfeeding at Discharge by Place of Residence for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




| | FHA | IHA | NHA | VCHA | VIHA | Province |
|---|---|---|---|---|---|---|
| 00/01 | 91.7 | 90.4 | 87.0 | 91.2 | 93.1 | 91.1 |
| 01/02 | 92.3 | 91.8 | 88.0 | 91.8 | 93.9 | 91.9 |
| 02/03 | 92.8 | 92.4 | 87.5 | 91.9 | 93.6 | 92.1 |
| 03/04 | 93.1 | 90.8 | 86.7 | 92.6 | 93.9 | 92.2 |

**Note:** Please refer to back flap for legend of the Health Authorities

## Induction of Labour Rate by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Tables 8A and 8B – APPENDIX 8)

The induction of labour rate is defined as the number of mothers whose labour is artificially initiated by medical (oxytocin and/or prostaglandin) or surgical (artificial rupture of membranes) means prior to the onset of spontaneous labour, expressed as a proportion of the total number of mothers who delivered in the same time and place. For this report, labour induction rates are reported by place of delivery and include only singleton deliveries.

Certain maternal and/or fetal risks may present during pregnancy. Inducing labour becomes a feasible option when these risks outweigh both the benefits of continuing the pregnancy as well as any risks associated with induction. The decision to induce labour is influenced by both medical and non-medical factors, including beliefs and opinions from the care provider, the mother, her partner and/or her social network. The most common clinical primary indications for labour induction include post-term pregnancy (> 41 completed weeks), prelabour rupture of membranes, fetal compromise, fetal demise or maternal condition (i.e. gestational hypertension, diabetes mellitus). As well, labour can be induced for non-medical indications that include maternal requests, or other social and geographical reasons.

Once labour has been induced, either medically or surgically, further risks may present themselves: women undergoing induced labour have been shown to have increased rates of operative vaginal delivery, caesarean section in the nulliparous population, and uterine rupture.[22,23,24] While the rate of caesarean delivery for women with parity greater than or equal to one having induced labour is virtually the same as women with parity greater than or equal to one having spontaneous labour, the rate of caesarean section for nulliparous women having induced labour is approximately twice that of nulliparous women having spontaneous labour (refer to Data Table 8B Appendix 8).

Although there is some variation throughout British Columbia, the provincial labour induction rate has remained fairly constant over the last four years, with rates approximately 21% since 2000/2001. Some variation exists throughout the province, with the Fraser Health Authority having the highest rates at 24.2%, and the Provincial Health Services Authority having the lowest rate of the Health Authorities at 16.5% (2003/2004 data). Home births had considerably fewer inductions; rates have been less than 4% for the last four years. At the level of the Health Service Delivery Area (HSDA) variation does exist, but no overall trend appears; some HSDAs have had slightly decreasing rates over time (i.e. East Kootenay, North Shore/Coast Garibaldi), while others have increasing induction rates over time (i.e. Thompson Cariboo Shuswap).

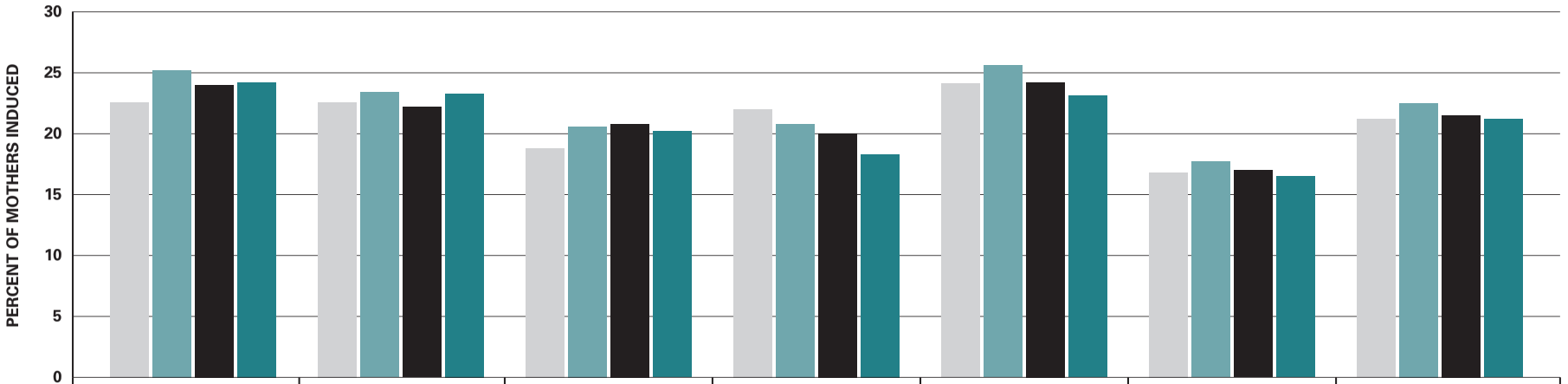
The Canadian Perinatal Health Report (2003) reported a national induction rate of 22% for 2000/2001, with variation geographically as well as according to type of induction (i.e. medical or surgical). The authors report an overall increase in both medical and surgical inductions from 1991/1992 to 2000/2001, with more medical inductions being performed. Although these rates seem to coincide with what is reported from the BC Perinatal Database Registry, differences in the measurement of induction of labour and the exclusion of multiple births may preclude comparisons between these data sources.

## Table 8 Induction of Labour by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | HB | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **00/01** | 21.2 | 22.2 | 23.6 | **22.6** | 25.0 | 26.3 | 25.5 | 16.5 | **22.6** | 22.1 | 17.0 | 19.0 | **18.8** | 22.1 | 19.7 | 23.8 | **22.0** | 22.0 | 20.0 | 26.9 | **24.1** | **16.8** | **2.2** | **21.2** |
| **01/02** | 24.8 | 25.2 | 25.3 | **25.2** | 25.8 | 25.1 | 24.9 | 19.9 | **23.4** | 24.2 | 18.9 | 20.1 | **20.6** | 20.2 | 20.7 | 21.5 | **20.8** | 24.6 | 20.4 | 28.0 | **25.6** | **17.7** | **1.7** | **22.5** |
| **02/03** | 24.5 | 23.3 | 24.2 | **24.0** | 20.2 | 25.2 | 23.9 | 19.8 | **22.2** | 20.9 | 18.9 | 23.8 | **20.8** | 20.7 | 17.1 | 21.6 | **20.0** | 23.0 | 16.7 | 27.5 | **24.2** | **17.0** | **3.2** | **21.5** |
| **03/04** | 23.9 | 25.6 | 23.1 | **24.2** | 19.1 | 24.9 | 26.0 | 20.5 | **23.3** | 23.7 | 18.5 | 19.5 | **20.2** | 17.7 | 18.9 | 18.6 | **18.3** | 23.5 | 20.2 | 23.8 | **23.1** | **16.5** | **3.3** | **21.2** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 6 Induction of Labour by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




| | FHA | IHA | NHA | VCHA | VIHA | PHSA* | Province |
|---|---|---|---|---|---|---|---|
| 00/01 | 22.6 | 22.6 | 18.8 | 22.0 | 24.1 | 16.8 | 21.2 |
| 01/02 | 25.2 | 23.4 | 20.6 | 20.8 | 25.6 | 17.7 | 22.5 |
| 02/03 | 24.0 | 22.2 | 20.8 | 20.0 | 24.2 | 17.0 | 21.5 |
| 03/04 | 24.2 | 23.3 | 20.2 | 18.3 | 23.1 | 16.5 | 21.2 |

PLACE OF DELIVERY

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

## Electronic Fetal Monitoring Rate by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 9A – APPENDIX 8)

The electronic fetal monitoring rate is defined as the number of mothers receiving electronic fetal monitoring (either external or internal) during labour, expressed as a proportion of the total number of mothers who laboured and delivered in the same time and place. For those women who did not receive electronic fetal monitoring during labour, use of intermittent auscultation cannot be differentiated from those women who received no monitoring at all during labour. For this report, electronic fetal monitoring rate was analyzed by place of delivery and includes only singleton deliveries.[ii]

Guidelines from the Society of Obstetrics and Gynaecology of Canada (SOGC) and the British Columbia Reproductive Care Program (BCRCP) recommend that electronic fetal monitoring should be reserved only for those women with adverse risk factors in labour or for those women with non-reassuring auscultation findings.[25] Recent evidence-based studies have disputed the value of routine use of electronic fetal monitoring, demonstrating that electronic fetal monitoring in low-risk pregnancies shows an increase in maternal morbidity without showing improvements in fetal or neonatal outcomes.[26]

As suggested by data from the BC Perinatal Database Registry, these guidelines appear to have had an impact on practice in British Columbia. The provincial rate of electronic fetal monitoring use has decreased from 83.9% (2000/2001) to 79.0% (2003/2004). The rates of electronic fetal monitoring use has decreased in all Health Authorities, with the greatest decrease in the Vancouver Island Health Authority (11.6% decrease from 2000/2001 to 2003/2004), followed by the Fraser Health Authority (6.3% decrease from 2000/2001 to 2003/2004). Despite these trends, the provincial rate remains at 79% (2003/2004), suggesting that continued implementation of the BCRCP and SOGC Fetal Surveillance Guidelines are necessary.

Variation between Health Service Delivery Areas (HSDA) exists; there is close to a 20% difference in electronic fetal monitoring (EFM) rates within some Health Authorities. For example, within the Interior Health Authority, the Kootenay Boundary HSDA had a rate of 68.3%, while the Okanagan HSDA had a rate of 88.5% (2003/2004 data). As well, reductions in the use of electronic fetal monitoring over the past four years have occurred at differing rates throughout HSDAs. For example, the North Vancouver Island HSDA has decreased its rate of EFM from 72.6 to 54.3% over the past four years, while the Northeast HSDA has only decreased its rate of EFM use from 88.2 to 86.1% over the same period of time. Other Health Service Delivery Areas have actually increased their rates of EFM use in labour over time. For example, in the East Kootenay HSDA, rates have increased from 68.7 to 79.2% from 2000/2001 to 2003/2004.

The persistence of high rates of electronic fetal monitoring despite little evidence of its benefit suggests that further reduction of this obstetric technology will continue to be challenging. Whether the variation of rates throughout the province is evidence of differences in patient characteristics, practice patterns or resource (staff and technological) issues cannot be determined from this data, but further investigation may be warranted.

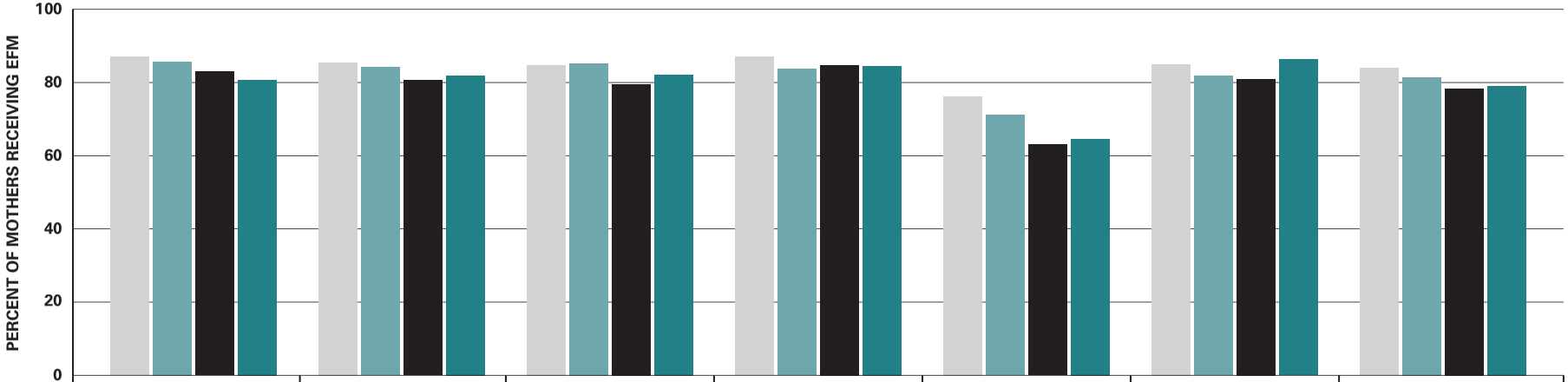
[ii] As of April 2004 discharges, use of auscultation during the 1st and/or 2nd stage of labour has been included in the BCPDR.

## Table 9 Electronic Fetal Monitoring by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | HB | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **00/01** | 82.9 | 88.9 | 86.9 | **87.0** | 68.7 | 80.0 | 93.8 | 81.0 | **85.5** | 88.2 | 83.3 | 84.5 | **84.8** | 85.9 | 86.4 | 88.8 | **87.0** | 70.5 | 72.6 | 81.2 | **76.2** | **85.0** | **0.3** | **83.9** |
| **01/02** | 81.5 | 90.9 | 82.9 | **85.7** | 79.0 | 69.8 | 91.4 | 80.0 | **84.2** | 92.7 | 82.6 | 82.6 | **85.2** | 84.7 | 90.3 | 77.1 | **83.7** | 69.5 | 68.7 | 73.0 | **71.1** | **81.8** | **0.0** | **81.4** |
| **02/03** | 77.6 | 92.1 | 77.7 | **83.0** | 83.7 | 71.0 | 92.7 | 65.7 | **80.6** | 85.4 | 76.9 | 78.3 | **79.6** | 83.8 | 91.2 | 80.5 | **84.7** | 71.0 | 64.8 | 57.3 | **63.0** | **80.9** | **0.4** | **78.4** |
| **03/04** | 74.0 | 89.4 | 76.6 | **80.7** | 79.2 | 68.3 | 88.5 | 77.6 | **81.9** | 86.1 | 82.3 | 77.7 | **82.1** | 81.3 | 89.2 | 84.7 | **84.5** | 70.2 | 54.3 | 64.4 | **64.6** | **86.3** | **0.0** | **79.0** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 7 Electronic Fetal Monitoring by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




| | FHA | IHA | NHA | VCHA | VIHA | PHSA* | Province |
|---|---|---|---|---|---|---|---|
| 00/01 | 87.0 | 85.5 | 84.8 | 87.0 | 76.2 | 85.0 | 83.9 |
| 01/02 | 85.7 | 84.2 | 85.2 | 83.7 | 71.1 | 81.8 | 81.4 |
| 02/03 | 83.0 | 80.6 | 79.6 | 84.7 | 63.0 | 80.9 | 78.4 |
| 03/04 | 80.7 | 81.9 | 82.1 | 84.5 | 64.6 | 86.3 | 79.0 |

PLACE OF DELIVERY

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

## Episiotomy Rate by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 10A – APPENDIX 8)

The episiotomy rate is defined as the number of mothers having an episiotomy during vaginal delivery expressed as a proportion of the total mothers delivering vaginally during the same time and within the same place. For this report, episiotomy rates were analyzed by place of delivery and include only singleton deliveries.

Historically, episiotomies were considered to be a routine part of vaginal birth, easing delivery and decreasing pain, perineal trauma, and long-term genitourinary morbidity and function. The major justification for the use of episiotomy was to prevent severe perineal tears, serving as a protective mechanism for the mother. Attempts at substantiating these claims with evidence have generally revealed the opposite: that the few benefits reported by episiotomy use are outweighed by its risks.

A recent extensive systematic review done by Hartmann et al in 2005 concluded that there were no positive benefits or improved outcomes from episiotomy and that it may even increase morbidity in some women.[27] Another review suggested that routine use of episiotomies resulted in a greater need for surgical repair, and poorer outcomes for women.[28] A Canadian randomized clinical trial found that the majority of the severe perineal trauma experienced by women in their study was associated with episiotomy.[29] The Society of Obstetricians and Gynaecologists of Canada has most recently recommended that routine episiotomy is not necessary for an assisted vaginal birth.[30]

Similar to other obstetric interventions, variation in the use of episiotomy exists. This variation has been reported by health care provider type, time of day, facility type (and size), and region, and seems primarily to be effected by local professional practice as well as experience and preference of the practitioner.

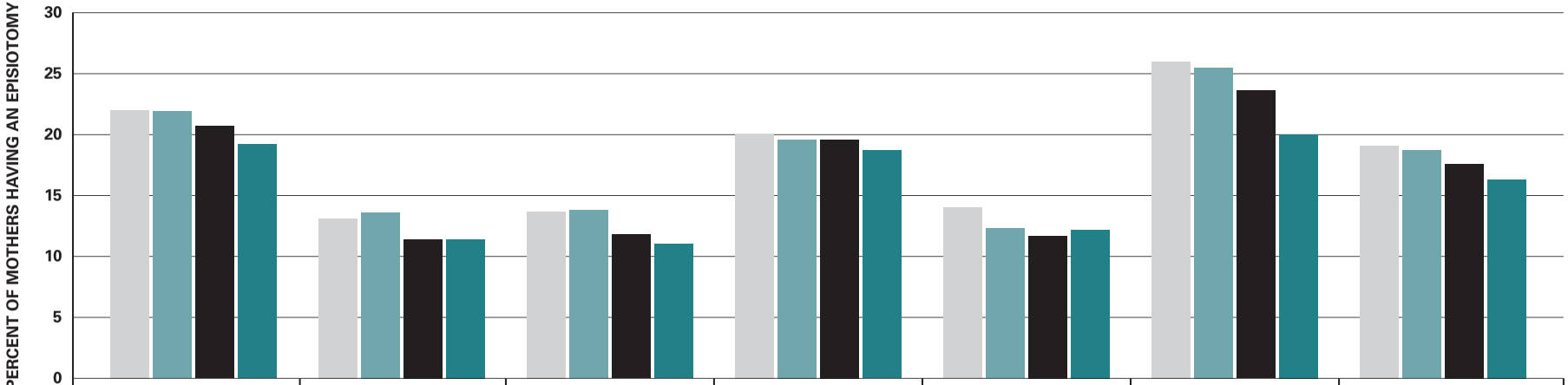
Using data from the BC Perinatal Database Registry, rates of episiotomy in vaginal deliveries in BC have decreased slightly from 19.1% in 2000/2001 to 16.3% in 2003/2004. Regional variation exists throughout Health Authorities in BC; the highest rate of episiotomy use in 2003/2004 was seen in the Provincial Health Services Authority, at 20.0% of vaginal deliveries. The lowest rate of episiotomy was seen in the Northern Health Authority, with only 11.0% of singletons being delivered vaginally with episiotomy. Over time, the largest decline in episiotomy rates is in those women delivering in the Provincial Health Services Authority, where rates have dropped from 26.0% in 2000/2001 to 20.0% in 2003/2004.

## Table 10 Episiotomies by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | HB | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **00/01** | 17.5 | 20.6 | 25.4 | **22.0** | 13.1 | 12.3 | 12.9 | 13.7 | **13.1** | 18.6 | 12.2 | 12.2 | **13.7** | 18.3 | 23.1 | 19.5 | **20.0** | 15.0 | 14.6 | 13.1 | **14.0** | **26.0** | **0.8** | **19.1** |
| **01/02** | 21.4 | 17.8 | 26.0 | **21.9** | 13.7 | 14.7 | 14.7 | 11.5 | **13.6** | 19.1 | 11.9 | 11.8 | **13.8** | 19.6 | 23.2 | 16.6 | **19.6** | 15.7 | 12.4 | 9.9 | **12.3** | **25.5** | **0.2** | **18.7** |
| **02/03** | 17.2 | 18.4 | 24.3 | **20.7** | 15.7 | 10.8 | 12.6 | 8.4 | **11.4** | 15.6 | 10.9 | 9.5 | **11.8** | 17.7 | 23.1 | 19.2 | **19.6** | 13.9 | 10.6 | 10.7 | **11.7** | **23.6** | **1.2** | **17.6** |
| **03/04** | 14.8 | 18.5 | 21.9 | **19.2** | 14.3 | 9.0 | 13.4 | 8.3 | **11.4** | 15.0 | 9.6 | 9.3 | **11.0** | 14.2 | 27.5 | 17.8 | **18.7** | 13.7 | 10.6 | 11.7 | **12.2** | **20.0** | **0.6** | **16.3** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 8 Episiotomies by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




| | FHA | IHA | NHA | VCHA | VIHA | PHSA* | Province |
|---|---|---|---|---|---|---|---|
| 00/01 | 22.0 | 13.1 | 13.7 | 20.0 | 14.0 | 26.0 | 19.1 |
| 01/02 | 21.9 | 13.6 | 13.8 | 19.6 | 12.3 | 25.5 | 18.7 |
| 02/03 | 20.7 | 11.4 | 11.8 | 19.6 | 11.7 | 23.6 | 17.6 |
| 03/04 | 19.2 | 11.4 | 11.0 | 18.7 | 12.2 | 20.0 | 16.3 |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

## Method of Delivery Rate (Vaginal vs. Caesarean Section) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 11A – APPENDIX 8)

The method of delivery is defined as the type of delivery (vaginal or caesarean section) the mother had. For this report, method of delivery was analyzed by place of delivery and includes only singleton deliveries.

Caesarean section delivery rates in Canada have been on the rise since 1993 and in 2000/2001, British Columbia's caesarean delivery rate was estimated at 24.3%, slightly higher than the Canadian average of 22.1%, and third only to New Brunswick, Newfoundland and Labrador.[31] Many factors have been studied and have been assessed as reasons for the steady increase, including changes in patient preferences as well as in obstetric practice and management of pregnancy and labour.[32] Additionally, if the trend to support women requesting delivery by elective caesarean section with or without medical indication increases, the caesarean section rates may increase even further.[33] Currently, the increases in caesarean section rates in Canada have been attributed mostly to dystocia and elective repeat caesarean deliveries.[31] Rising rates of caesarean delivery have become a growing concern due to the observation that they have been attributed to increased risks of infection and postpartum readmission.[34]

Data from the BC Perinatal Database Registry showed provincially that caesarean delivery rates of singletons have increased from 23.6% in 2000/2001 to 27.7% in 2003/2004. Conversely, the vaginal delivery rate has decreased from 76.4% in 2000/2001 to 72.3% in 2003/2004. Variation in caesarean delivery rates exists across the Health Authorities, from 25.7% in the Northern Health Authority to 29.5% in the Vancouver Island Health Authority (2003/2004 data). Although variation exists across the province, over the past four fiscal years, each Health Authority has consistently shown increasing caesarean delivery rates within their own Authority that reflects the overall provincial rate.

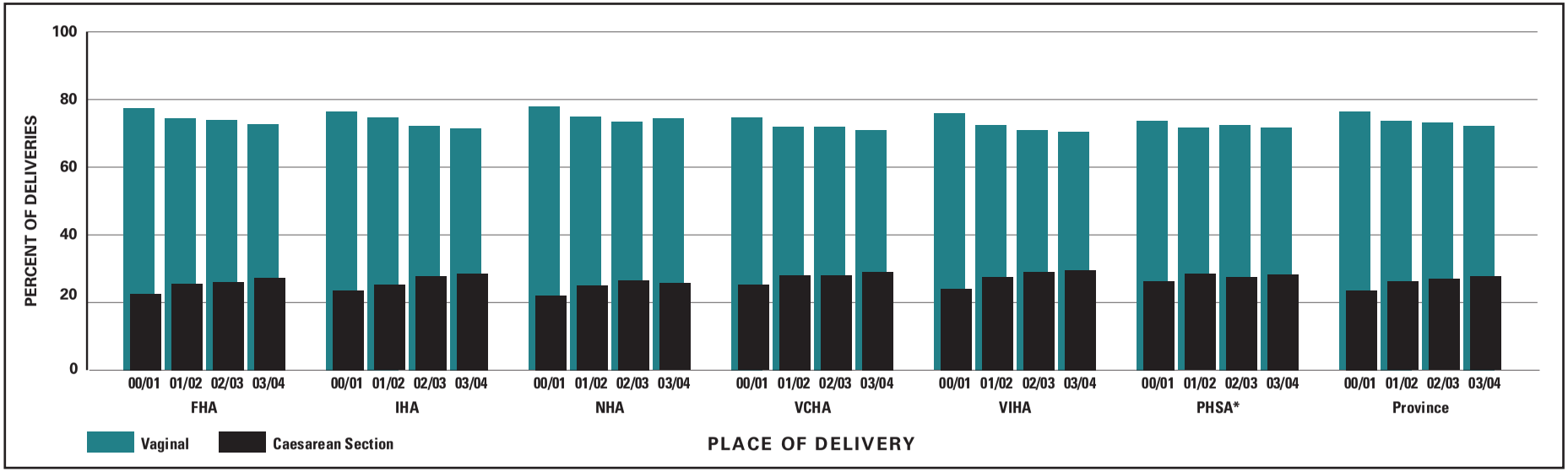
Across Health Service Delivery Areas (HSDAs), caesarean delivery rates range from as low as 22.5% in the Kootenay Boundary HSDA to a high of 31.5% in the Thomson Cariboo Shuswap HSDA (2003/2004 data), not including Home Births, where 100% of deliveries occur vaginally.

## Table 11 Method of Delivery by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | HB | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| **Caesarean Section** | **00/01** | 22.4 | 22.4 | 22.7 | **22.5** | 18.4 | 19.7 | 23.1 | 27.0 | **23.5** | 21.8 | 21.6 | 23.0 | **22.1** | 23.6 | 25.6 | 26.8 | **25.2** | 23.3 | 22.2 | 25.4 | **24.1** | **26.3** | **0.0** | **23.6** |
| | **01/02** | 23.6 | 25.6 | 26.6 | **25.6** | 18.1 | 22.2 | 24.3 | 29.6 | **25.2** | 21.1 | 26.5 | 26.0 | **25.0** | 26.3 | 28.9 | 28.9 | **28.0** | 26.6 | 23.8 | 29.3 | **27.5** | **28.4** | **0.0** | **26.2** |
| | **02/03** | 25.2 | 25.5 | 26.7 | **26.0** | 27.2 | 28.0 | 26.4 | 29.9 | **27.8** | 24.6 | 25.5 | 29.8 | **26.5** | 24.9 | 29.3 | 30.4 | **28.0** | 26.0 | 25.3 | 32.3 | **29.0** | **27.5** | **0.0** | **26.9** |
| | **03/04** | 25.8 | 27.1 | 28.1 | **27.3** | 29.4 | 22.5 | 27.2 | 31.5 | **28.5** | 24.1 | 25.8 | 26.9 | **25.7** | 27.4 | 29.1 | 31.1 | **29.1** | 28.4 | 26.0 | 31.2 | **29.5** | **28.3** | **0.0** | **27.7** |
| **Vaginal** | **00/01** | 77.6 | 77.6 | 77.3 | **77.5** | 81.6 | 80.3 | 76.9 | 73.0 | **76.5** | 78.2 | 78.4 | 77.0 | **77.9** | 76.4 | 74.4 | 73.2 | **74.8** | 76.7 | 77.8 | 74.6 | **75.9** | **73.7** | **100.0** | **76.4** |
| | **01/02** | 76.4 | 74.4 | 73.4 | **74.4** | 81.9 | 77.8 | 75.7 | 70.4 | **74.8** | 78.9 | 73.5 | 74.0 | **75.0** | 73.7 | 71.1 | 71.1 | **72.0** | 73.4 | 76.2 | 70.7 | **72.5** | **71.6** | **100.0** | **73.8** |
| | **02/03** | 74.8 | 74.5 | 73.3 | **74.0** | 72.8 | 72.0 | 73.6 | 70.1 | **72.2** | 75.4 | 74.5 | 70.2 | **73.5** | 75.1 | 70.7 | 69.6 | **72.0** | 74.0 | 74.7 | 67.7 | **71.0** | **72.5** | **100.0** | **73.1** |
| | **03/04** | 74.2 | 72.9 | 71.9 | **72.7** | 70.6 | 77.5 | 72.8 | 68.5 | **71.5** | 75.9 | 74.2 | 73.1 | **74.3** | 72.6 | 70.9 | 68.9 | **70.9** | 71.6 | 74.0 | 68.8 | **70.5** | **71.7** | **100.0** | **72.3** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 9 Method of Delivery by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

## Postpartum Length of Stay (Vaginal Deliveries) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 12A – APPENDIX 8)

Postpartum length of stay is defined as the amount of time, in hours, from delivery of the infant until discharge from hospital. Postpartum lengths of stay were grouped into time ranges and the number of women in each range was expressed as a proportion of the total number of women delivering. For this report, postpartum length of stay was analyzed by place of delivery, and reported separately for vaginal and for caesarean section deliveries. As deliveries at home by a registered midwife do not have defined admission and discharge times, length of stay for these deliveries are not calculated.

Over the past fifteen years, shorter postpartum lengths of stay for hospital delivery has become the norm, partly due to cost containment pressures and the availability of community based care. The effects of this decreased length of stay in hospital have been the focus of many studies in order to assess the safety and risks to mothers and infants that may be associated with early discharge. Although most studies that address risks to mother have not shown any significant maternal adverse outcomes, studies of early discharge from hospital in newborns have shown an increase in newborn readmission rates, particularly in the areas of neonatal jaundice, feeding and associated problems. As stated in the 1996 joint statement from the Canadian Paediatric Society and the Society for Obstetricians and Gynaecologists of Canada on facilitating discharge home following a normal term birth, it is key that an appropriate community follow-up program be in place for families, to support the establishment and continuation of breastfeeding, and to monitor neonatal outcomes such as poor weight gain and neonatal jaundice.

(See In Focus section of this report on Newborn Readmission).

### Postpartum Length of Stay for Vaginal Deliveries

In Canada, the average hospital length of stay (maternal admission to discharge) for vaginal deliveries has declined from 3.6 days in 1991/1992 to 2.4 days in 2000/2001.[12]

Although not an absolute comparison, the postpartum length of stay for British Columbia for vaginal deliveries has shown a similar decreasing trend. The majority of mothers in British Columbia in 2003/2004 who had singleton vaginal deliveries had a postpartum length of stay less than 48 hours (68.5%). Over time, more mothers have been discharged earlier; in 2000/2001 the proportion of mothers with a postpartum length of stay less than 48 hours following vaginal delivery was 61.9%. There is slight variation throughout Health Authorities in British Columbia: the Fraser Health Authority had the highest proportion of women with postpartum lengths of stay less than 48 hours in 2003/2004, at 79.8%. Conversely, the Vancouver Island Health Authority had the lowest proportion of women with postpartum lengths of stay less than 48 hours in 2003/2004, at 58.2%.

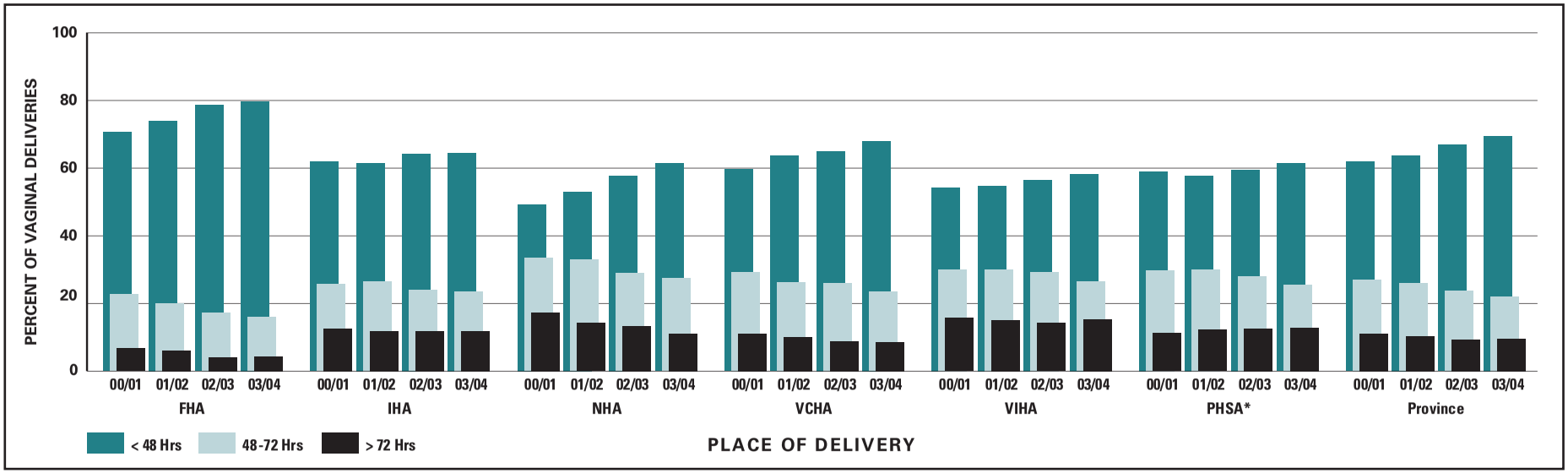
Very few mothers stayed in hospital longer than 72 hours after vaginal delivery. In 2003/2004, only 9.5% of mothers had a postpartum length of stay greater than 72 hours, with variation from 4.3% in the Fraser Health Authority to 15.3% in the Vancouver Island Health Authority.

## Table 12 Postpartum Length of Stay (Vaginal Deliveries) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| < 48 Hours | 00/01 | 68.5 | 62.8 | 78.9 | **70.6** | 58.9 | 46.2 | 62.1 | 67.8 | **61.9** | 44.9 | 46.1 | 58.3 | **49.3** | 57.0 | 68.1 | 55.6 | **59.6** | 51.9 | 57.9 | 54.3 | **54.2** | **59.0** | **61.9** |
| | 01/02 | 71.4 | 67.1 | 81.6 | **74.0** | 59.9 | 41.0 | 63.2 | 66.1 | **61.6** | 48.4 | 53.4 | 56.7 | **53.0** | 60.1 | 72.9 | 59.6 | **63.6** | 56.5 | 59.4 | 52.0 | **54.8** | **57.8** | **63.7** |
| | 02/03 | 78.3 | 69.1 | 87.0 | **78.6** | 61.2 | 45.0 | 65.8 | 69.0 | **64.3** | 54.3 | 62.4 | 53.5 | **57.7** | 61.4 | 73.2 | 63.1 | **65.1** | 57.9 | 59.6 | 54.5 | **56.5** | **59.5** | **66.9** |
| | 03/04 | 80.1 | 69.6 | 88.2 | **79.8** | 60.3 | 51.1 | 63.9 | 70.9 | **64.5** | 54.1 | 66.0 | 61.3 | **61.4** | 66.9 | 73.4 | 65.6 | **68.0** | 59.3 | 62.3 | 56.2 | **58.2** | **61.4** | **68.5** |
| 48-72 hours | 00/01 | 26.3 | 27.7 | 16.4 | **22.7** | 27.0 | 32.5 | 25.9 | 22.6 | **25.7** | 35.6 | 35.8 | 27.5 | **33.4** | 28.9 | 27.7 | 31.2 | **29.3** | 30.0 | 27.8 | 31.1 | **30.1** | **29.8** | **27.1** |
| | 01/02 | 22.4 | 24.6 | 14.6 | **20.0** | 27.6 | 36.9 | 25.3 | 24.6 | **26.5** | 32.2 | 34.3 | 31.3 | **32.9** | 25.7 | 23.0 | 29.8 | **26.3** | 27.0 | 30.3 | 32.2 | **30.1** | **30.0** | **25.9** |
| | 02/03 | 17.8 | 24.5 | 10.8 | **17.3** | 27.3 | 33.8 | 22.4 | 21.9 | **23.9** | 30.1 | 28.3 | 28.7 | **28.9** | 27.1 | 23.7 | 26.7 | **26.1** | 27.4 | 27.6 | 31.1 | **29.3** | **28.0** | **23.8** |
| | 03/04 | 15.3 | 23.6 | 9.8 | **15.9** | 27.6 | 31.7 | 22.8 | 21.0 | **23.6** | 33.1 | 24.9 | 25.8 | **27.4** | 23.2 | 23.4 | 23.6 | **23.4** | 23.1 | 23.0 | 29.7 | **26.4** | **25.6** | **22.0** |
| > 72 hours | 00/01 | 5.2 | 9.6 | 4.7 | **6.7** | 14.0 | 21.3 | 12.1 | 9.6 | **12.5** | 19.5 | 18.0 | 14.2 | **17.3** | 14.0 | 4.2 | 13.1 | **11.0** | 18.1 | 14.3 | 14.6 | **15.7** | **11.2** | **11.0** |
| | 01/02 | 6.2 | 8.3 | 3.8 | **6.0** | 12.5 | 22.1 | 11.4 | 9.2 | **11.9** | 19.4 | 12.3 | 12.0 | **14.2** | 14.3 | 4.1 | 10.6 | **10.1** | 16.5 | 10.4 | 15.7 | **15.0** | **12.2** | **10.4** |
| | 02/03 | 3.9 | 6.4 | 2.1 | **4.1** | 11.5 | 21.2 | 11.9 | 9.1 | **11.8** | 15.6 | 9.3 | 17.7 | **13.4** | 11.5 | 3.1 | 10.2 | **8.8** | 14.7 | 12.8 | 14.4 | **14.2** | **12.5** | **9.3** |
| | 03/04 | 4.6 | 6.8 | 2.0 | **4.3** | 12.1 | 17.2 | 13.3 | 8.1 | **11.9** | 12.8 | 9.1 | 12.9 | **11.1** | 9.9 | 3.2 | 10.8 | **8.6** | 17.7 | 14.7 | 14.1 | **15.3** | **12.9** | **9.5** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 10 Postpartum Length of Stay (Vaginal Deliveries) by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

## Postpartum Length of Stay (Caesarean Section Deliveries) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 13A – APPENDIX 8)

In Canada, the average hospital length of stay (maternal admission to discharge) for caesarean section deliveries has declined from 6.3 days in 1991/1992 to 4.4 days in 2000/2001.[12]

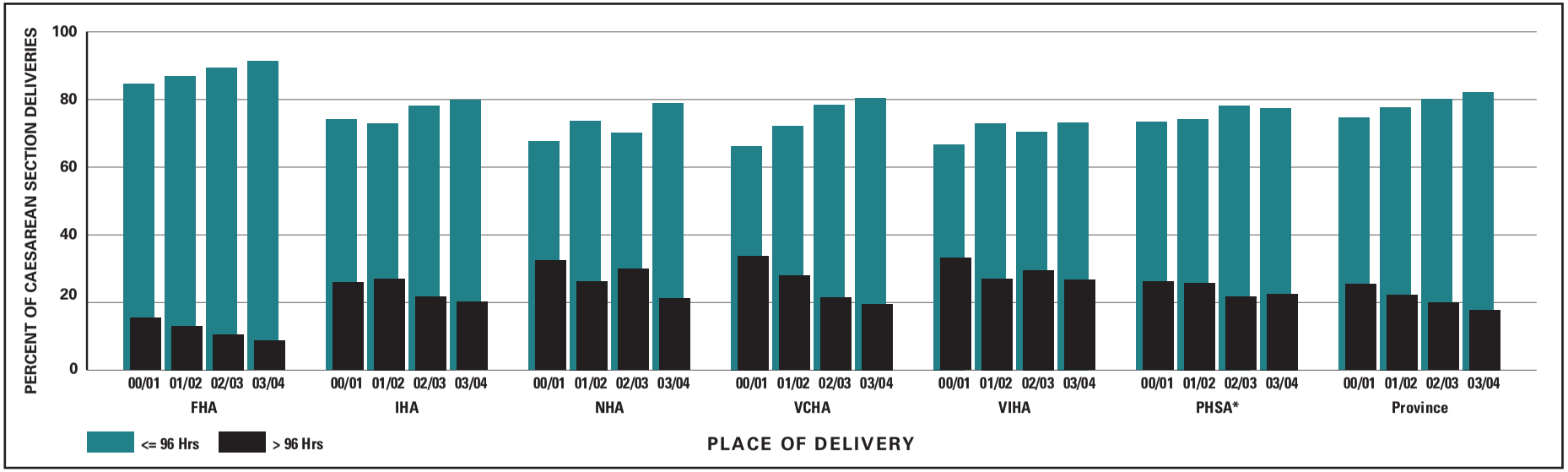
Evaluation of postpartum length of stay for British Columbia demonstrates a similar trend of decreasing lengths of stay. In 2003/2004 the majority of women having caesarean section deliveries of singletons in British Columbia had postpartum lengths of stay less than or equal to 96 hours (82.2%). Similar to vaginal deliveries, the proportion of women having shorter lengths of stay after caesarean deliveries in BC has slowly increased from 74.6% in 2000/2001 to 82.2% in 2003/2004. Variation exists throughout Health Authorities in terms of postpartum lengths of stay, less than or equal to 96 hours after caesarean section delivery, with rates ranging from 73.3% in the Vancouver Island Health Authority to 91.3% in the Fraser Health Authority (2003/2004 data).

## Table 13 Postpartum Length of Stay (Caesarean Section Deliveries) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | PHSA* | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| <= 96 Hours | 00/01 | 85.7 | 78.1 | 90.2 | **84.6** | 60.8 | 48.5 | 77.4 | 78.4 | **74.1** | 66.7 | 69.9 | 64.8 | **67.6** | 59.4 | 80.5 | 62.0 | **66.2** | 60.8 | 71.4 | 68.8 | **66.8** | **73.4** | **74.6** |
| | 01/02 | 86.0 | 83.3 | 90.3 | **86.9** | 64.2 | 52.7 | 74.5 | 77.3 | **73.0** | 68.3 | 78.4 | 70.1 | **73.7** | 67.1 | 78.8 | 71.2 | **72.1** | 69.1 | 74.0 | 74.9 | **72.9** | **74.2** | **77.7** |
| | 02/03 | 93.2 | 84.8 | 91.8 | **89.5** | 83.3 | 56.8 | 77.8 | 83.1 | **78.2** | 75.3 | 76.0 | 57.7 | **70.1** | 77.0 | 88.5 | 72.0 | **78.5** | 69.7 | 70.5 | 70.7 | **70.4** | **78.3** | **80.1** |
| | 03/04 | 94.3 | 86.4 | 94.0 | **91.3** | 81.5 | 58.1 | 76.9 | 86.9 | **79.8** | 79.5 | 83.5 | 70.5 | **78.8** | 78.5 | 92.7 | 74.7 | **80.5** | 73.0 | 74.0 | 73.3 | **73.3** | **77.5** | **82.2** |
| > 96 Hours | 00/01 | 14.3 | 21.9 | 9.8 | **15.4** | 39.2 | 51.5 | 22.6 | 21.6 | **25.9** | 33.3 | 30.1 | 35.2 | **32.4** | 40.6 | 19.5 | 38.0 | **33.8** | 39.2 | 28.6 | 31.2 | **33.2** | **26.6** | **25.4** |
| | 01/02 | 14.0 | 16.7 | 9.7 | **13.1** | 35.8 | 47.3 | 25.5 | 22.7 | **27.0** | 31.7 | 21.6 | 29.9 | **26.3** | 32.9 | 21.2 | 28.8 | **27.9** | 30.9 | 26.0 | 25.1 | **27.1** | **25.8** | **22.3** |
| | 02/03 | 6.8 | 15.2 | 8.2 | **10.5** | 16.7 | 43.2 | 22.2 | 16.9 | **21.8** | 24.7 | 24.0 | 42.3 | **29.9** | 23.0 | 11.5 | 28.0 | **21.5** | 30.3 | 29.5 | 29.3 | **29.6** | **21.7** | **19.9** |
| | 03/04 | 5.7 | 13.6 | 6.0 | **8.7** | 18.5 | 41.9 | 23.1 | 13.1 | **20.2** | 20.5 | 16.5 | 29.5 | **21.2** | 21.5 | 7.3 | 25.3 | **19.5** | 27.0 | 26.0 | 26.7 | **26.7** | **22.5** | **17.8** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 11 Postpartum Length of Stay (Caesarean Section Deliveries) by Place of Delivery for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




***PHSA:** Refers to BC Women's Hospital patients only
**Note:** Please refer to back flap for legend of the Health Authorities

# SECTION III

## FETAL AND NEWBORN INDICATORS

## Low and Very Low Birth Weight Rate by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 14A – APPENDIX 8)

Low birth weight is defined as any infant weighing less than 2500 grams at birth. A subset of these infants, those weighing less than 1500 grams at birth, make up the very low birth weight population. The rate of low and very low birth weight is defined as the number of infants falling into these birth weight categories expressed as a proportion of the total number of births. For this report, low and very low birth weight rates were analyzed by place of residence and includes only singleton deliveries.

Birth weight is an important indicator of a population's health and is an important determinant in perinatal, fetal, and neonatal outcomes. Some of the adverse outcomes that have been associated with low birth weight include increased risk of mortality, learning and visual impairments, chronic respiratory conditions including asthma, and cerebral palsy in the infant and into childhood, as well as postpartum depression and family stress.[35]

Historically, low birth weight babies have often been synonymous with preterm birth. However, not all low birth weight infants are delivered preterm and not all preterm infants have low birth weights. It is therefore now recognized that low birth weight infants can either be born prematurely (before 37 weeks completed gestation) or have inadequate fetal growth, resulting in small for gestational age infants (below the 10th percentile for their gestational age). Although the underlying etiologies for these two causes of low birth weight differ, many risk factors are common to both. Key risk factors include multiple gestation, tobacco use, stress, lack of support, poverty, physical and emotional violence, poor nutrition, underweight pre-pregnancy, inadequate weight gain during pregnancy, maternal infections and pregnancy in both teenage girls and women over 35 years of age.[35]

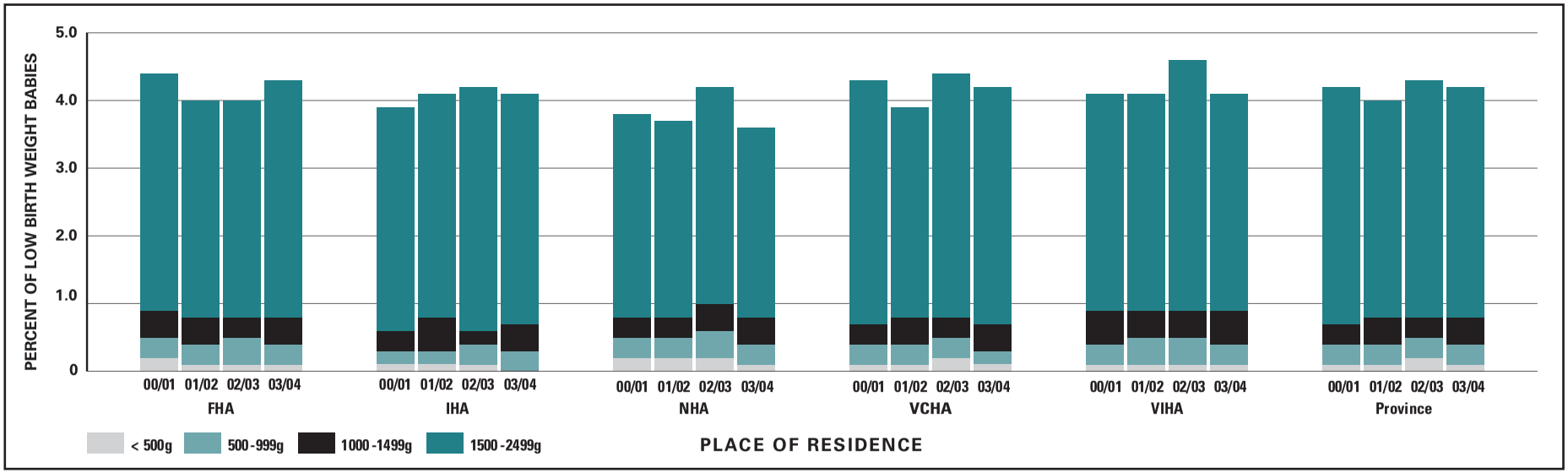
The rate of low birth weight in Canada was estimated at around 5.6% of all live births in 2001,[36] decreasing slightly from 6.64% in 1975.[37] The BC Vital Statistics Agency reported in 2003 that low birth weight rates have remained fairly stable from 4.7% in 1986 until the present time, at approximately 5.3% of total live births.[38] Data from the BC Perinatal Database Registry shows that the low birth weight rate was about 4.2% in 2003/2004 (this data includes only singleton deliveries) demonstrating little fluctuation over the four-year period from 2000/2001. In 2003/2004, variation across Health Authorities in BC exists, although subtle: rates are lowest in the Northeast (2.6%) and Northwest (3.3%) Health Service Delivery Areas and highest in the Thompson Cariboo Shuswap Health Service Delivery Area at 5.1%.

## Table 14 Low and Very Low Birth Weight by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | FHA | | | | IHA | | | | | NHA | | | | VCHA | | | | VIHA | | | | BC Unspec | Non Res | Province |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | FN | FS | Total | EK | KB | OK | TCS | Total | NE | NI | NW | Total | NSCG | RICH | VANC | Total | CVI | NVI | SVI | Total | | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| < 500 grams | 00/01 | 0.0 | 0.2 | 0.2 | **0.2** | 0.2 | 0.0 | 0.1 | 0.1 | **0.1** | 0.7 | 0.1 | 0.0 | **0.2** | 0.0 | 0.3 | 0.2 | **0.1** | 0.0 | 0.2 | 0.2 | **0.1** | **0.0** | **0.8** | **0.1** |
| | 01/02 | 0.1 | 0.1 | 0.1 | **0.1** | 0.0 | 0.0 | 0.1 | 0.2 | **0.1** | 0.0 | 0.3 | 0.3 | **0.2** | 0.2 | 0.2 | 0.1 | **0.1** | 0.1 | 0.0 | 0.1 | **0.1** | **1.3** | **0.7** | **0.1** |
| | 02/03 | 0.1 | 0.1 | 0.2 | **0.1** | 0.2 | 0.0 | 0.1 | 0.1 | **0.1** | 0.1 | 0.2 | 0.3 | **0.2** | 0.2 | 0.3 | 0.2 | **0.2** | 0.1 | 0.2 | 0.0 | **0.1** | **0.0** | **0.0** | **0.2** |
| | 03/04 | 0.1 | 0.0 | 0.1 | **0.1** | 0.0 | 0.0 | 0.0 | 0.0 | **0.0** | 0.2 | 0.0 | 0.1 | **0.1** | 0.0 | 0.1 | 0.1 | **0.1** | 0.0 | 0.1 | 0.2 | **0.1** | **1.8** | **1.5** | **0.1** |
| 500-999 grams | 00/01 | 0.0 | 0.3 | 0.4 | **0.3** | 0.2 | 0.2 | 0.3 | 0.2 | **0.2** | 0.1 | 0.2 | 0.6 | **0.3** | 0.1 | 0.3 | 0.3 | **0.3** | 0.3 | 0.5 | 0.2 | **0.3** | **0.0** | **0.0** | **0.3** |
| | 01/02 | 0.2 | 0.3 | 0.4 | **0.3** | 0.2 | 0.0 | 0.2 | 0.2 | **0.2** | 0.0 | 0.3 | 0.4 | **0.3** | 0.1 | 0.2 | 0.3 | **0.3** | 0.3 | 0.7 | 0.3 | **0.4** | **1.3** | **4.1** | **0.3** |
| | 02/03 | 0.2 | 0.3 | 0.4 | **0.4** | 0.2 | 0.9 | 0.3 | 0.3 | **0.3** | 0.1 | 0.5 | 0.5 | **0.4** | 0.1 | 0.3 | 0.3 | **0.3** | 0.5 | 0.5 | 0.3 | **0.4** | **4.5** | **0.7** | **0.3** |
| | 03/04 | 0.2 | 0.5 | 0.3 | **0.3** | 0.3 | 0.2 | 0.3 | 0.5 | **0.3** | 0.1 | 0.5 | 0.1 | **0.3** | 0.3 | 0.5 | 0.2 | **0.2** | 0.3 | 0.5 | 0.2 | **0.3** | **1.0** | **2.2** | **0.3** |
| 1000-1499 grams | 00/01 | 0.5 | 0.3 | 0.4 | **0.4** | 0.0 | 0.2 | 0.2 | 0.5 | **0.3** | 0.1 | 0.4 | 0.5 | **0.3** | 0.2 | 0.2 | 0.3 | **0.3** | 0.4 | 0.8 | 0.4 | **0.5** | **0.0** | **2.3** | **0.3** |
| | 01/02 | 0.5 | 0.3 | 0.4 | **0.4** | 0.3 | 0.7 | 0.4 | 0.6 | **0.5** | 0.2 | 0.3 | 0.4 | **0.3** | 0.3 | 0.3 | 0.4 | **0.4** | 0.4 | 0.1 | 0.5 | **0.4** | **1.3** | **0.7** | **0.4** |
| | 02/03 | 0.2 | 0.4 | 0.4 | **0.3** | 0.0 | 0.4 | 0.2 | 0.3 | **0.2** | 0.2 | 0.6 | 0.1 | **0.4** | 0.2 | 0.1 | 0.3 | **0.3** | 0.5 | 0.4 | 0.4 | **0.4** | **2.3** | **1.4** | **0.3** |
| | 03/04 | 0.4 | 0.3 | 0.4 | **0.4** | 0.2 | 0.2 | 0.3 | 0.6 | **0.4** | 0.1 | 0.6 | 0.3 | **0.4** | 0.3 | 0.5 | 0.4 | **0.4** | 0.4 | 0.3 | 0.6 | **0.5** | **5.4** | **0.0** | **0.4** |
| 1500-2499 grams | 00/01 | 3.2 | 3.7 | 3.5 | **3.5** | 2.5 | 2.5 | 3.4 | 3.6 | **3.3** | 2.2 | 3.7 | 2.6 | **3.0** | 2.8 | 4.0 | 3.9 | **3.6** | 3.4 | 3.5 | 3.0 | **3.2** | **6.3** | **10.9** | **3.5** |
| | 01/02 | 3.1 | 3.0 | 3.5 | **3.2** | 2.6 | 3.4 | 3.0 | 3.8 | **3.3** | 3.4 | 2.7 | 2.7 | **2.9** | 2.8 | 2.7 | 3.3 | **3.1** | 3.2 | 2.7 | 3.3 | **3.2** | **4.0** | **3.4** | **3.2** |
| | 02/03 | 2.8 | 3.4 | 3.3 | **3.2** | 3.1 | 3.6 | 3.4 | 4.2 | **3.6** | 2.8 | 4.1 | 2.0 | **3.2** | 3.1 | 3.6 | 3.8 | **3.6** | 3.3 | 3.3 | 4.0 | **3.7** | **13.6** | **6.4** | **3.5** |
| | 03/04 | 3.3 | 3.5 | 3.5 | **3.5** | 3.3 | 3.1 | 3.1 | 4.1 | **3.4** | 2.1 | 3.3 | 2.7 | **2.8** | 2.3 | 3.4 | 3.9 | **3.5** | 3.5 | 3.6 | 2.9 | **3.2** | **16.1** | **5.1** | **3.4** |
| Total Low Birth Weight | 00/01 | 3.7 | 4.5 | 4.4 | **4.3** | 2.8 | 2.8 | 4.0 | 4.4 | **3.9** | 3.2 | 4.3 | 3.7 | **3.9** | 3.2 | 4.7 | 4.7 | **4.3** | 4.1 | 5.0 | 3.8 | **4.2** | **6.3** | **14.1** | **4.2** |
| | 01/02 | 3.8 | 3.7 | 4.4 | **4.1** | 3.1 | 4.1 | 3.7 | 4.7 | **4.0** | 3.7 | 3.5 | 3.9 | **3.7** | 3.4 | 3.4 | 4.2 | **3.9** | 4.0 | 3.5 | 4.2 | **4.0** | **8.0** | **8.8** | **4.0** |
| | 02/03 | 3.4 | 4.2 | 4.2 | **4.1** | 3.4 | 4.8 | 3.9 | 4.8 | **4.2** | 3.2 | 5.4 | 2.9 | **4.1** | 3.6 | 4.4 | 4.7 | **4.4** | 4.4 | 4.4 | 4.8 | **4.6** | **20.5** | **8.5** | **4.3** |
| | 03/04 | 4.1 | 4.3 | 4.3 | **4.3** | 3.7 | 3.5 | 3.6 | 5.1 | **4.1** | 2.6 | 4.4 | 3.3 | **3.6** | 2.9 | 4.5 | 4.5 | **4.1** | 4.2 | 4.6 | 3.9 | **4.1** | **25.0** | **8.8** | **4.2** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

## Figure 12 Low and Very Low Birth Weight by Place of Residence for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




**Note:** Please refer to back flap for legend of the Health Authorities

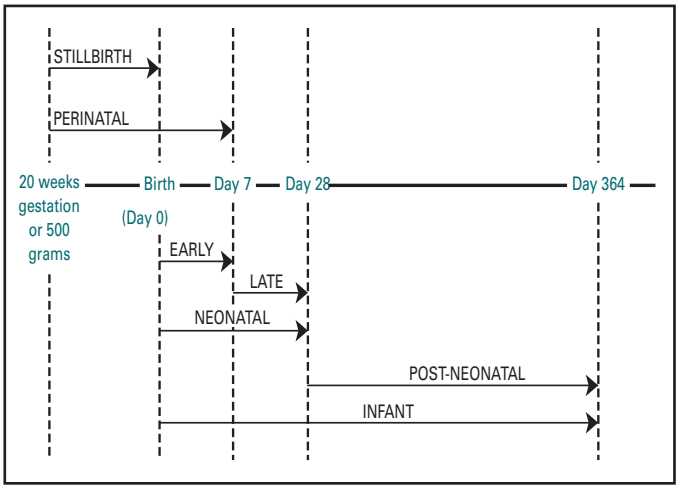
## Neonatal/Perinatal/Infant Mortality Rates by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003

(Refer to Tables 15 and 16)

Infant mortality is often used as a measure of the health and well-being of a population both across and within countries. Mortality rates at various gestational ages and into the first year of life may indicate the presence of modifiable risk factors that could be addressed during prenatal or early newborn care.

Death during the period of time from twenty weeks gestation (or after attaining a weight of at least 500g) until one year of life can be categorized as outlined in Figure 13. For this report, late terminations and multiple pregnancies were excluded from analysis.

**Figure 13 Timeline of Fetal and Infant Mortality**




### *Stillbirths*

The Vital Statistics Act[38] has defined a stillbirth as:

*'The complete expulsion or extraction from its mother after at least 20 weeks of pregnancy, or after attaining a weight of at least 500 grams, of a product of conception in which, after the expulsion or extraction, there is no breathing, beating of the heart, pulsation of the umbilical cord, or unmistakable movement of voluntary muscle.'*

The stillbirth rate is calculated as the total number of stillbirths per 1,000 total births (live births + stillbirths).

There were 180 stillbirths in British Columbia during 2002/2003, for a stillbirth rate of 4.6. When data from fiscal years 2000/2001, 2001/2002, and 2002/2003 were combined, the provincial stillbirth rate was 4.9. There is some variation across Health Authorities in BC, ranging from 3.9 in the Vancouver Island Health Authority and the Interior Health Authority, to 6.6 in the Northern Health Authority.

Variation in stillbirth rates throughout the province is more evident when analyzed by Health Service Delivery Area (HSDA). The Interior Health Authority demonstrates the largest variations in stillbirth rates when analyzed by HSDA, from 2.1 in the East Kootenay HSDA to 6.3 in the Kootenay Boundary HSDA. In fiscal year 2002/2003 only, this variation was more significant, from 1.5 in the East Kootenay HSDA to 10.7 in the Kootenay Boundary HSDA. Although these rates should be interpreted with some caution due to the low numbers of stillbirths in these areas, the variation in rates does justify further analysis.

### *Perinatal Mortality*

The perinatal mortality rate is calculated as the total number of stillbirths and early neonatal deaths (deaths from 0 up to 7 days of age) per 1000 total births (live births + stillbirths).

From 2000/2001 to 2002/2003 there were 809 perinatal deaths in BC, for a perinatal morality rate of 6.9 per 1000. In 2002/2003 there were 259 perinatal deaths in BC, for a perinatal mortality rate of 6.6. Similar to stillbirth rates throughout BC, there is variation of perinatal mortality rates geographically. For example, in the Fraser Health Authority, rates vary between 5.0 and 8.0 (combined data, fiscal years 2000/2001, 2001/2002, and 2002/2003) and in the Northern Health Authority, between 7.9 and 10.7.

### *Infant Mortality*

The infant mortality rate is the total number of deaths of live born infants up to 365 days (one year) of life per 1000 live births. Infant mortality can be further divided into two component rates: neonatal and post-neonatal mortality rates.

### *Neonatal Mortality*

The neonatal mortality rate is calculated as the total number of deaths from 0 up to 28 days of age per 1000 total live births. Neonatal deaths are often divided into early and late neonatal deaths. Early neonatal deaths are those deaths of live born infants from 0 to 7 days old, while late neonatal deaths are those deaths of live born infants from 8 to 28 days.

There were 107 neonatal deaths in BC in fiscal year 2002/2003, and of those, 79 (73.8%) occurred within the first seven days of life. Of the 303 total neonatal deaths from 2000/2001 to 2002/2003, 237 (78.2%) occurred within the first seven days of life (early neonatal death).

### *Post-neonatal Mortality*

The post-neonatal mortality rate is calculated as the total number of deaths of infants from 28 days to one year of life per 1000 total live births.

Over the combined fiscal years (2000/2001 to 2002/2003), there were 120 post-neonatal deaths in BC, with 33 post-neonatal deaths in fiscal 2002/2003.

## Table 15 Neonatal/Perinatal/Infant Mortality by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002 and 2002/2003

| | | 2000/2001, 2001/2002 and 2002/2003 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HA | HSDA | Total Birth | Total Stillbirth | Total Death | Total Live Birth | Stillbirth Rate | END | LND | TND | PND | NMR | PMR | IDR | NSR |
| **FHA** | FE | 8569 | 34 | 28 | 8535 | 4.0 | 9 | 7 | 16 | 12 | 1.9 | 5.0 | 3.3 | 998.1 |
| | FN | 16391 | 90 | 44 | 16301 | 5.5 | 22 | 10 | 32 | 12 | 2.0 | 6.8 | 2.7 | 998.0 |
| | FS | 20417 | 121 | 79 | 20296 | 5.9 | 42 | 13 | 55 | 24 | 2.7 | 8.0 | 3.9 | 997.3 |
| **Total** | | **45377** | **245** | **151** | **45132** | **5.4** | **73** | **30** | **103** | **48** | **2.3** | **7.0** | **3.3** | **997.7** |
| **IHA** | EK | 1911 | 4 | 5 | 1907 | 2.1 | 2 | 0 | 2 | 3 | 1.0 | 3.1 | 2.6 | 999.0 |
| | KB | 1753 | 11 | 8 | 1742 | 6.3 | 4 | 2 | 6 | 2 | 3.4 | 8.6 | 4.6 | 996.6 |
| | OK | 7461 | 33 | 23 | 7428 | 4.4 | 13 | 2 | 15 | 8 | 2.0 | 6.2 | 3.1 | 998.0 |
| | TCS | 5397 | 17 | 25 | 5380 | 3.1 | 13 | 2 | 15 | 10 | 2.8 | 5.6 | 4.6 | 997.2 |
| **Total** | | **16522** | **65** | **61** | **16457** | **3.9** | **32** | **6** | **38** | **23** | **2.3** | **5.9** | **3.7** | **997.7** |
| **NHA** | NE | 2524 | 16 | 7 | 2508 | 6.3 | 4 | 2 | 6 | 1 | 2.4 | 7.9 | 2.8 | 997.6 |
| | NI | 4677 | 30 | 20 | 4647 | 6.4 | 9 | 2 | 11 | 9 | 2.4 | 8.3 | 4.3 | 997.6 |
| | NW | 3003 | 21 | 16 | 2982 | 7.0 | 11 | 3 | 14 | 2 | 4.7 | 10.7 | 5.4 | 995.3 |
| **Total** | | **10204** | **67** | **43** | **10137** | **6.6** | **24** | **7** | **31** | **12** | **3.1** | **8.9** | **4.2** | **996.9** |
| **VCHA** | NSCG | 6832 | 28 | 20 | 6804 | 4.1 | 14 | 4 | 18 | 2 | 2.6 | 6.1 | 2.9 | 997.4 |
| | RICH | 4581 | 21 | 17 | 4560 | 4.6 | 15 | 0 | 15 | 2 | 3.3 | 7.9 | 3.7 | 996.7 |
| | VANC | 16996 | 75 | 51 | 16921 | 4.4 | 37 | 5 | 42 | 9 | 2.5 | 6.6 | 3.0 | 997.5 |
| **Total** | | **28409** | **124** | **88** | **28285** | **4.4** | **66** | **9** | **75** | **13** | **2.7** | **6.7** | **3.1** | **997.3** |
| **VIHA** | CVI | 5737 | 29 | 24 | 5708 | 5.1 | 10 | 6 | 16 | 8 | 2.8 | 6.8 | 4.2 | 997.2 |
| | NVI | 3018 | 11 | 21 | 3007 | 3.6 | 14 | 3 | 17 | 4 | 5.7 | 8.3 | 7.0 | 994.3 |
| | SVI | 7979 | 26 | 31 | 7953 | 3.3 | 15 | 4 | 19 | 12 | 2.4 | 5.1 | 3.9 | 997.6 |
| **Total** | | **16734** | **66** | **76** | **16668** | **3.9** | **39** | **13** | **52** | **24** | **3.1** | **6.3** | **4.5** | **996.9** |
| **BC UNSPEC** | | **182** | **1** | **2** | **181** | **5.5** | **1** | **1** | **2** | **0** | **11.0** | **11.0** | **11.0** | **989.0** |
| **NON RES** | | **416** | **4** | **2** | **412** | **9.6** | **2** | **0** | **2** | **0** | **4.9** | **14.4** | **4.9** | **995.1** |
| **Total** | | **117844** | **572** | **423** | **117272** | **4.9** | **237** | **66** | **303** | **120** | **2.6** | **6.9** | **3.6** | **997.4** |

## Table 16 Neonatal/Perinatal/Infant Mortality by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2002/2003

| | | 2002/2003 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HA | HSDA | Total Birth | Total Stillbirth | Total Death | Total Live Birth | Stillbirth Rate | END | LND | TND | PND | NMR | PMR | IDR | NSR |
| **FHA** | FE | 2961 | 18 | 7 | 2943 | 6.1 | 1 | 2 | 3 | 4 | 1.0 | 6.4 | 2.4 | 999.0 |
| | FN | 5457 | 25 | 13 | 5432 | 4.6 | 6 | 5 | 11 | 2 | 2.0 | 5.7 | 2.4 | 998.0 |
| | FS | 6919 | 39 | 22 | 6880 | 5.6 | 11 | 7 | 18 | 4 | 2.6 | 7.2 | 3.2 | 997.4 |
| **Total** | | **15337** | **82** | **42** | **15255** | **5.3** | **18** | **14** | **32** | **10** | **2.1** | **6.5** | **2.7** | **997.9** |
| **IHA** | EK | 654 | 1 | 2 | 653 | 1.5 | 0 | 0 | 0 | 2 | 0.0 | 1.5 | 3.1 | 1000.0 |
| | KB | 560 | 6 | 5 | 554 | 10.7 | 4 | 0 | 4 | 1 | 7.2 | 17.9 | 9.0 | 992.8 |
| | OK | 2391 | 10 | 8 | 2381 | 4.2 | 6 | 0 | 6 | 2 | 2.5 | 6.7 | 3.4 | 997.5 |
| | TCS | 1740 | 3 | 8 | 1737 | 1.7 | 5 | 0 | 5 | 3 | 2.9 | 4.6 | 4.6 | 997.1 |
| **Total** | | **5345** | **20** | **23** | **5325** | **3.7** | **15** | **0** | **15** | **8** | **2.8** | **6.5** | **4.3** | **997.2** |
| **NHA** | NE | 862 | 4 | 3 | 858 | 4.6 | 1 | 2 | 3 | 0 | 3.5 | 5.8 | 3.5 | 996.5 |
| | NI | 1506 | 13 | 5 | 1493 | 8.6 | 1 | 1 | 2 | 3 | 1.3 | 9.3 | 3.3 | 998.7 |
| | NW | 986 | 6 | 7 | 980 | 6.1 | 4 | 1 | 5 | 2 | 5.1 | 10.1 | 7.1 | 994.9 |
| **Total** | | **3354** | **23** | **15** | **3331** | **6.9** | **6** | **4** | **10** | **5** | **3.0** | **8.6** | **4.5** | **997.0** |
| **VCHA** | NSCG | 2264 | 5 | 8 | 2259 | 2.2 | 6 | 1 | 7 | 1 | 3.1 | 4.9 | 3.5 | 996.9 |
| | RICH | 1490 | 6 | 3 | 1484 | 4.0 | 2 | 0 | 2 | 1 | 1.3 | 5.4 | 2.0 | 998.7 |
| | VANC | 5627 | 28 | 20 | 5599 | 5.0 | 16 | 3 | 19 | 1 | 3.4 | 7.8 | 3.6 | 996.6 |
| **Total** | | **9381** | **39** | **31** | **9342** | **4.2** | **24** | **4** | **28** | **3** | **3.0** | **6.7** | **3.3** | **997.0** |
| **VIHA** | CVI | 1891 | 4 | 9 | 1887 | 2.1 | 3 | 4 | 7 | 2 | 3.7 | 3.7 | 4.8 | 996.3 |
| | NVI | 1003 | 3 | 10 | 1000 | 3.0 | 8 | 2 | 10 | 0 | 10.0 | 11.0 | 10.0 | 990.0 |
| | SVI | 2655 | 9 | 10 | 2646 | 3.4 | 5 | 0 | 5 | 5 | 1.9 | 5.3 | 3.8 | 998.1 |
| **Total** | | **5549** | **16** | **29** | **5533** | **2.9** | **16** | **6** | **22** | **7** | **4.0** | **5.8** | **5.2** | **996.0** |
| **BC UNSPEC** | | **44** | **0** | **0** | **44** | **0.0** | **0** | **0** | **0** | **0** | **0.0** | **0.0** | **0.0** | **1000.0** |
| **NON RES** | | **141** | **0** | **0** | **141** | **0.0** | **0** | **0** | **0** | **0** | **0.0** | **0.0** | **0.0** | **1000.0** |
| **Total** | | **39151** | **180** | **140** | **38971** | **4.6** | **79** | **28** | **107** | **33** | **2.7** | **6.6** | **3.6** | **997.3** |

*__Note:__ Please refer to back flap for legend of Health Authorities and Health Service Delivery Areas
Late Terminations are excluded. Death information is supplemented by BC Vital Statistics Agency

**END** – Early Neonatal Deaths (< 7 days)
**LND** – Late Neonatal Deaths (7-27 days)
**TND** – Total Neonatal Deaths (< 28 days)
**PND** – Post Neonatal Deaths (28-364 days)
**NMR** – Neonatal Mortality Rate
**PMR** – Perinatal Mortality Rate
**IDR** – Infant Death Rate
**NSR** – Neonatal Survival Rate

**Stillbirth Rate** = (Total Stillbirths / Total Births) X 1000
**Neonatal Mortality Rate** = (Total Neonatal Deaths / Live Births) X 1000
**Perinatal Mortality Rate** = ((Total Stillbirths + Total Early Neonatal Deaths) / Total Births) X 1000
**Infant Death Rate** = ((Total Neonatal Deaths + Post Neonatal Deaths) / Total Live Births) X 1000
**Neonatal Survival Rate** = ((Total Live Births – Total Neonatal Deaths) / Total Live Births ) X 1000

# Neonatal/Perinatal/Infant Mortality Rates by Maternal Age, 2000/2001, 2001/2002, 2002/2003

### *Stillbirths*

Stillbirth rates in British Columbia in 2002/2003 fluctuate only slightly with maternal age, although rates are higher in younger mothers. These higher rates may be a reflection of the smaller number of births in this age category. In 2002/2003, the stillbirth rate was highest in those mothers aged 15 to 19 at 8.3 per 1000 live births, although they had the lowest number of stillbirths overall (13).

### *Perinatal Mortality*

In 2002/2003, perinatal mortality rates were highest in the youngest age groups. Most age groups showed a perinatal mortality rate of approximately 6.0 per 1000 live births.

### *Infant Mortality*

Similar to stillbirth and perinatal mortality rates, infant mortality rates do not show wide variation with age, although small numbers of births in the youngest mothers inflate the infant mortality rate. In 2002/2003, infant mortality rates were 3.6 per 1000 live births, which is identical to the infant mortality rate when three years of fiscal data were combined (2000/2001 to 2002/2003).

**Table 17 Neonatal/Perinatal/Infant Mortality by Maternal Age, 2000/2001, 2001/2002 and 2002/2003**

| | 2000/2001, 2001/2002 and 2002/2003 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total Birth | Total Stillbirth | Total Death | Total Live Birth | Stillbirth Rate | END | LND | TND | PND | NMR | PMR | IDR | NSR |
| < 15 | 39 | 1 | 2 | 38 | 25.6 | 1 | 1 | 2 | 0 | 52.6 | 51.3 | 52.6 | 947.4 |
| 15-19 | 5128 | 36 | 35 | 5092 | 7.0 | 21 | 1 | 22 | 13 | 4.3 | 11.1 | 6.9 | 995.7 |
| 20-24 | 18456 | 84 | 79 | 18372 | 4.6 | 40 | 8 | 48 | 31 | 2.6 | 6.7 | 4.3 | 997.4 |
| 25-29 | 33914 | 148 | 116 | 33766 | 4.4 | 67 | 17 | 84 | 32 | 2.5 | 6.3 | 3.4 | 997.5 |
| 30-34 | 37379 | 170 | 119 | 37209 | 4.5 | 60 | 25 | 85 | 34 | 2.3 | 6.2 | 3.2 | 997.7 |
| 35-39 | 19150 | 108 | 58 | 19042 | 5.6 | 38 | 11 | 49 | 9 | 2.6 | 7.6 | 3.0 | 997.4 |
| 40-44 | 3663 | 24 | 13 | 3639 | 6.6 | 9 | 3 | 12 | 1 | 3.3 | 9.0 | 3.6 | 996.7 |
| 45-49 | 111 | 1 | 1 | 110 | 9.0 | 1 | 0 | 1 | 0 | 9.1 | 18.0 | 9.1 | 990.9 |
| >= 50 | 4 | 0 | 0 | 4 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1000.0 |
| **Total** | **117844** | **572** | **423** | **117272** | **4.9** | **237** | **66** | **303** | **120** | **2.6** | **6.9** | **3.6** | **997.4** |

**Table 18 Neonatal/Perinatal/Infant Mortality by Maternal Age, 2002/2003**

| | 2002/2003 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | Total Birth | Total Stillbirth | Total Death | Total Live Birth | Stillbirth Rate | END | LND | TND | PND | NMR | PMR | IDR | NSR |
| < 15 | 10 | 0 | 2 | 10 | 0.0 | 1 | 1 | 2 | 0 | 200.0 | 100.0 | 200.0 | 800.0 |
| 15-19 | 1574 | 13 | 10 | 1561 | 8.3 | 7 | 0 | 7 | 3 | 4.5 | 12.7 | 6.4 | 999.5 |
| 20-24 | 6045 | 24 | 23 | 6021 | 4.0 | 9 | 5 | 14 | 9 | 2.3 | 5.5 | 3.8 | 997.7 |
| 25-29 | 11114 | 49 | 38 | 11065 | 4.4 | 25 | 6 | 31 | 7 | 2.8 | 6.7 | 3.4 | 997.2 |
| 30-34 | 12701 | 53 | 44 | 12648 | 4.2 | 19 | 13 | 32 | 12 | 2.5 | 5.7 | 3.5 | 997.5 |
| 35-39 | 6388 | 36 | 18 | 6352 | 5.6 | 15 | 2 | 17 | 1 | 2.7 | 8.0 | 2.8 | 997.3 |
| 40-44 | 1277 | 5 | 5 | 1272 | 3.9 | 3 | 1 | 4 | 1 | 3.1 | 6.3 | 3.9 | 996.9 |
| 45-49 | 40 | 0 | 0 | 40 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1000.0 |
| >= 50 | 2 | 0 | 0 | 2 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1000.0 |
| **Total** | **39151** | **180** | **140** | **38971** | **4.6** | **79** | **28** | **107** | **33** | **2.7** | **6.6** | **3.6** | **997.3** |

**Note**: Late Terminations are excluded. Death information is supplemented by BC Vital Statistics Agency

**END** – Early Neonatal Deaths (< 7 days)
**LND** – Late Neonatal Deaths (7-27 days)
**TND** – Total Neonatal Deaths (< 28 days)
**PND** – Post Neonatal Deaths (28-364 days)
**NMR** – Neonatal Mortality Rate
**PMR** – Perinatal Mortality Rate
**IDR** – Infant Death Rate
**NSR** – Neonatal Survival Rate

**Stillbirth Rate** = (Total Stillbirths / Total Births) X 1000
**Neonatal Mortality Rate** = (Total Neonatal Deaths / Live Births) X 1000
**Perinatal Mortality Rate** = ((Total Stillbirths + Total Early Neonatal Deaths) / Total Births) X 1000
**Infant Death Rate** = ((Total Neonatal Deaths + Post Neonatal Deaths) / Total Live Births) X 1000
**Neonatal Survival Rate** = ((Total Live Births – Total Neonatal Deaths) / Total Live Births ) X 1000

## Neonatal/Perinatal/Infant Mortality Rates by Birth Weight, 2000/2001, 2001/2002, 2002/2003

### *Stillbirths*

Stillbirth rates are highest in those babies with the lowest birth weights. For example, in 2002/2003, the stillbirth rate was highest, at 600 per 1000 total births, in those babies with birth weights < 500 grams. The lowest stillbirth rate was seen in the 3500 to 4499 gram birth weight group, at 0.6 per 1000 total births.

### *Perinatal Mortality*

There is a negative correlation between birth weight and perinatal mortality. Mortality rates are higher in those babies with lower birth weights and lowest in those babies with higher birth weights. In 2002/2003, the perinatal mortality rate over all birth weight groups was 6.6 per 1000 total births, although the rate by birth weight group ranged from as high as 966.7 per 1000 in the < 500 gram birth weight group to a low of 0.9 per 1000 in the 3500 to 4499 gram birth weight group.

### *Infant Mortality*

Similar to stillbirth and perinatal mortality rates, there is a negative correlation between infant mortality rate and birth weight. That is, birth weight increases as infant mortality rates decrease. Infant mortality rates tend to be lower than stillbirth and perinatal mortality rates overall, but show a similar wide variation between the lowest and highest birth weight babies. In 2002/2003, the infant mortality rate was highest (916.7 per 1000) in the < 500 gram birth weight group and lowest (1.5 per 1000) in the 3500 to 4499 gram birth weight group.

**Table 19 Neonatal/Perinatal/Infant Mortality by Birth Weight, 2000/2001, 2001/2002 and 2002/2003**

| | 2000/2001, 2001/2002 and 2002/2003 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Birth Weight | Total Birth | Total Stillbirth | Total Death | Total Live Birth | Stillbirth Rate | END | LND | TND | PND | NMR | PMR | IDR | NSR |
| < 500 | 168 | 95 | 68 | 73 | 565.5 | 68 | 0 | 68 | 0 | 931.5 | 970.2 | 931.5 | 68.5 |
| 500-999 | 367 | 81 | 94 | 286 | 220.7 | 75 | 12 | 87 | 7 | 304.2 | 425.1 | 328.7 | 695.8 |
| 1000-1499 | 417 | 43 | 23 | 374 | 103.1 | 16 | 2 | 18 | 5 | 48.1 | 141.5 | 61.5 | 951.9 |
| 1500-2499 | 3959 | 97 | 53 | 3862 | 24.5 | 20 | 14 | 34 | 19 | 8.8 | 29.6 | 13.7 | 991.2 |
| 2500-3499 | 56821 | 100 | 108 | 56721 | 1.8 | 30 | 21 | 51 | 57 | 0.9 | 2.3 | 1.9 | 999.1 |
| 3500-4499 | 53039 | 42 | 57 | 52997 | 0.8 | 12 | 15 | 27 | 30 | 0.5 | 1.0 | 1.1 | 999.5 |
| >= 4500 | 2941 | 5 | 6 | 2936 | 1.7 | 2 | 2 | 4 | 2 | 1.4 | 2.4 | 2.0 | 998.6 |
| Unknown* | 132 | 109 | 14 | 23 | 825.8 | 14 | 0 | 14 | 0 | 608.7 | 931.8 | 608.7 | 391.3 |
| **Total** | **117844** | **572** | **423** | **117272** | **4.9** | **237** | **66** | **303** | **120** | **2.6** | **6.9** | **3.6** | **997.4** |

**Table 20 Neonatal/Perinatal/Infant Mortality by Birth Weight, 2002/2003**

| | 2002/2003 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Birth Weight | Total Birth | Total Stillbirth | Total Death | Total Live Birth | Stillbirth Rate | END | LND | TND | PND | NMR | PMR | IDR | NSR |
| < 500 | 60 | 36 | 22 | 24 | 600.0 | 22 | 0 | 22 | 0 | 916.7 | 966.7 | 916.7 | 83.3 |
| 500-999 | 133 | 26 | 31 | 107 | 195.5 | 23 | 6 | 29 | 2 | 271.0 | 368.4 | 289.7 | 729.0 |
| 1000-1499 | 128 | 10 | 6 | 118 | 78.1 | 4 | 1 | 5 | 1 | 42.4 | 109.4 | 50.8 | 957.6 |
| 1500-2499 | 1353 | 29 | 19 | 1324 | 21.4 | 11 | 3 | 14 | 5 | 10.6 | 29.6 | 14.4 | 989.4 |
| 2500-3499 | 19060 | 30 | 32 | 19030 | 1.6 | 11 | 9 | 20 | 12 | 1.1 | 2.2 | 1.7 | 998.9 |
| 3500-4499 | 17429 | 10 | 26 | 17419 | 0.6 | 6 | 8 | 14 | 12 | 0.8 | 0.9 | 1.5 | 999.2 |
| >= 4500 | 946 | 2 | 2 | 944 | 2.1 | 0 | 1 | 1 | 1 | 1.1 | 2.1 | 2.1 | 998.9 |
| Unknown* | 42 | 37 | 2 | 5 | 881.0 | 2 | 0 | 2 | 0 | 400.0 | 928.5 | 400.0 | 600.0 |
| **Total** | **39151** | **180** | **140** | **38971** | **4.6** | **79** | **28** | **107** | **33** | **2.7** | **6.6** | **3.6** | **997.3** |

*Unknown – unrecorded birth weights or birth weights between 0 and 300 grams
**Note:** Late Terminations are excluded. Death information is supplemented by BC Vital Statistics Agency

**END** – Early Neonatal Deaths (< 7 days)
**LND** – Late Neonatal Deaths (7-27 days)
**TND** – Total Neonatal Deaths (< 28 days)
**PND** – Post Neonatal Deaths (28-364 days)
**NMR** – Neonatal Mortality Rate
**PMR** – Perinatal Mortality Rate
**IDR** – Infant Death Rate
**NSR** – Neonatal Survival Rate

**Stillbirth Rate** = (Total Stillbirths / Total Births) X 1000
**Neonatal Mortality Rate** = (Total Neonatal Deaths / Live Births) X 1000
**Perinatal Mortality Rate** = ((Total Stillbirths + Total Early Neonatal Deaths) / Total Births) X 1000
**Infant Death Rate** = ((Total Neonatal Deaths + Post Neonatal Deaths) / Total Live Births) X 1000
**Neonatal Survival Rate** = ((Total Live Births – Total Neonatal Deaths) / Total Live Births ) X 1000

# SECTION IV

## IN FOCUS

### PRE-PREGNANCY BODY MASS INDEX AND METHOD OF DELIVERY
### PRETERM LIVE BIRTH
### POSTPARTUM READMISSION
### NEWBORN READMISSION

## Pre-Pregnancy Body Mass Index (BMI) and Method of Delivery by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

(Refer to Data Table 15A – Appendix 8)

Pre-pregnancy body mass index (BMI) is defined as the ratio of a woman's weight to height, as measured pre-pregnancy, or up to 12 weeks gestation. It is calculated using the formula:[39] BMI = weight (kg) / height $(m)^2$. For this report, BMI was calculated in a population of mothers with singleton deliveries and was grouped into ranges according to the classification scheme described below (Table 21).

Body mass index is usually grouped into ranges that are associated with various health risks. These ranges and health risks are summarized in Table 21.

**Table 21 Health Risk Classification According to Body Mass Index (BMI)**

| Classification | BMI Category ($kg/m^2$) | Description |
|---|---|---|
| Underweight | < 18.5 | May be associated with some health problems |
| Normal Weight | 18.5 - 24.9 | Good weight for most people |
| Overweight | 25.0 - 29.9 | Increasing risk of developing health problems |
| Obese | ≥ 30.0 | High risk of developing health problems |
| Unclassified | blank | Unable to calculate body mass index |

**Source:** Health Canada. Ottawa

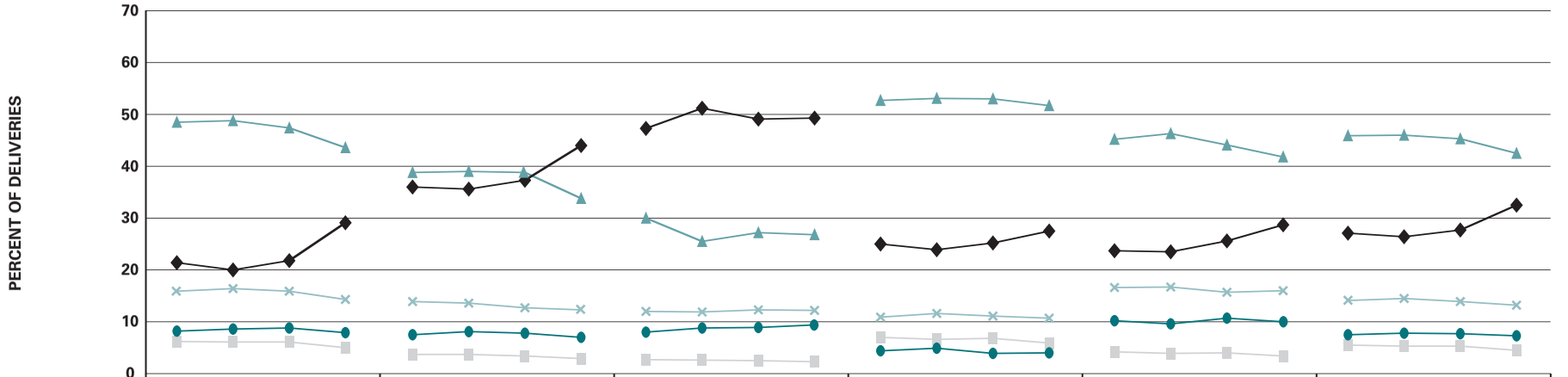
Category of body mass index has been associated with numerous health outcomes, including those related to pregnancy. Many studies have shown that for pregnant women who fall into the obese category pre-pregnancy, their risks for developing gestational hypertension, diabetes, preeclampsia, as well as having caesarean section delivery and high birth weight babies are significantly higher than for those women in the normal BMI category pre-pregnancy.[40,41,42]

Obesity in Canada has become a significant health issue; estimated prevalence rates for obesity have shown significant increases for both genders and in all age categories since the 1970s.[43] Despite the lack of systematic data collection for obesity prevalence in Canada, a recent study using survey data that directly measured height and weight estimated a national obesity (BMI ≥ 30.0) rate of 23.1% of all Canadians in 2004. This same study reported an obesity prevalence of 20.5% in 2004 for 25 to 34 year olds, compared to a prevalence of 8.5% in 1978/1979 for the same age group.[43]

Another study estimated a 12% obesity rate in British Columbia in 1998.[44] The obesity rate for Canadian women aged 20 to 44 years was estimated to be 10.6% in 1992.[45] Although it is difficult to extrapolate comprehensive data from studies based on survey data, it is likely that the trend of increasing rates of obesity across the country may persist. As many women of childbearing age populate the obese BMI category, it is important to monitor the pregnancy outcomes in these women.

Data from the BC Perinatal Database Registry shows that the obesity rate for singleton mothers delivering in BC has remained fairly constant across the past four fiscal years, at 7.5% in 2000/2001 compared to 7.3% in 2003/2004 (Figure 14). Most mothers populated the normal weight BMI group, with rates varying from 45.9% in 2000/2001 to 42.5% in 2003/2004. Variation exists by Health Authority (HA) throughout BC; in 2003/2004 the lowest obesity rates were in the Vancouver Coastal HA (4.0%), while the highest obesity rates (10.0%) were seen in the Vancouver Island HA.

## Figure 14 Body Mass Index Group by Place of Residence for Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004




| | 00/01 | 01/02 | 02/03 | 03/04 | 00/01 | 01/02 | 02/03 | 03/04 | 00/01 | 01/02 | 02/03 | 03/04 | 00/01 | 01/02 | 02/03 | 03/04 | 00/01 | 01/02 | 02/03 | 03/04 | 00/01 | 01/02 | 02/03 | 03/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FHA | | | | IHA | | | | NHA | | | | VCHA | | | | VIHA | | | | Province | | | |
| Unclassified | 21.4 | 20.0 | 21.8 | 29.1 | 36.0 | 35.6 | 37.3 | 44.0 | 47.3 | 51.2 | 49.1 | 49.3 | 25.0 | 23.9 | 25.2 | 27.5 | 23.7 | 23.5 | 25.6 | 28.7 | 27.1 | 26.4 | 27.7 | 32.5 |
| Underweight | 6.2 | 6.1 | 6.1 | 5.0 | 3.7 | 3.7 | 3.4 | 2.9 | 2.7 | 2.6 | 2.5 | 2.3 | 7.0 | 6.6 | 6.8 | 5.9 | 4.2 | 3.9 | 4.0 | 3.4 | 5.5 | 5.3 | 5.3 | 4.5 |
| Normal Weight | 48.2 | 48.8 | 47.4 | 43.6 | 38.8 | 39.0 | 38.8 | 33.8 | 30.0 | 25.5 | 27.2 | 26.8 | 52.7 | 53.1 | 53.0 | 51.7 | 45.2 | 46.3 | 44.1 | 41.8 | 45.9 | 46.0 | 45.3 | 42.5 |
| Overweight | 15.9 | 16.4 | 15.9 | 14.3 | 13.9 | 13.6 | 12.7 | 12.3 | 12.0 | 11.9 | 12.3 | 12.2 | 10.9 | 11.6 | 11.1 | 10.7 | 16.8 | 16.7 | 15.7 | 16.0 | 14.1 | 14.5 | 13.9 | 13.2 |
| Obese | 8.2 | 8.6 | 8.8 | 7.9 | 7.5 | 8.1 | 7.8 | 7.0 | 8.0 | 8.8 | 8.9 | 9.4 | 4.4 | 4.9 | 3.9 | 4.0 | 10.2 | 9.6 | 10.7 | 10.0 | 7.5 | 7.8 | 7.7 | 7.3 |

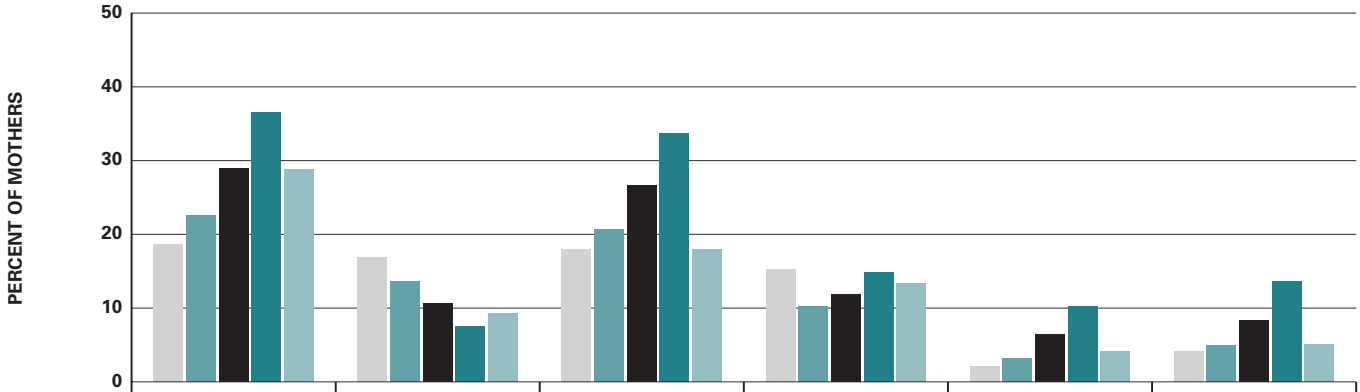
PLACE OF RESIDENCE

**Note:** Please refer to back flap for legend of the Health Authorities

Interpretation of this indicator may be limited by the percentages of mothers delivering in BC who did not have complete information available to calculate body mass index.[iii] For example, in the Interior Health Authority (IHA), the unclassified rates overlap the normal weight rates, leaving a large number of mothers uncategorized (Figure 14). Moreover, the unclassified rates in the Northern Health Authority (NHA) are almost double the normal weight rates, suggesting underestimation of the BMI groups in this authority. Consequently, availability of complete information for all mothers is essential in describing accurate body mass index groups for the province in an effort to identify high-risk groups.

To examine the differences in rates of maternal indicators between body mass index groups, data from fiscal years of mothers with singleton deliveries were pooled together (2000/2001, 2001/2002, 2002/2003, 2003/2004). Rates of caesarean delivery, vaginal assisted delivery, induction, maternal smoking, gestational hypertension, and gestational diabetes were calculated for each of the body mass index groups. For the majority of the selected indicators, rates increased as body mass index increased (Figure 15). For example, 36.5% of women in the obese category had caesarean deliveries, compared to 22.6% of women in the normal weight category, and 18.6% in the underweight category. Labour induction rates showed a similar trend (33.7% in the obese category were induced, compared to 20.7% in the normal weight group). Vaginally assisted deliveries were less prevalent in the obese category (7.5%), compared to 13.6% in the normal weight category. Gestational hypertension was almost five times as prevalent in the obese category (10.2%) compared to the underweight category (2.1%), and gestational diabetes was three times as prevalent in the obese category (13.6%) than the underweight category (4.1%).

**Figure 15 Maternal Indicators by Body Mass Index Group for All Parity 2000/2001 to 2003/2004**



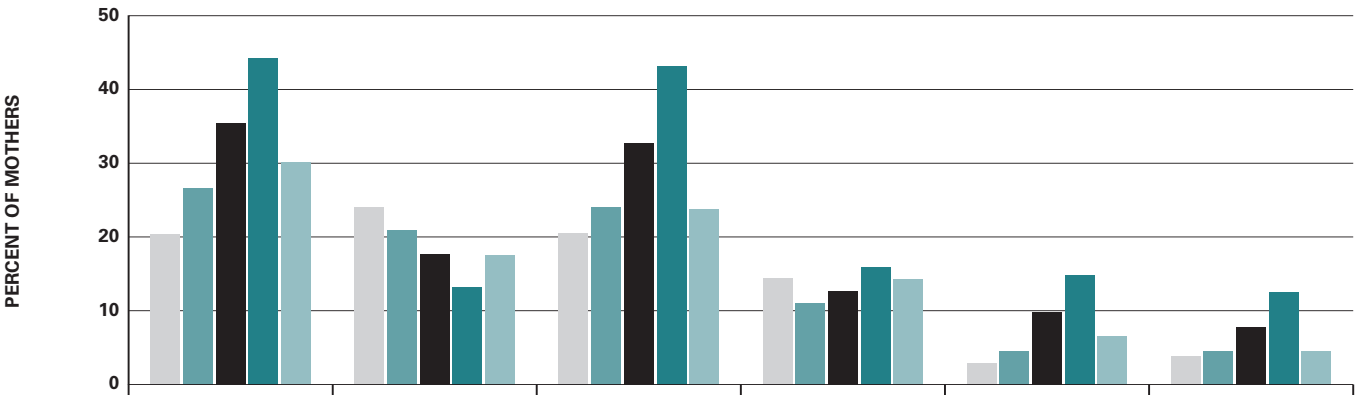

| | Caesarean Delivery | Vaginal Assisted Delivery | Induction | Smoking | Gestational Hypertension | Gestational Diabetes |
|---|---|---|---|---|---|---|
| Underweight | 18.6 | 16.9 | 18.0 | 15.2 | 2.1 | 4.1 |
| Normal Weight | 22.6 | 13.6 | 20.7 | 10.3 | 3.2 | 4.9 |
| Overweight | 28.9 | 10.6 | 26.7 | 11.8 | 6.5 | 8.4 |
| Obese | 36.5 | 7.5 | 33.7 | 14.8 | 10.2 | 13.6 |
| Unclassified | 28.8 | 9.3 | 18.0 | 13.4 | 4.1 | 5.1 |

[iii] 'Complete information' denotes the presence of a recorded pre-pregnancy weight and height on the material record. Women with one or both of these values missing were grouped into the 'unclassified' BMI category.

Figure 16 describes the rates of maternal indicators in the nulliparous population with singleton deliveries (from 2000/2001 to 2003/2004). The rates mirror those seen in Figure 15, although they are generally higher overall. For example, the caesarean delivery rate for obese nulliparous mothers delivering singletons was 44.3%, and the induction rate for this same group was 43.2%. The rate of vaginal assisted delivery in the nulliparous obese category was 13.2%, compared to 7.5% in the obese category when both nulliparous women and women with parity greater than one were included (Figure 15).

Although these rates should be interpreted with caution, due to the proportion of women with incomplete information on height and weight, and the complex relationships between pre-pregnancy weight, development of various conditions during pregnancy, parity, and outcomes at delivery, the increased prevalence of many indicators in obese women warrants further study. As weight is a modifiable risk factor in mothers, pre-pregnancy education aimed at high-risk groups is an important initiative.

**Figure 16 Maternal Indicators by Body Mass Index Group, Nulliparous Mothers, 2000/2001 to 2003/2004**




| | Caesarean Delivery | Vaginal Assisted Delivery | Induction | Smoking | Gestational Hypertension | Gestational Diabetes |
|---|---|---|---|---|---|---|
| Underweight | 20.4 | 24.0 | 20.6 | 14.4 | 2.9 | 3.9 |
| Normal Weight | 26.2 | 21.0 | 24.1 | 11.0 | 4.6 | 4.5 |
| Overweight | 35.5 | 17.7 | 32.7 | 12.7 | 9.8 | 7.8 |
| Obese | 44.3 | 13.2 | 43.2 | 15.9 | 14.8 | 12.6 |
| Unclassified | 30.1 | 17.6 | 23.8 | 14.3 | 6.6 | 4.5 |

MATERNAL INDICATOR

## Preterm Live Birth

Preterm birth remains the single largest cause of infant death, accounting for an estimated 75% of potentially preventable perinatal mortalities, and creating a significant burden on the Canadian health care system.[46] A complex etiology coupled with the potential for serious adverse effects in the newborn make preterm births a significant and challenging concern.

Preterm birth is best defined as a live birth after 20 and before 37 completed weeks of gestation.[12] Despite a myriad of methods attempting to curb the incidence of preterm birth through early identification of both risk factors and mothers in preterm labour, the sad news is that the incidence of preterm birth in British Columbia (BC) is actually slowly on the increase, rising from 8.1% of total births in 2000/2001 to 9.2% in 2003/2004 (Table 22).

**Table 22 Incidence of Preterm Live Births in BC, Fiscal 2000/2001, 2001/2002, 2002/2003, 2003/2004**

| | Preterm Births | | | | | | | | Total Births |
|---|---|---|---|---|---|---|---|---|---|
| | < 27 weeks | | 28 to 32 weeks | | 33 to 36 weeks | | Total Preterm Births | | (Including preterm births) |
| Fiscal Year | n | % | n | % | n | % | n | % | n |
| 2000/2001 | 167 | 0.4 | 395 | 1.0 | 2,673 | 6.7 | 3,235 | 8.1 | 40,264 |
| 2001/2002 | 176 | 0.4 | 389 | 1.0 | 2,640 | 6.6 | 3,205 | 8.0 | 40,160 |
| 2002/2003 | 187 | 0.5 | 401 | 1.0 | 3,017 | 7.5 | 3,605 | 9.0 | 40,205 |
| 2003/2004 | 174 | 0.4 | 434 | 1.1 | 3,082 | 7.7 | 3,690 | 9.2 | 40,230 |
| Total | 704 | 0.4 | 1,619 | 1.0 | 11,412 | 7.1 | 13,735 | 8.5 | 160,859 |

**Source:** BC Perinatal Database Registry
**Notes:** These numbers represent the number of babies (not mothers), and include singletons and multiples.
Stillbirths and late terminations have been excluded.

### *Etiology*

The final common pathway for preterm birth is myometrial contractility, i.e. preterm labour. Unfortunately, preterm labour itself has many different causes, which help explain why treatments such as tocolytic therapy, offered to relax the myometrial contractility, have not shown true promise in reducing the perinatal morbidity and mortality associated with preterm birth.[47] Factors associated with preterm labour and birth include previous preterm birth, infection (i.e. chorioamnionitis), abruption of the placenta with hematoma leading to increased myometrial contractility, uterine over-distention such as is seen with multiple pregnancy and/or polyhydramnios, gestational hypertension and diabetes.[48,49,50,51] Table 23 outlines the prevalence of some of these factors in BC mothers discharged from care after delivery during fiscal 2003/2004.

**Table 23 Prevalence of Maternal Characteristics in Preterm vs. Term Live Births in BC, Fiscal 2003/2004**

| | Preterm Births (n = 2,175) | | Term Births (n = 35,599) | | Unadjusted Odds Ratio* |
|---|---|---|---|---|---|
| Maternal Characteristic | n | % | n | % | OR (95% CI) |
| Chorioamnionitis | 35 | 1.6 | 338 | 0.9 | 1.7 (1.2-2.4) |
| Antepartum hemorrhage | 171 | 7.9 | 760 | 2.1 | 3.9 (3.3-4.6) |
| Maternal Infection | 43 | 2.0 | 253 | 0.7 | 2.8 (2.0-3.9) |
| Gestational hypertension | 240 | 11.0 | 1,400 | 3.9 | 3.0 (2.6-3.5) |
| Gestational diabetes | 170 | 7.8 | 2,005 | 5.6 | 1.4 (1.2-1.7) |
| Pre-existing diabetes | 32 | 1.5 | 99 | 0.3 | 5.4 (3.6-8.0) |

**Source:** BC Perinatal Database Registry
**Notes:** These numbers represent the number of mothers (not babies) and include singleton and multiple gestations.
Mothers with multiple gestations resulting in an least one live birth are included.
Mothers with singleton or multiple gestations that result in stillbirth (no live births) or late terminations have been excluded.
Preterm births are those live births after 20 and before 37 completed weeks of gestation.
Term births are those live births after 37 completed weeks of gestation.
Chorioamnionitis is identified by ICD9 code 658.4
Antepartum hemorrhage is identified by ICD9 codes 641.3 or 641.8 or 641.9 or by selection of the PDR risk field for antepartum hemorrhage (before or after 20 weeks).
Maternal infection is identified by ICD9 codes 670 or 674.3 or 998.5 with a diagnosis type exclusive of 0 or 3
Gestational hypertension is identified by selection of the PDR risk field for gestational hypertension
Gestational diabetes is identified by selection of the PDR risk field for gestational diabetes
Pre-existing diabetes is identified by selection of the PDR risk field for pre-existing diabetes

*Unadjusted odds ratios give the ratio of the odds of having the characteristic in the preterm birth group relative to having the characteristic in the term birth group, without adjusting for other factors. For example, the odds of having a diagnosis of maternal chorioamnionitis in the preterm birth group is 1.7 times that in the term birth group.

Even more fascinating from a sociological perspective is the recent trend towards an increasing incidence of multiple gestations and associated preterm births.[12] In British Columbia in fiscal 2003/2004, the incidence of preterm birth in twin gestation was 60.1% (Table 24) with 4.8% of all twin gestations born at < 28 weeks gestation.[52] The incidence of preterm birth in multiple gestations was 87.2%, compared to only 7.6% in singleton gestations (Table 24).

**Table 24 Multiple Gestations and Preterm Live Births in BC, Fiscal 2000/2001, 2001/2002, 2002/2003, 2003/2004**

| | Singletons | | | Multiples | | | Twins | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Preterm Births | | Total | Preterm Births | | Total | Preterm Births | |
| Fiscal Year | n | n | % | n | n | % | n | n | % |
| 2000/2001 | 39,209 | 2,637 | 6.7 | 55 | 55 | 100.0 | 1,000 | 543 | 54.3 |
| 2001/2002 | 39,101 | 2,585 | 6.6 | 33 | 30 | 90.9 | 1,026 | 590 | 57.5 |
| 2002/2003 | 38,977 | 2,834 | 7.3 | 45 | 45 | 100.0 | 1,183 | 726 | 61.4 |
| 2003/2004 | 39,045 | 2,967 | 7.6 | 39 | 34 | 87.2 | 1,146 | 689 | 60.1 |
| Total | 156,332 | 11,023 | 7.1 | 172 | 164 | 95.3 | 4,355 | 2,548 | 58.5 |

**Source:** BC Perinatal Database Registry
**Notes:** These numbers represent the number of babies (not mothers), and include singletons and multiples. Stillbirths and late terminations have been excluded.

Multiple gestations occur more frequently in patients of advanced maternal age.[53] For example, in fiscal 2003/2004 in BC, the average maternal age at delivery was 30.2 years for those mothers with singleton deliveries, 31.8 years in those mothers with twin deliveries, and 33.3 years in those mothers with multiple deliveries (3 to 5 babies).[52]

As fetal factors can also play a role in the etiology of preterm birth, it is therefore not surprising that a fetus with congenital anomalies or whose uterine environment is otherwise unhealthy will have an altered physiologic pathway, initiating its own preterm arrival into the world. In BC in fiscal 2003/2004, the incidence of preterm births in those babies diagnosed with a congenital anomaly[iv] during their delivery admission (total of 1,280) was 23.5% (n = 300).[52]

### *Diagnosis*

Prevention of preterm birth involves the identification and potential reduction of risks associated with preterm birth. The importance of detection systems to timely detect true and inevitable preterm birth with high accuracy is essential, both to provide adequate support to the mother and fetus in preterm labour as well as to prevent unnecessary and unwarranted treatment and intervention. A few of the methods used to assess risk of preterm birth and identify preterm labour will be discussed here.

### *Risk Scoring*

In 1969, Papiernik reported on a method of assessing risk for preterm birth based on previous medical and social history, current pregnancy problems and lifestyle.[54] Since that time, many risk-scoring systems, with the major determinant of prior history of preterm birth, have been developed to refine the original Papiernik approach.[55,56] Although history of preterm birth has been shown to increase the likelihood of a subsequent preterm birth,[57] 30.9% of women having a preterm birth during fiscal 2003/2004 in BC were primigravidas,[52] indicating that they could not have given a history of a prior preterm birth as a predictor. Moreover, the ability of any risk assessment protocol to predict preterm birth, on its own, has shown variable results with low predictive powers.[58]

### *Cervical Shortening*

A direct relationship between short cervical length and likelihood of preterm birth has been well described in the literature.[59,60] The most effective means to measure cervical length and therefore detect premature cervical shortening and effacement is the use of transvaginal ultrasound. Unfortunately, the ability of transvaginal ultrasound to predict preterm births in low risk obstetric populations is relatively poor with one study suggesting a detection rate of only seven percent.[61] The role of routine transvaginal ultrasound cervical measurement in primary prevention is therefore still unclear.

[iv]Congenital anomaly is identified by ICD9 codes 740.0 to 759.9 or 756.6 or 748.0 to 748.9 with an associated diagnosis type of most responsible (M) or significant pre-admit comorbidity (1)

### *Biochemical Markers*

Fetal fibronectin is a glycoprotein found in amniotic fluid, fetal membranes, and the chorio-decidual junction where its primary purpose appears to serve as "tissue glue". With an intact mucous plug, it is virtually never found in cervical-vaginal secretions after 21 weeks gestation until its further reappearance close to term as a marker of physiologic cervical effacement and dilatation prior to labour.[62] This detection therefore in cervical-vaginal secretions between 24 and 34 weeks gestation increases the likelihood that the patient's lower uterine segment and cervix are undergoing progressive effacement leading to dilatation and preterm birth with a positive predictive value of approximately 50%.[62] Fetal fibronectin, after adjustment for other factors using logistic regression analysis, is the single most important predictor of preterm birth.[63] As well, in the symptomatic patient, the absence of fetal fibronectin has been shown to result in a 99.5% likelihood that the patient will not deliver in the week, and 99.2% likelihood she will not deliver within the next 14 days.[63]

### *Bacterial Vaginosis*

Bacterial vaginosis, an overgrowth of anaerobic bacteria in the vagina, has been associated with a variety of adverse pregnancy outcomes including premature rupture of the membranes, and preterm birth.[64,65] Unfortunately, routine vaginal culture for bacterial vaginosis and treatment of all screen-positive patients has not been shown to have impact on overall preterm birth rate.

### *Management of Preterm Labour and Preterm Birth*

When risks for preterm birth have been identified or if a patient inevitably presents in preterm labour, there are various management strategies to either halt the further progression to preterm birth, or to provide adequate support to a mother and her fetus. A few of these strategies are discussed here.

#### *Activity Restriction*

One of the most commonly prescribed remedies for preterm birth prevention is bed rest and restricted activity. Although bed rest does appear to significantly decrease the physiologic strength of uterine activity, there are very few randomized studies to support this therapy. There is also recent evidence suggesting that the physical and psychosocial side effects of prolonged hospital bed rest may do more harm than good.[66] Maternal compliance with bed rest regimes, be they at home or in the hospital, suggest poor compliance at best and despite the overall widespread practice of prescribing bed rest to high-risk women, a recent meta-analysis did not find significant evidence, either for or against the use of bed rest in women at risk for preterm birth.[66]

#### *Education and Psychosocial Support*

In 1985, Papiernik reported the results of his 12-year preterm birth prevention program in France.[67] This comprehensive study utilized a risk assessment system, home visits for at risk patients, an education component including advice regarding activity restriction for women at risk as well as liberal use of work leave and hospital admission if necessary. During his study from 1971 to 1982, the preterm birth rate decreased in France from 5.4% to 3.7%, an overall 30% reduction, although specifically there was no obvious reduction of preterm birth rate in high-risk women with a history of a prior preterm birth. Similarly, a meta-analysis conducted to assess the effectiveness of education programs for high-risk women found little benefit in the reduction of preterm births.[68]

#### *Cervical Cerclage*

There are some patients with a relatively weakened cervix who dilate with minimal increases in uterine activity or are unable to support the weight of pregnancy. True cervical incompetence, which represents insufficiency of the collagenous matrix of the cervix to support the weight of the pregnancy, is more commonly recognized now to be a spectrum disorder with cervical insufficiency at one end of the spectrum and preterm labour at the other end of the spectrum.[69] Identifying these patients early enough to provide a successful intervention, however, is difficult at best, even using transvaginal ultrasound screening.

#### *Antibiotic Therapy*

Results of published trials on the use of antibiotics in patients diagnosed with symptomatic preterm labour and intact membranes show conflicting results in prolonging pregnancy or preventing preterm birth.[70,71,72] In one meta-analysis of seven published randomized trials,[73] infants of women treated with antibiotics had less neonatal sepsis and intraventricular hemorrhage but no clear reduction in mortality, respiratory distress syndrome, or necrotizing enterocolitis. In British Columbia in 2003/2004, over half of the mothers delivering preterm received antibiotics during their delivery admission compared to approximately one-third who did not deliver preterm (Table 25).

**Table 25 Maternal Drug Administration in Labour, Preterm vs. Term Live Births, Fiscal 2003/2004**

| | Preterm Births (n = 2,175) | | Term Births (n = 35,599) | | Unadjusted Odds Ratio* |
|---|---|---|---|---|---|
| Drug | n | % | n | % | OR (95% CI) |
| Antibiotics | 1,111 | 51.1 | 11,771 | 33.1 | 2.1 (1.9-2.3) |
| Tocolytics | 42 | 1.9 | 154 | 0.4 | 4.5 (3.2-6.4) |

**Source:** BC Perinatal Database Registry
**Notes:** These numbers represent the number of mothers (not babies) and include singleton and multiple gestations.
Mothers with multiple gestations resulting in an least one live birth are included.
Mothers with singleton or multiple gestations that result in stillbirth (no live births) or late terminations have been excluded.
Preterm births are those live births after 20 and before 37 completed weeks of gestation.
Term births are those live births after 37 completed weeks of gestation.

*Unadjusted odds ratios give the ratio of the odds of having the characteristic in the preterm birth group relative to having the characteristic in the term birth group, without adjusting for other factors. For example, the odds of having a diagnosis of maternal chorioamnionitis in the preterm birth group is 1.7 times that in the term birth group.

*Tocolytic Therapy*

Tocolytic therapy, which is used to slow or halt uterine activity, has been in widespread use for many years but has not shown a true decrease in low birth weight or preterm birth in a population at risk. Tocolytics have been shown to achieve a short term prolongation of pregnancy that most clinicians still utilize in order to effect safe maternal transport and/or administration of corticosteroids to accelerate pulmonary maturity.[74] Unfortunately, they have been associated with potential side effects, including palpitations, nausea, chorioamnionitis, and hyperglycemia.[74] In British Columbia in fiscal 2003/2004, the prevalence of tocolytic therapy during delivery admission is almost five times greater in those women who delivered preterm (Table 25). The data do not allow for an identification of women who received tocolytic therapy during threatened preterm labour, prior to their delivery admission.

*Corticosteroid Administration*

The Cochrane meta-analysis strongly supports the use of antenatal corticosteroids (i.e. Betamethasone) for women and fetuses at risk for preterm birth between 24 and 34 weeks gestation.[75] The impact of antenatal administration of corticosteroids is not only on reduction of respiratory distress syndrome but morbidities in the nursery associated with difficult ventilation problems, i.e. intraventricular hemorrhage and bronchopulmonary dysplasia.[75] Nevertheless, animal testing and recent human experience suggests that overexposure to corticosteroids in utero may have potential for harm by significantly altering the hypothalamic pituitary access in the fetus as well as altering neuronal migration and multiplication.[76]

*Outcomes*

Preterm birth remains the single largest cause of preventable perinatal death.[46] As well, preterm birth is the leading cause of morbidities such as cerebral palsy and other serious neuro-developmental sequelae including developmental delay, deafness, blindness, as well as serious respiratory morbidity leading to an increase in infant deaths from respiratory complications and sudden infant death syndrome.[77,78] Table 26 outlines various newborn characteristics, identified during the newborn's delivery admission, comparing preterm to term births.

**Table 26 Prevalence of Newborn Characteristics in Preterm vs. Term Live Births in BC, Fiscal 2003/2004**

| | Preterm Births (n = 3,690) | | Term Births (n = 36,540) | | Unadjusted Odds Ratio* |
|---|---|---|---|---|---|
| Newborn Characteristic | n | % | n | % | OR (95% CI) |
| Congenital anomalies | 300 | 8.1 | 980 | 2.7 | 3.2 (2.8-3.7) |
| Resuscitation at birth | 670 | 18.2 | 2,966 | 8.1 | 2.5 (2.3-2.8) |
| Respiratory distress | 1,083 | 29.3 | 1,743 | 4.8 | 8.3 (7.6-9.0) |
| Hypoxia | 32 | 0.9 | 180 | 0.5 | 1.8 (1.2-2.6) |

**Source:** BC Perinatal Database Registry
**Note:** These numbers represent the number of babies (not mothers) and include singleton and multiple gestations.
Stillbirths and late terminations have been excluded.
Preterm births are those live births after 20 and before 37 completed weeks of gestation.
Term births are those live births after 37 completed weeks of gestation.
Congenital anomaly is identified identified by ICD9 codes 740.0 to 759.9 or 756.6 or 748.0 to 748.9 with an associated diagnosis type of most responsible (M) or significant pre-admit comorbidity (1)
Resuscitation at birth includes any newborn receiving one or more of: IPPV mask, IPPV ETT, chest compressions, or drugs for resuscitation
Respiratory distress is identified by ICD9 codes 460.0 to 519.9, 748.0 to 748.9, 770.0 to 770.9, 756.6, 769.
Hypoxia is identified by ICD9 codes 768.0 to 768.9

*Unadjusted odds ratios give the ratio of the odds of having the characteristic in the preterm birth group relative to having the characteristic in the term birth group, without adjusting for other factors. For example, the odds of having a diagnosis of maternal chorioamnionitis in the preterm birth group is 1.7 times that in the term birth group.

It is estimated that the lifetime cost for a surviving preterm infant averages around $600,000, which includes the cost of prolonged hospitalization, usually in an intensive care setting, as well as the impact of the detrimental long term outcomes already mentioned.[79] In fiscal 2003/2004 in BC, the average length of stay for preterm babies was 9.4 days, compared to 2.3 days in term and post-term babies.[52] These averages represent only the delivery admission, and not lengths of stay of subsequent transfers of babies to other healthcare institutions.

### *Summary*

Preterm birth across Canada and other industrialized countries represents the single leading cause of perinatal morbidity and mortality.[12] Although some risk assessment tools and population-based strategies to reduce preterm birth risk have been shown to be effective, the rate of preterm birth in BC continues to increase annually. Complex societal factors such as delayed childbearing, advanced maternal age, and treatments for infertility leading to multiple gestations all appear to contribute to the rising preterm birth risk. Meanwhile, therapies for attempting to arrest uterine activity through the use of tocolytic medication continue to show minimal or no impact. In a province as large as BC with potentially very remote areas, regionalization of perinatal care services and safe maternal transport will continue to remain a backbone of appropriate treatment for patients undergoing preterm birth. In this regard, education of patients in the prevention and early detection of preterm labour and subsequent preterm birth needs to occur in the office setting. Additionally, promising screening techniques such as the use of transvaginal ultrasound and fetal fibronectin can aid in the identification of at risk patients requiring maternal transport to a higher level of care, and accordingly provide appropriate care for the mother and fetus.

## Postpartum Readmission

Postpartum maternal readmission can be best described as the total number of mothers readmitted to hospital during the postpartum period. The postpartum period, defined as shortly after the birth of the placenta to six weeks following birth,[80] is a time of physiological adjustment and adaptation for the mother and baby where the essential primary needs of rest, assessment, support and education are required.[81] Currently, topics of discussion focus around the trend of decreasing postpartum length of stay and increasing risk of postpartum maternal and neonatal readmission to hospital. Maternal readmissions to hospital in the postpartum period represent the more serious end of the spectrum of postpartum morbidity.

Given the recent attention on postpartum maternal infection following caesarean section, an analysis of the postpartum readmissions for the province of British Columbia was conducted using the BC Perinatal Database Registry (BCPDR)[v] data in order to assess the risk of serious maternal morbidity. In particular, postpartum readmissions by method of delivery, parity and geography were examined.

Women with singleton deliveries (excluding late terminations) who were discharged from care in British Columbia between April 1, 2001 and March 31, 2004 (n = 117,632) were linked to the Ministry of Health (MOH) – Canadian Institute for Health Information (CIHI) – Discharge Abstracts Database (DAD) file to obtain data on mothers readmitted to a BC hospital, for any reason, within 42 days of delivery. Readmissions for routine care and/or follow-up, elective readmissions, and day surgery admissions were excluded. Information from both the delivery episode of care and first inpatient readmission to hospital were linked for analysis.

Women were first grouped according to method of delivery and by parity in order to describe readmission rates, times between delivery and readmissions, and indications for readmission (most responsible diagnosis on readmission grouped into various disease categories). Readmission rates were also compared by place of delivery to describe variation throughout the province.

The overall readmission rate in this cohort of women was 1.48% (1,738 of the 117,632 women were readmitted within 42 days of delivery). Readmission rates by method of delivery ranged from 1.15% in those women who had spontaneous vaginal delivery, 1.59% in those having assisted vaginal deliveries, 1.61% in those having elective caesarean deliveries, to 2.50% in those having emergency caesarean deliveries (Table 27).

Although the rates were low overall, the highest rates of readmission in this cohort of women were for postpartum infections (0.38%) and for postpartum hemorrhages (0.35%). Similar findings have been noted in the scientific literature.[82] Rates of readmission for specific conditions varied by method of delivery; women having caesarean delivery were more likely to be readmitted for postpartum infection (1.02% for emergent caesarean and 0.42% for elective caesarean), compared to women delivering vaginally, who were more likely to be readmitted with diagnoses related to postpartum hemorrhage (0.54% after assisted vaginal delivery and 0.36% after spontaneous vaginal delivery) (Table 27).

**Table 27 Variation in Postpartum Readmission Rate by Disease Category (All Parity), 2001/2002, 2002/2003, 2003/2004**

| Disease Category | Total (n = 117,632) % | Spontaneous Vaginal Delivery (n = 72,512) % | Assisted Vaginal Delivery (n = 13,450) % | Elective Caesarean Delivery (n = 11,536) % | Emergency Caesarean Delivery (n = 20,134) % |
|---|---|---|---|---|---|
| **Overall readmission** | **1.48** | **1.15** | **1.59** | **1.61** | **2.50** |
| Postpartum infection | 0.38 | 0.21 | 0.29 | 0.42 | 1.02 |
| Postpartum hemorrhage | 0.35 | 0.36 | 0.54 | 0.22 | 0.28 |
| Other maternal condition | 0.10 | 0.06 | 0.12 | 0.09 | 0.23 |
| Obstetric wound disruption | 0.08 | 0.04 | 0.12 | 0.11 | 0.22 |
| Gallbladder disorder | 0.07 | 0.07 | 0.04 | 0.10 | 0.08 |
| Genitourinary condition | 0.07 | 0.07 | 0.05 | 0.10 | 0.06 |
| Behavioural and/or mental disorder | 0.06 | 0.05 | 0.10 | 0.06 | 0.06 |
| Hypertension – pre-exisiting or gestational | 0.05 | 0.03 | 0.06 | 0.04 | 0.12 |
| Retained placenta | 0.02 | 0.03 | 0.01 | 0.03 | 0.00 |

**Source:** BC Perinatal Database Registry

[v] The BC Perinatal Database Registry (BCPDR) is an important component of the BC Reproductive Care Program. The BCPDR receives information on all births in the province, whether delivered in hospital or at home by a Registered Midwife. Neonatal transfers and all neonatal re-admissions up to 28 days of age are also tracked and entered in the database.

Examining the same cohort by parity demonstrates that nulliparous women who delivered vaginally (spontaneous) were readmitted 1.28% of the time while women with parity greater than or equal to one were readmitted less often at 1.08% (Table 28). In fact, readmission rates for nulliparous women were consistently higher than their counterparts with parity greater than or equal to one, regardless of method of delivery. The highest readmission rates, for emergency caesarean deliveries, also differed by parity, at 2.61% for nulliparious women and 2.25% for women with parity greater than or equal to one (Table 28). For women with parity greater than or equal to one, there was virtually no difference in overall readmission rates between assisted vaginal delivery (1.56%) and elective caesarean delivery (1.57%), although the indications for readmission did vary. Readmission rates were highest for nulliparous women who delivered by emergency caesarean section with the diagnosis of postpartum infection (1.14%).

**Table 28 Variation in Postpartum Readmission Rate for Nulliparous and Parity ≥ 1 by Disease Category, 2001/2002, 2002/2003, 2003/2004**

| | Spontaneous Vaginal Delivery (n = 26,753) | | Assisted Vaginal Delivery (n = 10,049) | | Elective Caesarean Delivery (n = 2,212) | | Emergency Caesarean Delivery (n = 13,739) | |
|---|---|---|---|---|---|---|---|---|
| | Nulliparous | Parity ≥ 1 | Nulliparous | Parity ≥ 1 | Nulliparous | Parity ≥ 1 | Nulliparous | Parity ≥ 1 |
| **Disease Category** | % | % | % | % | % | % | % | % |
| **Overall readmission** | **1.28** | **1.08** | **1.60** | **1.56** | **1.81** | **1.57** | **2.61** | **2.25** |
| Postpartum infection | 0.21 | 0.21 | 0.32 | 0.21 | 0.27 | 0.46 | 1.14 | 0.78 |
| Postpartum hemorrhage | 0.36 | 0.36 | 0.53 | 0.56 | 0.23 | 0.21 | 0.29 | 0.25 |
| Other maternal condition | 0.05 | 0.06 | 0.11 | 0.15 | 0.18 | 0.06 | 0.17 | 0.34 |
| Obstetric wound disruption | 0.04 | 0.04 | 0.08 | 0.15 | 0.14 | 0.11 | 0.17 | 0.25 |
| Gallbladder disorder | 0.10 | 0.06 | 0.06 | 0.00 | 0.18 | 0.08 | 0.09 | 0.06 |
| Genitourinary condition | 0.07 | 0.06 | 0.06 | 0.03 | 0.00 | 0.13 | 0.06 | 0.08 |
| Behavioural and/or mental disorder | 0.07 | 0.03 | 0.10 | 0.09 | 0.23 | 0.02 | 0.07 | 0.03 |
| Hypertension – pre-exisiting or gestational | 0.06 | 0.02 | 0.04 | 0.12 | 0.05 | 0.04 | 0.15 | 0.08 |
| Retained placenta | 0.04 | 0.02 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.02 |

**Source:** BC Perinatal Database Registry

Of the women who were readmitted (n=1,738), most were readmitted for postpartum infections or postpartum hemorrhages, although there was variation by parity and method of delivery. For example, of the nulliparous women readmitted following emergency caesarean delivery, 45.45% of them had a most responsible diagnosis on readmission of postpartum infection (Table 29). However, nulliparous women undergoing elective caesarean section who were readmitted had a most responsible diagnosis related to postpartum infection only 15.00% of the time (Table 29).

**Table 29 Variation in Prevalence of Most Responsible Diagnosis Grouping Among Readmissions by Parity, 2001/2002, 2002/2003, 2003/2004**

| | Spontaneous Vaginal Delivery | | Assisted Vaginal Delivery | | Elective Caesarean Delivery | | Emergency Caesarean Delivery | |
|---|---|---|---|---|---|---|---|---|
| | Nulliparous (n = 342) | Parity ≥ 1 (n = 493) | Nulliparous (n = 161) | Parity ≥ 1 (n = 53) | Nulliparous (n = 40) | Parity ≥ 1 (n = 146) | Nulliparous (n = 359) | Parity ≥ 1 (n = 144) |
| **Disease Category** | % | % | % | % | % | % | % | % |
| Postpartum infection | 16.67 | 19.47 | 19.88 | 13.21 | 15.00 | 29.45 | 45.45 | 34.72 |
| Postpartum hemorrhage | 27.78 | 33.06 | 32.92 | 35.85 | 12.50 | 13.70 | 11.14 | 11.11 |
| Other maternal condition | 4.09 | 5.88 | 6.83 | 9.43 | 10.00 | 4.11 | 6.69 | 15.28 |
| Obstetric wound disruption | 3.22 | 4.06 | 4.97 | 9.43 | 7.50 | 6.85 | 6.69 | 11.11 |
| Gallbladder disorder | 7.89 | 5.48 | 3.73 | 0.00 | 10.00 | 4.79 | 3.62 | 2.78 |
| Genitourinary condition | 5.56 | 5.88 | 3.73 | 1.89 | 0.00 | 8.22 | 2.23 | 3.47 |
| Behavioural and/or mental disorder | 5.85 | 2.84 | 6.21 | 5.66 | 12.50 | 1.37 | 2.79 | 1.39 |
| Hypertension – pre-exisiting or gestational | 4.39 | 2.03 | 2.48 | 7.55 | 2.50 | 2.74 | 5.57 | 3.47 |
| Retained placenta | 2.92 | 2.23 | 0.00 | 1.89 | 0.00 | 2.05 | 0.00 | 0.69 |

**Source:** BC Perinatal Database Registry

Analysis by place of delivery showed little variability in the overall readmission rates, ranging from 0.90 in the North Shore/Coast Garibaldi Health Service Delivery Area (HSDA) to 2.23 in the Northwest HSDA (Table 30). Adjusting for age variation across the Health Service Delivery Areas modified readmission rates slightly from 0.94 in the North Shore/Coast Garibaldi HSDA to 2.12 in the Northwest HSDA.

Postpartum readmission rates for the diagnosis of postpartum infection by place of delivery demonstrated some variability from a high of 0.62 in the South Vancouver Island HSDA to a low of 0.19 in the Fraser South HSDA (Table 30). Further variability was noted across HSDAs in the postpartum readmission rates for the diagnosis of postpartum hemorrhage with the lowest rates noted in the North Shore/Coast Garibaldi HSDA (0.09) and the highest in the Vancouver HSDA (0.59). Adjusting for age variation across HSDAs modified rates only slightly with the most pronounced adjustment seen in the North Vancouver Island HSDA for both postpartum infection (0.58 to 0.49) and postpartum hemorrhage (0.36 to 0.30). Apart from age, other factors that may affect this regional variation are maternal characteristics, labour and delivery processes, practice patterns, or reporting mechanisms.

**Table 30 Postpartum Readmission Rate by Place of Delivery for Health Service Delivery Areas and Health Authorities, 2001/2002, 2002/2003, 2003/2004**

| | Total Deliveries | Total Readmissions | Overall Readmission | | Postpartum infection | | Postpartum hemorrhage | |
|---|---|---|---|---|---|---|---|---|
| Delivery Area | n | n | Crude rate (%) | Age-adjusted rate (%)* | Crude rate (%) | Age-adjusted rate (%)* | Crude rate (%) | Age-adjusted rate (%)* |
| **Interior Health Authority** | **15,990** | **295** | **1.84** | **1.82** | **0.46** | **0.44** | **0.49** | **0.48** |
| EK | 1,780 | 36 | 2.02 | 1.91 | 0.39 | 0.39 | 0.45 | 0.40 |
| KB | 1,526 | 24 | 1.57 | 1.58 | 0.20 | 0.20 | 0.33 | 0.33 |
| OK | 7,339 | 132 | 1.80 | 1.79 | 0.45 | 0.45 | 0.53 | 0.53 |
| TCS | 5,345 | 103 | 1.93 | 1.88 | 0.56 | 0.52 | 0.49 | 0.46 |
| **Fraser Health Authority** | **39,113** | **461** | **1.18** | **1.18** | **0.24** | **0.24** | **0.34** | **0.34** |
| FE | 7,723 | 108 | 1.40 | 1.42 | 0.36 | 0.36 | 0.21 | 0.23 |
| FN | 14,597 | 188 | 1.29 | 1.32 | 0.23 | 0.24 | 0.46 | 0.47 |
| FS | 16,793 | 165 | 0.98 | 0.99 | 0.19 | 0.20 | 0.29 | 0.30 |
| **Vancouver Coastal Health Authority** | **14,685** | **176** | **1.20** | **1.26** | **0.32** | **0.32** | **0.30** | **0.29** |
| RICH | 3,937 | 39 | 0.99 | 1.02 | 0.20 | 0.22 | 0.23 | 0.21 |
| VANC | 5,085 | 86 | 1.69 | 1.93 | 0.47 | 0.47 | 0.59 | 0.62 |
| NSCG | 5,663 | 51 | 0.90 | 0.94 | 0.26 | 0.27 | 0.09 | 0.09 |
| **Vancouver Island Health Authority** | **16,323** | **294** | **1.80** | **1.77** | **0.55** | **0.39** | **0.39** | **0.38** |
| SVI | 8,292 | 159 | 1.92 | 1.93 | 0.62 | 0.62 | 0.48 | 0.49 |
| CVI | 5,250 | 89 | 1.70 | 1.67 | 0.42 | 0.39 | 0.27 | 0.26 |
| NVI | 2,781 | 46 | 1.65 | 1.54 | 0.58 | 0.49 | 0.36 | 0.30 |
| **Northern Health Authority** | **9,821** | **183** | **1.86** | **1.79** | **0.57** | **0.55** | **0.34** | **0.32** |
| NW | 2,777 | 62 | 2.23 | 2.12 | 0.61 | 0.57 | 0.40 | 0.39 |
| NI | 4,434 | 80 | 1.80 | 1.72 | 0.61 | 0.60 | 0.32 | 0.31 |
| NE | 2,610 | 41 | 1.57 | 1.57 | 0.46 | 0.43 | 0.31 | 0.24 |
| **Provincial Health Services Authority** | **20,222** | **308** | **1.52** | **1.60** | **0.41** | **0.42** | **0.28** | **0.27** |
| **Deliveries at Home** | **1,478** | **21** | **1.42** | **1.51** | **0.27** | **0.25** | **0.41** | **0.42** |
| **TOTAL** | **117,632** | **1,738** | **1.48** | | **0.38** | | **0.35** | |

**Source:** BC Perinatal Database Registry
**Note:** Please refer to back flap for legend of the Health Service Delivery Areas
*Provincial total was used as a standard population; age-adjusted rates were calculated using the direct standardized method

The length of stay of delivery admission for all women in the cohort increased from 2.2 days, on average, in those with spontaneous vaginal deliveries, to 4.6 days, on average, in those with emergency caesarean section deliveries (Table 31). Women who had caesarean deliveries were readmitted sooner after discharge from delivery admission than those women readmitted after vaginal deliveries (8.5 days vs. 12.3 days). Finally, women who delivered via caesarean section had slightly longer lengths of stay on their readmission than women who delivered vaginally (4.0 days vs. 3.1 days, on average).

**Table 31 Length of Stay for Delivery Admission and Readmission by Type of Delivery, 2001/2002, 2002/2003, 2003/2004**

| | Total | Spontaneous Vaginal Delivery | Assisted Vaginal Delivery | Elective Caesarean Delivery | Emergency Caesarean Delivery |
|---|---|---|---|---|---|
| | mean (SD) | mean (SD) | mean (SD) | mean (SD) | means (SD) |
| Length of stay of delivery admission (days) | 2.8 (2.6) | 2.2 (1.9) | 2.9 (1.9) | 3.7 (3.1) | 4.6 (3.7) |
| Days from delivery discharge to readmission | 10.9 (10.8) | 12.3 (11.5) | 11.8 (10.7) | 10.3 (10.2) | 8.5 (9.1) |
| Length of stay of readmission (days) | | 3.1 (5.1) | 3.4 (5.2) | 4.0 (4.5) | 4.0 (5.7) |

**Source:** BC Perinatal Database Registry
SD = Standard deviation

The association between shorter postpartum lengths of stay in hospital, postpartum maternal readmissions and postpartum morbidity is equivocal. The value of measuring maternal morbidity as a marker of quality care is important, but restricted. A complete assessment of maternal morbidity would include the physician and/or midwife's postpartum visits, but these data elements are not reported to a province-wide central registry, precluding comprehensive comparisons both provincially and nationally. However, some hospitals in the province have electronic records of visits to the Emergency Department (ED) and therefore provide an opportunity for extraction of more complete information on the postpartum use of the health care system for these facilities.

For example, one hospital in British Columbia reviewed ED visits over a nine-month period during 2004 and determined that 5.7% (108/1904) of women delivering at their hospital visited the ED within six weeks of discharge, for a total of 120 visits. Of these 120 visits, 19 (16%) were readmitted to hospital. Among these readmissions, 15 (78.9%) were for obstetric related conditions.

Another hospital in British Columbia that tracks ED visits electronically sampled their data over a six-month period during 2004 and found that of the 343 deliveries at their hospital, 17 (4.95%) women returned to the ED in the postpartum period with postpartum complications. Of these, 4 (23.5%) were readmitted to hospital.

These small samples of ED visits would indicate that about 5% of delivered mothers visit the ED during the postpartum period, and approximately 20% of these (1% of all delivered mothers) are readmitted, well within the readmission rates recorded nationally.[82]

In summary, the data is evidence to an increased risk of maternal postpartum readmission following caesarean delivery and assisted vaginal delivery. The readmission rates for BC women found in this analysis are consistent with national readmission rates.[82] The most common readmission diagnoses were noted to be postpartum infections and postpartum hemorrhages, with the highest rates for postpartum hemorrhages demonstrated in assisted vaginal deliveries and the highest rates for postpartum infections demonstrated in caesarean deliveries. Women were readmitted to hospital sooner following emergency caesarean delivery and stayed in hospital longer compared with women following vaginal delivery. The resultant information outlined in this brief analysis may provide some insight into the management of infection control practice in the goal for all healthcare providers to ensure optimum physiological and emotional well-being for the mother and baby recognizing that care following childbirth extends beyond the immediate post delivery event.

## Newborn Readmission

### *Readmission of the Newborn to Hospital in the Neonatal Period*

The BC Perinatal Database Registry (BCPDR) provides opportunity to examine indicators that relate to the care and well-being of the newborn. The topic of this "In Focus Section" is the readmission of the newborn to Hospital, an undesirable outcome.

Stated simply, during the three-year period, April 1, 2000 – March 31, 2003, of the 113,459 singletons live born in BC, 2.7% (Table 35) were readmitted to hospital before 28 days of life after initial discharge home. However, this indicator can be examined in more detail.

For the purposes of this analysis, all singleton live births discharged home within 28 days of delivery were tracked for readmission to hospital within the neonatal period (28 days). This population was then subdivided into "normal" newborns[vi] and "complicated" newborns.[vii] A very small number of the singleton newborns (2.1%) were excluded from analysis due to missing information such as weight and gestational age.

There were 100,024 "normal" newborns and 11,068 "complicated" newborns in this study. Tables 32 and 33 show the numbers of readmissions broken down into Health Authority (HA) and Health Service Delivery Area (HSDA).

**Table 32 Newborn Readmission by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003 (Normal Newborns)**

| HA | HSDA | Number of Newborns (NB) | Number of Readmissions | Readmission Rate | NB Avg LOS in days | Readmission Avg LOS in days | NB plus All Readmission Avg LOS in days | Number of Readmissions to Birth Hospital | Rate of Readmission to Birth Hospital |
|---|---|---|---|---|---|---|---|---|---|
| FHA | FE | 7,362 | 170 | 2.3% | 1.9 | 2.8 | 2.0 | 131 | 77.1% |
| | FN | 14,072 | 367 | 2.6% | 2.1 | 2.1 | 2.1 | 262 | 71.4% |
| | FS | 17,775 | 353 | 2.0% | 1.9 | 2.4 | 2.0 | 264 | 74.8% |
| | **Total** | **39,209** | **890** | **2.3%** | **2.0** | **2.4** | **2.0** | **657** | **73.8%** |
| IHA | EK | 1,569 | 45 | 2.9% | 2.1 | 2.3 | 2.2 | 34 | 75.6% |
| | KB | 1,387 | 33 | 2.4% | 2.3 | 2.3 | 2.4 | 25 | 75.8% |
| | OK | 6,341 | 207 | 3.3% | 2.1 | 2.6 | 2.2 | 197 | 95.2% |
| | TCS | 4,520 | 89 | 2.0% | 2.1 | 3.1 | 2.2 | 74 | 83.1% |
| | **Total** | **13,817** | **374** | **2.7%** | **2.1** | **2.6** | **2.2** | **330** | **88.2%** |
| NHA | NI | 3,747 | 102 | 2.7% | 2.3 | 2.6 | 2.3 | 85 | 83.3% |
| | NE | 2,157 | 59 | 2.7% | 2.3 | 2.2 | 2.4 | 51 | 86.4% |
| | NW | 2,510 | 110 | 4.4% | 2.3 | 2.0 | 2.4 | 97 | 88.2% |
| | **Total** | **8,414** | **271** | **3.2%** | **2.3** | **2.3** | **2.4** | **233** | **86.0%** |
| VCHA | NSCG | 5,820 | 149 | 2.6% | 2.2 | 2.1 | 2.3 | 111 | 74.5% |
| | RICH | 4,005 | 66 | 1.6% | 2.2 | 2.6 | 2.2 | 39 | 59.1% |
| | VANC | 14,276 | 385 | 2.7% | 2.2 | 2.8 | 2.3 | 179 | 46.5% |
| | **Total** | **24,101** | **600** | **2.5%** | **2.2** | **2.6** | **2.3** | **329** | **54.8%** |
| VIHA | CVI | 4,813 | 171 | 3.6% | 2.3 | 2.6 | 2.4 | 140 | 81.9% |
| | NVI | 2,539 | 50 | 2.0% | 2.2 | 2.7 | 2.2 | 29 | 58.0% |
| | SVI | 6,679 | 115 | 1.7% | 2.2 | 2.7 | 2.3 | 106 | 92.2% |
| | **Total** | **14,031** | **336** | **2.4%** | **2.2** | **2.6** | **2.3** | **275** | **81.8%** |
| Non-Res | | 322 | 11 | 3.4% | 1.8 | 2.9 | 1.9 | 10 | 90.9% |
| BC-Unspec | | 130 | 3 | 2.3% | 2.3 | 3.6 | 2.3 | 0 | 0.0% |
| **Provincial** | | **100,024** | **2,485** | **2.5%** | **2.1** | **2.5** | **2.2** | **1,834** | **73.8%** |

**Source:** BC Perinatal Database Registry
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

[vi] Normal newborns:
a) Newborns with Birth Weight of >= 2500 grams and a Gestational Age of >= 37 weeks and were discharged home with mom.
   – if delivered vaginally and length of stay was <=72 hours
   – if delivered vaginally and length of stay was > 72 hours but the most responsible diagnosis was Normal Newborn and no other diagnoses were coded
   – if delivered by caesarean section and length of stay was <= 96 hours
   – if delivered by caesarean section and length of stay was > 96 hours but the most responsible diagnosis was Normal Newborn and no other diagnoses were coded
b) Newborns who delivered at home by a registered midwife and Birth Weight >= 2500 grams and Gestational Age >= 37 weeks.

[vii] Complicated newborns:
a) Newborns with Birth Weight of < 2500 grams or Gestational Age < 37 weeks
b) Newborns with Birth Weight of > 2500 gram and Gestational Age > 37 weeks, discharged with mother and length of stay if delivered vaginally was > 72 hours or if delivered by caesarean section was > 96 hours; with a Most Responsible diagnosis of Jaundice (with phototherapy), significant congenital anomalies, significant cardiac anomalies and significant respiratory problems.

## Table 33 Newborn Readmission by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003 (Complicated Newborns)

| HA | HSDA | Number of Newborns (NB) | Number of Readmissions | Readmission Rate | NB Avg LOS in days | Readmission Avg LOS in days | NB plus All Readmission Avg LOS in days | Number of Readmissions to Birth Hospital | Rate of Readmission to Birth Hospital |
|---|---|---|---|---|---|---|---|---|---|
| FHA | FE | 656 | 50 | 7.6% | 5.0 | 2.3 | 5.2 | 40 | 80.0% |
| | FN | 1,529 | 75 | 4.9% | 5.8 | 3.0 | 6.0 | 56 | 74.7% |
| | FS | 1,797 | 76 | 4.2% | 5.3 | 4.5 | 5.5 | 59 | 77.6% |
| | **Total** | **3,982** | **201** | **5.0%** | **5.5** | **3.4** | **5.6** | **155** | **77.1%** |
| IHA | EK | 135 | 9 | 6.7% | 4.7 | 2.1 | 4.8 | 9 | 100.0% |
| | KB | 173 | 9 | 5.2% | 5.3 | 1.5 | 5.3 | 7 | 77.8% |
| | OK | 770 | 39 | 5.1% | 5.9 | 2.4 | 6.0 | 39 | 100.0% |
| | TCS | 481 | 17 | 3.5% | 5.6 | 2.6 | 5.7 | 12 | 70.6% |
| | **Total** | **1,559** | **74** | **4.7%** | **5.6** | **2.3** | **5.7** | **67** | **90.5%** |
| NHA | NI | 541 | 33 | 6.1% | 6.2 | 2.5 | 6.3 | 25 | 75.8% |
| | NE | 188 | 23 | 12.2% | 5.4 | 2.9 | 5.7 | 19 | 82.6% |
| | NW | 221 | 26 | 11.8% | 5.3 | 2.7 | 5.6 | 25 | 96.2% |
| | **Total** | **950** | **82** | **8.6%** | **5.8** | **2.7** | **6.0** | **69** | **84.1%** |
| VCHA | NSCG | 585 | 29 | 5.0% | 5.8 | 1.9 | 5.9 | 21 | 72.4% |
| | RICH | 413 | 21 | 5.1% | 4.6 | 2.6 | 4.8 | 15 | 71.4% |
| | VANC | 1,841 | 85 | 4.6% | 5.4 | 2.5 | 5.6 | 51 | 60.0% |
| | **Total** | **2,839** | **135** | **4.8%** | **5.4** | **2.4** | **5.5** | **87** | **64.4%** |
| VIHA | CVI | 527 | 35 | 6.6% | 5.4 | 2.1 | 5.5 | 30 | 85.7% |
| | NVI | 219 | 9 | 4.1% | 4.9 | 1.6 | 5.0 | 5 | 55.6% |
| | SVI | 926 | 29 | 3.1% | 5.9 | 3.7 | 6.0 | 27 | 93.1% |
| | **Total** | **1,672** | **73** | **4.4%** | **5.6** | **2.7** | **5.7** | **62** | **84.9%** |
| Non-Res | Non-Res | 47 | 2 | 4.3% | 5.9 | 1.4 | 6.0 | 2 | 100.0% |
| BC-Unspec | BC-Unspec | 19 | 0 | 0.0% | 7.3 | 0.0 | 7.3 | 0 | 0.0% |
| **Provincial** | | **11,068** | **567** | **5.1%** | **5.5** | **2.8** | **5.7** | **442** | **78.0%** |

**Source:** BC Perinatal Database Registry
**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Of the 111,092 singleton infants (normal and complicated) studied, 3052 (2.75%) were readmitted to hospital in the neonatal period after being discharged home. The rate of readmission was different for those infants who were "normal" and those who were "complicated". Among "normal" newborns, there were 2485 readmissions (2.5%); among "complicated" newborns there were 567 readmissions (5.1%). Readmissions for both "normal" and "complicated" newborns occurred generally before 10 days of life [1883, (62%)], and less likely at 10 to 20 days of life [757, (25%)], or at 21 to 28 days of life [412, (13%)].[52] These percentages, relating to the three time periods, were almost identical in both "normal" and "complicated" newborns. The mean length of readmission was relatively short in both groups (2.5 days for "normal" newborns and 2.8 days for "complicated" newborns) (Table 32 and Table 33).

The risk of being readmitted in the neonatal period varies with mode of delivery. Of the newborns delivered by spontaneous vaginal delivery 2.8% were readmitted, compared with 1.9% delivered by caesarean section and 3.6% by vaginal instrumental delivery. However, since infants born by caesarean section have a longer initial hospital stay, total mean length of stay (length of initial postnatal admission plus length of readmission) was greatest for those born by caesarean section (3.7 days), compared with 2.1 days for spontaneous vaginal delivery and 2.5 days for instrumental vaginal delivery (Table 34).

**Table 34 Mode of Delivery of Normal and Complicated Newborn, 2000/2001, 2001/2002, 2002/2003**

| Mode of Delivery | Number of Newborns (NB) | Number of Readmissions | Percentage of Readmissions | NB Avg LOS | Readmission Avg LOS | NB plus Readmission Avg LOS |
|---|---|---|---|---|---|---|
| CS | 27,663 | 537 | 1.9% | 3.7 | 2.7 | 3.7 |
| Vaginal – Breech | 86 | 5 | 5.8% | 2.4 | 2.4 | 2.5 |
| Vaginal – Instrumentation | 12,982 | 529 | 4.1% | 2.4 | 2.3 | 2.5 |
| Vaginal – Spontaneous | 70,361 | 1,981 | 2.8% | 2.0 | 2.6 | 2.1 |
| **Provincial Total** | **111,092** | **3,052** | **2.7%** | **2.5** | **2.6** | **2.5** |

**Source:** BC Perinatal Database Registry
**Note:** Vaginal Instrumentation – includes forceps, forceps-vacuum, vacuum, other instrumentation

When regional trends amongst Health Authorities were examined, two findings stand out. First, readmission rates for the Northern Health Authority (NHA) were significantly higher than for the rest of BC (3.8% versus 2.7%) for "normal" and "complicated" newborns (Table 35). Second, readmissions provincially were predominantly to the birth hospital with the striking exception of Vancouver Coastal Health Authority (VCHA), particularly Vancouver/Richmond Health Service Delivery Area (Table 32 and Table 33).

The "most responsible diagnosis" associated with readmission can be investigated by further interrogation of the BC Perinatal Database. Inspection of this information indicates that about half of the readmissions were related to jaundice. Amongst "normal" newborns, the most responsible diagnostic code was one or other category of jaundice in 44.7% and, similarly amongst "complicated" infants in 54.2% (Table 36). Other noteworthy diagnoses prominently associated with readmission include feeding difficulties (6.9%) and acute bronchiolitis (6.3%).

**Table 35 Total Newborn Readmissions by Health Authority and Province, 2000/2001, 2001/2002, 2002/2003**

| Health Authority | Number of Newborns | Number of Readmissions | Readmission Rate |
|---|---|---|---|
| Fraser | 43,191 | 1,091 | 2.5% |
| Interior | 15,376 | 448 | 2.9% |
| Northern | 9,364 | 353 | 3.8% |
| Vancouver Coastal | 26,940 | 735 | 2.7% |
| Vancouver Island | 15,703 | 409 | 2.6% |
| **Provincial** | **110,574** | **3,036** | **2.7%** |

**Source:** BC Perinatal Database Registry

**Table 36 Top 6 Most Responsible Readmission Diagnoses for Normal and Complicated Newborns, 2000/2001, 2001/2002, 2002/2003**

| | Readmissions | |
|---|---|---|
| Most Responsible Diagnosis | # | % |
| Perinatal/Neonatal Jaundice (Total) | 1,411 | 57.4% |
| Normal Newborns | 1,105 | 44.7% |
| Complicated Newborns | 306 | 54.2% |
| Feeding Problems in Newborn | 212 | 6.9% |
| Acute Bronchiolitis | 191 | 6.3% |
| Other Respiratory problems after birth | 118 | 3.9% |
| Hemolytic Disease due to ABO isoimmunization | 87 | 2.9% |
| Lack of expected Normal Physical Development | 59 | 1.9% |

**Source:** BC Perinatal Database Registry

### *Discussion*

It takes a few seconds to appreciate the scale of the finding that, in BC, one in every forty "normal" newborns is re-hospitalized in the neonatal period. As one would anticipate, "complicated" newborns (as defined on page 53) are readmitted about twice as often as "normal" newborns. This results in some regions of BC having readmission rates for "complicated" newborns that exceed a remarkable 10%. However, the mean length of stay was 2.6 days ("normal" and "complicated" newborns). This implies that the length of the majority of readmissions were relatively short. This select BC data (2.7% readmissions) can be compared with a northern UK study of neonatal readmissions in 1998 that reported a readmission rate of 2.8%[83] and with a Canadian study (Manitoba, 1997-2001) that reported a 3.95% readmission rate for the first 6 weeks of life.[84] Both studies identify a lower risk of readmission for the normal newborn.

A high rate of hospital readmission is viewed as undesirable. It implies neonatal pathology and has social and financial implications. However, some readmissions are inevitable and appropriate. It is important, therefore, to view the data realizing that there cannot be a linear relationship between readmission rate and poor care or poor use of resources. For example, from a financial viewpoint, early discharge programs that save hospital costs up front can expect to be associated with greater risk of later readmission.[85,86] Of course, without good community support for these programs, the risk for adverse outcome and re-hospitalization becomes greater. Although beyond the scope of this review, the BCPDR can provide further information about early discharge in BC and its impact.

Provincially, jaundice is the leading cause of readmission to hospital. This is similar to the experience reported from Detroit where, out of the 0.8% readmissions in the first 14 days of life, 51% were for jaundice.[87] In both the studies authored by Oddie et al and Martens et al mentioned above, respiratory infection was the most common diagnosis associated with readmission. Consequently, adjustments in the management of jaundice in BC afford the greatest potential for altering readmission rates. It is presumed that the majority of these infants are readmitted for phototherapy. Factors that may adversely affect readmission rates for phototherapy include high rates of early discharge, poor feeding/hydration practices, poor community support after discharge, ethnically determined decreased bilirubin conjugation, isolation and transportation issues. The latter two items may play a role in the high rate of readmission in the Northern Health Authority associated with a most responsible diagnosis of jaundice (57.5% of all newborn readmissions). Some places in the world offer the 'two edged sword' of home phototherapy for select patients instead of readmission.[88] Finally, it is emphasized that the high rate of readmission for jaundice related diagnoses occurs in all areas of BC and is highlighted as a topic deserving further research and quality assurance intervention.

The relatively high provincial rate of readmission for bronchiolitis (6.3% of all newborn readmissions) also warrants comment. Bronchiolitis is associated with infection by respiratory syncitial virus (RSV). Currently, a small number of selected newborns at a particularly high risk of RSV infection receive immunoprophylaxis. It is of interest to note that this BC immunoprophylaxis program (BC Provincial Guidelines for RSV Infection Prophylaxis, 2005-2006)[89] adjusts its eligibility criteria, in part, based on the results of a recent Canadian study of infants 33 to 35 weeks gestation that identified risk factors in addition to prematurity, lung and cyanotic heart disease for RSV infection.[90] These criteria are male gender, small for gestation, First Nation ethnicity, daycare attendance, daycare attendance by preschool sibling, five or more people in the home, and more than one smoker in the home.

In the majority of instances, readmission for all newborns is to the same hospital as that of postnatal discharge (Provincial average 74.5%). This has the advantage of providing opportunity for continuity of care, when appropriate. But selectively, we note regional variation. As mentioned above, most strikingly within Vancouver Coastal Health Authority, many readmissions are to another hospital other than the birth hospital. One might speculate that this is due to the proximity of BC Children's Hospital and the level III perinatal centre at BC Women's Hospital in Vancouver although that does not account for the differences between residents of the North Shore and Richmond (74.1% versus 62.1%). This finding, since it pertains to attitudes and patterns of patient movement, may be of more relevance to administrators than to clinicians.

In conclusion, this brief review of data from the BC Perinatal Database Registry on *Readmission of the Newborn to Hospital in the Neonatal Period* reveals interesting and unexpected findings and regional variations, as well as demonstrating some potential directions for further research.

# SECTION V

## APPENDICES AND REFERENCES

# APPENDIX 1 – DEFINITIONS AND NOTES ON INDICATORS

### *Age*
Age on date of event/age at last birth date preceding the event.

### *Antepartum*
Occurring before birth.

### *BC Unspecified (Place of Residence)*
The postal code is unknown but it is known that the person is a resident of BC.

### *Birth weight*
First weight of the fetus or newborn obtained after birth, expressed in grams. Low birth weight (LBW) – birth weight is less than 2,500 grams. Very low birth weight (VLBW) – birth weight is less than 1,500 grams. (Excludes newborns with weight between 0 to 300 grams).

### *Breastfeeding at Discharge*
Indicates the mother is breastfeeding the baby at discharge (includes expressed milk). If mom is breast and bottle-feeding (mixed feeding) at discharge it is reported as breastfeeding.

As of April 2004 discharges, breastfeeding definitions in the PDR have been updated to include the WHO/UNICEF recommendations. The current Annual Report does not include these definitions.

***Exclusive breastfeeding:***
No food or liquid other than breast milk, not even water, is given to the infant from birth by the mother, health care provider or family member/supporter with the exception of undiluted drops and syrups consisting of vitamin or mineral supplements or medicines (BCC adapted from WHO/UNICEF, 2004).

***Breast milk and Formula (Partial Breast milk):***
Infant receives both breast milk and supplementation (such as formula, water, glucose water) with the exception of undiluted drops and syrups consisting of vitamin or mineral supplements or medicines during the hospital period.

***No Breast milk:***
The infant/child receives no breast milk.

### *Care Provider for Delivery*
Person who provides the actual, hands-on care for the delivery of the baby. The categories are: OB/GYN – includes obstetricians (or fellow) and obstetrical residents; Family physician – includes general practitioners, and family practice residents; Midwife – includes registered midwife and midwife trainee; Nurse – includes nurses; Other/Unknown – includes surgeons, family members, ambulance attendants, medical student intern (MSI), if there was no one in attendance or if there was no documentation.

### *Count of cases*
The most basic measure is a simple count of cases or conditions of interest and is often expressed as a variable. Such figures are important for strategic planning in health care systems, especially in terms of resource allocation. Counts of cases provide an idea of the number of people who will require a specific treatment, intervention or service. The definition of a variable is any attribute, phenomenon or event that can have different values but is expressed as a single data element:
- Yes, no, not applicable
- A number, e.g. age

### *Caesarean Section (CS) (C/Section) Method of Delivery*
A delivery involving the surgical incision of the abdomen and uterine walls.

### *Electronic Fetal Monitoring (EFM)*
Mother received external or internal electronic fetal heart monitoring during 1st or 2nd stage of labour. May include patients with electronic fetal monitoring during latent phase of labour. Mothers that did not go into labour are classified as "Not Applicable".

As of April 2004 discharges, auscultation during 1st and/or 2nd stage of labour is included.

### *Episiotomy*
A surgical incision into the perineum and vagina at the time of birth. If it is unknown if mother received an episiotomy, this case would be included in the category "No".

### *Fertility Rate*
The number of live births occurring in a given time period divided by the number of women of child bearing age for residents of a geographic area. BC rates are per 1,000 women aged 15 to 44.

### *Frequency*
Number of events or cases in a category.

### *Health Authority (HA)/Health Service Delivery Areas (HSDA) – Delivery*
Refers to the Health Authority or Health Service Delivery Area in which the patient delivered. The BC Ministry of Health has defined six macro level administrative boundaries called health authorities, which govern the manner in which health care services are delivered within the province of BC. Health Authorities are further divided into 16 Health Service Delivery areas. HSDAs are micro level geographic boundaries. There may be more than one institution in a HA or HSDA.

## APPENDIX 1 – DEFINITIONS AND NOTES ON INDICATORS (CONT'D)

### *Health Authority (HA)/Health Service Delivery Areas (HSDA) – Residence*

Refers to the Health Authority or Health Service Delivery Area in which the patient resided at the time of delivery. Statistics relating to the client's residence are determined via the Translation Master File (TMF). The TMF file is a comprehensive demographic mapping file, which consists of valid BC postal codes and their associated Health Service Delivery Areas (HSDA) and Health Authorities (HA). The geographic area to which a postal code belongs seldom changes over time but in cases where the postal code has changed, appropriate amendments have been made to reflect that postal code's associated HSDA for that particular year.

### *Home Birth*

Birth that occurred at home and mother was not admitted to an inpatient facility within 24 hours of the birth. The primary care provider was a BC Registered Midwife.

### *Induction of Labour*

Patient who received instrumental or pharmacological assistance to promote labour, prior to the onset of first stage of labour. A patient may be induced by any of the following methods: Artificial Rupture of Membranes (ARM), Oxytocin, Prostaglandin or other methodology. A failed medical induction is classified as an induction. Induction is categorized as "unknown" if it is unknown how the patient's labour was initiated.

### *Intrapartum (IP)*

The period between the onset of the first stage of labour and the delivery of the placenta.

### *Late Termination*

The medical termination of a pregnancy beyond 20 weeks of gestation. Gestation is measured in weeks and estimated from the first day of the last normal menstrual period.

### *Live Birth*

The complete expulsion or extraction from the mother, irrespective of the duration of the pregnancy, of a fetus in which there is breathing, beating of the heart, pulsation of the umbilical cord or unmistakable movement of voluntary muscle, whether or not the umbilical cord has been cut or the placenta is attached.

### *Maternal Smoking*

There is documentation that the patient smoked during the current pregnancy. If a patient smoked at any time during pregnancy, even if she quit during the pregnancy, she is categorized as a smoker in the current pregnancy.

### *Multiple Birth*

Birth in which more than one infant is born, including live births and stillbirths.

### *Multiple Pregnancy*

A pregnancy with more than one fetus.

### *Non-resident*

The woman delivers in British Columbia but is not a resident of British Columbia. She may be from out of province or out of country.

### *Nullipara*

A woman who has never produced a viable offspring (500 grams birth weight or 20 weeks gestation) in a previous pregnancy.

### *Parity ≥ 1*

The condition of having carried a previous pregnancy to a point of viability (500 grams birth weight or 20 weeks gestation) regardless of outcome.

### *Postpartum LOS – Vaginal/Caesarean Section*

Length of hospital stay calculated from delivery date/time to discharge date/time of mother, stratified into vaginal and caesarean births. This category excludes those who delivered at home with a Registered Midwife in attendance.

### *Proportion*

A proportion is a measure of the number of persons having a specific condition or intervention at a designated time. It is defined as the number of existing cases divided by total population from which those arose. It is reported as a percent, for example, the percent of women giving birth in a specific health region, of all women in the region.

### *Rate*

"A rate is a measure of the frequency of occurrence of a phenomenon. In epidemiology, demography and vital statistics, a rate is an expression of the frequency with which an event occurs in a defined population; the use of rates rather than raw numbers is essential for comparison of experience between populations at different times, different places or among different classes of persons. The components of a rate are the numerator, the denominator, the specified time in which events occur and usually a multiplier, a power of 10, which converts the rate from an awkward fraction to a decimal or whole number". (A Dictionary of Epidemiology, 3rd Edition. John M. Last, Oxford University Press, 1995)

### *Early Neonatal Mortality Rate*

May be expressed mathematically as the formula:

= Number of deaths among infants less than 7 days during a given period x 1000
Total live births during that period

### *Infant Mortality Rate*

May be expressed mathematically as the formula:

= Number of deaths among infants under 1 year during a given period x 1000
Total live births during that period

### *Late Neonatal Mortality Rate*

May be expressed mathematically as the formula:

= Number of deaths among infants between 7-27 days during a given period x 1000
Total live births during that period

### *Neonatal Mortality Rate*

May be expressed mathematically as the formula:

= Number of deaths among infants less than 28 days during a given period x 1000
Total live births during that period

### *Neonatal Survival Rate*

May be expressed mathematically as the formula:

= Number of total live births - total neonatal deaths x 1000
Total live births during that period

### *Perinatal Mortality Rate*

May be expressed mathematically as the formula:

= Total stillbirths + total early neonatal deaths during a given period x 1000
Total births during that period

### *Post Neonatal Mortality Rate*

May be expressed mathematically as the formula:

= Number of deaths among infants between 28 days to 1 year during a given period x 1000
Total live births during that period

### *Stillbirth Rate*

May be expressed mathematically as the formula:

= Number of stillbirths during a given period x 1000
Total births during that period

### *Stillbirth*

The complete expulsion or extraction from the maternal body after at least 20 weeks of gestation or after attaining a weight of at least 500 grams of a fetus in which at birth, there is no breathing, beating heart, pulsation of the umbilical cord or unmistakable movement of voluntary muscle.

### *Total Births*

All live births and stillbirths in the province of British Columbia for the given year.

### *Vaginal Method of Delivery*

The complete separation of an infant from the maternal body via the vaginal canal.

# APPENDIX 2 – BRITISH COLUMBIA PERINATAL DATABASE INFORMATION RESOURCES

Multiple reports can be accessed and various methods can be used to obtain BCPDR data in order to conduct analysis on perinatal processes and outcomes in British Columbia:

- ***Hospital Reports*** – these are hospital-specific, pre-programmed reports, which can be run at all locations where the database is installed. Other participating sites, where the database is not installed, may obtain their specific hospital reports from the BCPDR central office.
- ***Ad hoc Reports*** – the database can be used to answer specific requests through user-defined queries. These queries can be developed and run at the hospital installation sites or at the BCPDR central office.
- ***BC Perinatal Facility Comparison Reports*** – these reports are created annually and allow the individual facility to compare and benchmark selected maternal and newborn events and outcomes with provincial and similar sized sites.
- ***Perinatal Database Reporting Tool*** - in 2002 the Perinatal Reporting Tool (PRT) was released by the BCRCP. The Perinatal Reporting Tool is an interactive CD, which has been designed to allow health care providers, administrators and data analysts access to summarized data sets extracted from the BC Perinatal Database Registry. The PRT can be used for analysis of population based and comparative reporting between institutions, Health Authorities and against provincial totals for some of the most common and/or important practices and health outcomes related to perinatal care. The PRT is updated yearly, the subsequent release featuring four years of data (1999/2000, 2000/2001, 2001/2002, 2002/2003). For further information, please call the BC Perinatal Database Registry office at (604-875-3753).
- ***Specific Requests for Data*** – clients, health care professionals, researchers etc., may request specific data via the BCPDR Information Request Form. See Appendix 7, page 70.

# APPENDIX 3 – HEALTH AUTHORITIES, HEALTH SERVICE DELIVERY AREAS AND INSTITUTIONS

| Health Authority | Health Service Delivery Area | Institution Name |
|---|---|---|
| Fraser | Fraser East | Chilliwack General Hospital<br>Fraser Canyon Hospital<br>Matsqui-Sumas-Abbotsford General Hospital<br>Mission Memorial Hospital |
| | Fraser North | Burnaby Hospital<br>Eagle Ridge Hospital & Health Care Centre<br>Ridge Meadows Hospital & Health Care Centre<br>Royal Columbian Hospital |
| | Fraser South | Delta Hospital<br>Langley Memorial Hospital<br>Peace Arch District Hospital<br>Surrey Memorial Hospital |
| Interior | East Kootenay | Creston Valley Hospital<br>East Kootenay Regional Hospital (Cranbrook)<br>Elk Valley Hospital (Fernie)<br>Golden and District General Hospital<br>Invermere and District Hospital<br>Kimberley and District Hospital<br>Sparwood Health Centre |
| | Kootenay Boundary | Arrow Lakes Hospital<br>Boundary Hospital<br>Castlegar and District Community Health Centre<br>Kootenay Boundary Regional Hospital (Trail)<br>Kootenay Lake District Hospital<br>Slocan Community Health Centre<br>Victorian Community Health Centre of Kaslo |
| | Okanagan | Enderby & District Memorial Hospital<br>Kelowna General Hospital<br>Penticton Regional Hospital<br>Princeton General Hospital<br>South Okanagan General Hospital<br>Summerland Health Centre<br>Vernon Jubilee Hospital |
| | Thompson Cariboo Shuswap | 100 Mile District General Hospital<br>Ashcroft and District General Hospital<br>Cariboo Memorial Hospital<br>Dr. Helmcken Memorial Hospital<br>Lillooet Hospital and Health Centre<br>Nicola Valley Health Centre<br>Queen Victoria Hospital<br>Royal Inland Hospital<br>Shuswap Lake General Hospital<br>St. Bartholomew's Hospital |

## APPENDIX 3 – HEALTH AUTHORITIES, HEALTH SERVICE DELIVERY AREAS AND INSTITUTIONS (CONT'D)

| Health Authority | Health Service Delivery Area | Institution Name |
|---|---|---|
| Northern Health | Northeast | Chetwynd General Hospital<br>Dawson Creek and District Hospital<br>Fort Nelson General Hospital<br>Fort St. John General Hospital |
| | Northern Interior | G.R. Baker Memorial Hospital<br>Lakes District Hospital and Health Centre<br>MacKenzie and District Hospital<br>McBride and District Hospital<br>Prince George Regional Hospital<br>St. John Hospital<br>Stuart Lake Hospital |
| | Northwest | Bulkley Valley District Hospital<br>Kitimat General Hospital<br>Mills Memorial Hospital<br>Prince Rupert Regional Hospital<br>Queen Charlotte Islands General Hospital (Queen Charlotte City)<br>Stewart General Hospital<br>Wrinch Memorial Hospital |
| Vancouver Coastal | North Shore/Coast Garibaldi | Bella Coola General Hospital<br>Lions Gate Hospital<br>Powell River General Hospital<br>R.W. Large Memorial Hospital<br>Squamish General Hospital<br>St. Mary's Hospital (Sechelt) |
| | Richmond | The Richmond Hospital |
| | Vancouver | Mount Saint Joseph Hospital<br>St. Paul's Hospital<br>Vancouver General Hospital |
| Vancouver Island | Central Vancouver Island | Cowichan District Hospital<br>Ladysmith and District General Hospital<br>Nanaimo Regional General Hospital<br>Tofino General Hospital<br>West Coast General Hospital |
| | North Vancouver Island | Campbell River and District General Hospital<br>Port Alice Hospital<br>Port Hardy Hospital<br>Port McNeill and District Hospital<br>Cormorant Island Community Health Centre<br>St. Joseph's General Hospital |
| | South Vancouver Island | The Lady Minto Gulf Islands Hospital<br>Saanich Peninsula Hospital<br>Victoria General Hospital |
| PHSA | Provincial Health Services Authority | BC Women's Hospital |

# APPENDIX 4

## Total Fertility Rates, British Columbia, 1950 to 2004

| Year | Total Fertility Rate | Live Births |
|---|---|---|
| 1950 | 3,074 | 27,116 |
| 1951 | 3,201 | 28,077 |
| 1952 | 3,327 | 29,827 |
| 1953 | 3,542 | 31,746 |
| 1954 | 3,656 | 32,946 |
| 1955 | 3,748 | 34,138 |
| 1956 | 3,875 | 36,241 |
| 1957 | 3,921 | 38,744 |
| 1958 | 3,900 | 39,577 |
| 1959 | 3,958 | 39,971 |
| 1960 | 3,949 | 40,116 |
| 1961 | 3,785 | 38,591 |
| 1962 | 3,709 | 38,128 |
| 1963 | 3,564 | 37,478 |
| 1964 | 3,284 | 35,897 |
| 1965 | 2,710 | 33,669 |
| 1966 | 2,442 | 32,502 |
| 1967 | 2,307 | 32,899 |
| 1968 | 2,228 | 33,687 |
| 1969 | 2,223 | 35,383 |
| 1970 | 2,185 | 36,861 |
| 1971 | 1,994 | 34,852 |
| 1972 | 1,890 | 34,563 |
| 1973 | 1,751 | 34,352 |
| 1974 | 1,735 | 35,450 |
| 1975 | 1,682 | 36,281 |
| 1976 | 1,618 | 35,848 |
| 1977 | 1,636 | 36,691 |
| 1978 | 1,620 | 37,231 |
| 1979 | 1,721 | 38,432 |

| Year | Total Fertility Rate | Live Births |
|---|---|---|
| 1980 | 1,716 | 40,104 |
| 1981 | 1,718 | 41,679 |
| 1982 | 1,749 | 42,942 |
| 1983 | 1,751 | 43,047 |
| 1984 | 1,781 | 44,040 |
| 1985 | 1,642 | 42,989 |
| 1986 | 1,608 | 41,713 |
| 1987 | 1,608 | 41,609 |
| 1988 | 1,646 | 42,852 |
| 1989 | 1,651 | 43,589 |
| 1990 | 1,689 | 45,341 |
| 1991 | 1,673 | 45,339 |
| 1992 | 1,670 | 46,023 |
| 1993 | 1,639 | 45,953 |
| 1994 | 1,641 | 46,828 |
| 1995 | 1,608 | 46,690 |
| 1996 | 1,544 | 45,952 |
| 1997 | 1,480 | 44,393 |
| 1998 | 1,446 | 42,862 |
| 1999 | 1,421 | 41,746 |
| 2000 | 1,388 | 40,483 |
| 2001 | 1,386 | 40,391 |
| 2002 | 1,369 | 39,897 |
| 2003 | 1,386 | 40,287 |
| 2004 | 1,384 | 40,318 |

**Source:** BC Vital Statistics Agency
**Note:** Total Fertility Rate – Sum of age-specific fertility rates multiplied by the number of years in each age group (see glossary for definition).
Rates per 1,000 women age 15 to 44.
Non-residents are excluded

## APPENDIX 4 (CONT'D)

# Live Births, Deaths, Marriages, and Stillbirths – British Columbia, 1950 to 2004

| Year | Mid-Year Population | Live Births | | Deaths | | Marriages | | Stillbirths | |
|---|---|---|---|---|---|---|---|---|---|
| | | Number | Rate | Number | Rate | Number | Rate | Number | Rate |
| 1950 | 1,137,000 | 27,116 | 23.85 | 11,581 | 10.19 | 11,110 | 9.77 | 369 | 13.43 |
| 1951 | 1,165,210 | 28,077 | 24.10 | 11,638 | 9.99 | 11,272 | 9.67 | 365 | 12.83 |
| 1952 | 1,205,000 | 29,827 | 24.75 | 12,080 | 10.02 | 11,081 | 9.20 | 375 | 12.42 |
| 1953 | 1,248,000 | 31,746 | 25.44 | 12,218 | 9.79 | 11,298 | 9.05 | 375 | 11.67 |
| 1954 | 1,295,000 | 32,946 | 25.44 | 12,414 | 9.59 | 10,991 | 8.49 | 373 | 11.19 |
| 1955 | 1,342,000 | 34,138 | 25.44 | 12,816 | 9.55 | 11,011 | 8.20 | 381 | 11.04 |
| 1956 | 1,398,464 | 36,241 | 25.91 | 13,415 | 9.59 | 11,950 | 8.55 | 413 | 11.27 |
| 1957 | 1,482,000 | 38,744 | 26.14 | 13,711 | 9.25 | 12,620 | 8.52 | 422 | 10.77 |
| 1958 | 1,538,000 | 39,577 | 25.73 | 13,741 | 8.93 | 12,094 | 7.86 | 414 | 10.35 |
| 1959 | 1,567,000 | 39,971 | 25.51 | 14,336 | 9.15 | 11,910 | 7.60 | 404 | 10.01 |
| 1960 | 1,602,000 | 40,116 | 25.04 | 14,696 | 9.17 | 11,203 | 6.99 | 437 | 10.78 |
| 1961 | 1,629,100 | 38,591 | 23.69 | 14,403 | 8.84 | 10,935 | 6.71 | 410 | 10.51 |
| 1962 | 1,660,000 | 38,128 | 22.97 | 14,912 | 8.98 | 11,196 | 6.74 | 377 | 9.79 |
| 1963 | 1,699,000 | 37,478 | 22.06 | 15,029 | 8.85 | 11,677 | 6.87 | 476 | 12.54 |
| 1964 | 1,745,000 | 35,897 | 20.57 | 16,051 | 9.20 | 12,158 | 6.97 | 485 | 13.33 |
| 1965 | 1,797,000 | 33,669 | 18.74 | 15,784 | 8.78 | 13,639 | 7.59 | 447 | 13.10 |
| 1966 | 1,873,674 | 32,502 | 17.35 | 16,290 | 8.69 | 14,682 | 7.84 | 409 | 12.43 |
| 1967 | 1,945,000 | 32,899 | 16.91 | 16,170 | 8.31 | 16,026 | 8.24 | 422 | 12.66 |
| 1968 | 2,003,000 | 33,687 | 16.82 | 16,828 | 8.40 | 16,914 | 8.44 | 433 | 12.69 |
| 1969 | 2,060,000 | 35,383 | 17.18 | 17,377 | 8.44 | 18,284 | 8.88 | 468 | 13.05 |
| 1970 | 2,128,000 | 36,861 | 17.32 | 17,020 | 8.00 | 20,020 | 9.41 | 407 | 10.92 |
| 1971 | 2,184,620 | 34,852 | 15.95 | 17,783 | 8.14 | 20,389 | 9.33 | 442 | 12.52 |
| 1972 | 2,241,400 | 34,563 | 15.42 | 18,021 | 8.04 | 20,659 | 9.22 | 356 | 10.20 |
| 1973 | 2,302,400 | 34,352 | 14.92 | 18,095 | 7.86 | 21,303 | 9.25 | 339 | 9.77 |
| 1974 | 2,375,700 | 35,450 | 14.92 | 19,177 | 8.07 | 21,734 | 9.15 | 364 | 10.16 |
| 1975 | 2,433,200 | 36,281 | 14.91 | 19,151 | 7.87 | 21,824 | 8.97 | 414 | 11.28 |
| 1976 | 2,466,610 | 35,848 | 14.53 | 18,788 | 7.62 | 21,536 | 8.73 | 361 | 9.97 |
| 1977 | 2,493,800 | 36,691 | 14.71 | 18,021 | 7.23 | 21,156 | 8.48 | 330 | 8.91 |
| 1978 | 2,530,100 | 37,231 | 14.72 | 19,057 | 7.53 | 21,388 | 8.45 | 331 | 8.81 |
| 1979 | 2,571,200 | 38,432 | 14.95 | 19,204 | 7.47 | 22,087 | 8.59 | 313 | 8.08 |
| 1980 | 2,640,100 | 40,104 | 15.19 | 19,371 | 7.34 | 23,830 | 9.03 | 316 | 7.82 |
| 1981 | 2,744,470 | 41,679 | 15.19 | 19,857 | 7.24 | 24,694 | 9.00 | 371 | 8.82 |
| 1982 | 2,787,700 | 42,942 | 15.40 | 20,704 | 7.43 | 23,831 | 8.55 | 317 | 7.33 |
| 1983 | 2,813,800 | 43,047 | 15.30 | 19,895 | 7.07 | 23,692 | 8.42 | 310 | 7.15 |
| 1984 | 2,847,700 | 44,040 | 15.47 | 20,781 | 7.30 | 23,394 | 8.22 | 303 | 6.83 |
| 1985 | 2,990,000 | 42,989 | 14.38 | 21,131 | 7.07 | 22,270 | 7.45 | 333 | 7.69 |
| 1986 | 3,003,601 | 41,713 | 13.89 | 21,007 | 6.99 | 21,843 | 7.27 | 308 | 7.33 |
| 1987 | 3,049,618 | 41,609 | 13.64 | 21,619 | 7.09 | 23,417 | 7.68 | 291 | 6.95 |
| 1988 | 3,114,765 | 42,852 | 13.76 | 22,357 | 7.18 | 24,514 | 7.87 | 295 | 6.84 |
| 1989 | 3,197,222 | 43,589 | 13.63 | 22,786 | 7.13 | 25,177 | 7.87 | 324 | 7.38 |
| 1990 | 3,290,814 | 45,341 | 13.78 | 23,415 | 7.12 | 25,226 | 7.67 | 298 | 6.53 |
| 1991 | 3,373,464 | 45,339 | 13.44 | 23,819 | 7.06 | 23,665 | 7.02 | 298 | 6.53 |
| 1992 | 3,468,445 | 46,023 | 13.27 | 24,463 | 7.05 | 23,762 | 6.85 | 297 | 6.41 |
| 1993 | 3,567,406 | 45,953 | 12.88 | 25,602 | 7.18 | 23,478 | 6.58 | 292 | 6.31 |
| 1994 | 3,675,699 | 46,828 | 12.74 | 25,830 | 7.03 | 23,772 | 6.47 | 311 | 6.60 |
| 1995 | 3,777,004 | 46,690 | 12.36 | 26,224 | 6.94 | 23,632 | 6.26 | 350 | 7.44 |
| 1996 | 3,874,276 | 45,952 | 11.86 | 27,390 | 7.07 | 22,882 | 5.91 | 292 | 6.31 |
| 1997 | 3,948,544 | 44,393 | 11.24 | 27,258 | 6.90 | 21,883 | 5.54 | 335 | 7.49 |
| 1998 | 3,983,077 | 42,862 | 10.76 | 27,806 | 6.98 | 21,778 | 5.47 | 278 | 6.44 |
| 1999 | 4,011,342 | 41,746 | 10.41 | 27,864 | 6.95 | 21,628 | 5.39 | 312 | 7.42 |
| 2000 | 4,039,198 | 40,483 | 10.02 | 27,314 | 6.76 | 22,099 | 5.47 | 309 | 7.58 |
| 2001 | 4,078,447 | 40,391 | 9.90 | 28,232 | 6.92 | 20,571 | 5.04 | 286 | 7.03 |
| 2002 | 4,115,413 | 39,897 | 9.69 | 28,709 | 6.98 | 21,261 | 5.17 | 310 | 7.71 |
| 2003 | 4,152,289 | 40,287 | 9.70 | 29,138 | 7.02 | 21,978 | 5.29 | 306 | 7.54 |
| 2004 | 4,196,383 | 40,318 | 9.61 | 29,652 | 7.07 | 22,073 | 5.26 | 280 | 6.90 |

**Source:** BC Vital Statitics Agency

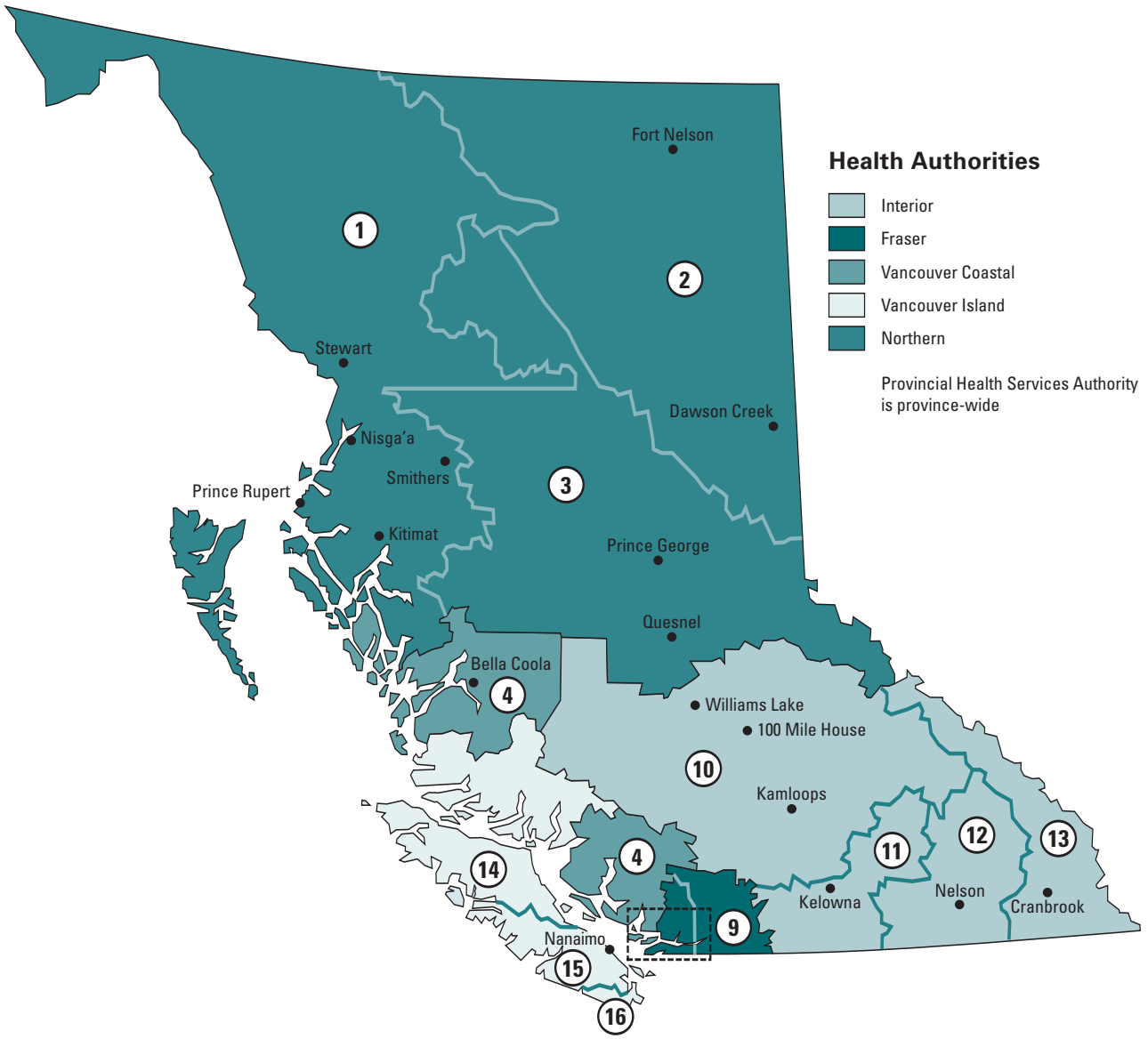
**Note:** Rates shown for live births, deaths and marriages are crude rates per 1,000 population.
Stillbirth rate is per 1,000 total births (live births plus stillbirths).
The definition of a stillbirth was revised in 1963 and 1986 (see glossary).
Population information from BC STATS, Ministry of Management Services.
Above information includes late registrations and amendments.
Gender unknown included. Non-residents are excluded from all data except marriages.

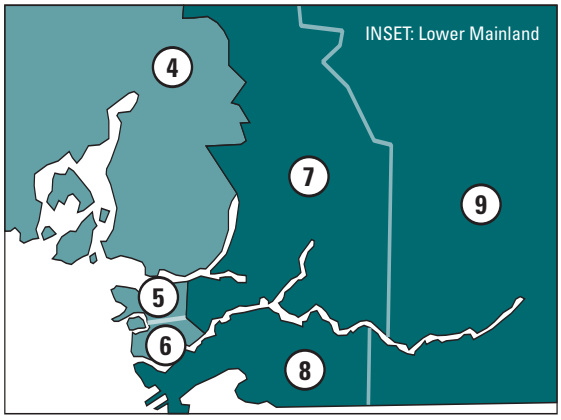
# Infant Mortality – British Columbia and Canada, 1965 to 2004

| | British Columbia | | | | | | | | | Canada |
|---|---|---|---|---|---|---|---|---|---|---|
| | Age at Death (in Days) | | | | | | | Total | | |
| | 0-6 Days | | 0-27 Days | | 28-364 Days | | | | | |
| Year | Number | Rate | Number | Rate | Number | Rate | N.S. | Number | Rate | Rate |
| 1965 | 415 | 12.33 | 453 | 13.45 | 227 | 6.74 | 3 | 683 | 20.29 | 24.0 |
| 1966 | 435 | 13.38 | 494 | 15.20 | 263 | 8.09 | 4 | 761 | 23.41 | 23.1 |
| 1967 | 429 | 13.04 | 470 | 14.29 | 218 | 6.63 | 1 | 689 | 20.94 | 22.0 |
| 1968 | 375 | 11.13 | 438 | 13.00 | 214 | 6.35 | 4 | 656 | 19.47 | 21.0 |
| 1969 | 329 | 9.30 | 374 | 10.57 | 199 | 5.62 | – | 573 | 16.19 | 19.0 |
| 1970 | 369 | 10.01 | 416 | 11.29 | 193 | 5.24 | 2 | 611 | 16.58 | 19.0 |
| 1971 | 409 | 11.74 | 450 | 12.91 | 185 | 5.31 | – | 635 | 18.22 | 17.5 |
| 1972 | 322 | 9.32 | 373 | 10.79 | 195 | 5.64 | 1 | 569 | 16.46 | 17.0 |
| 1973 | 317 | 9.23 | 363 | 10.57 | 185 | 5.39 | 3 | 551 | 16.04 | 16.0 |
| 1974 | 310 | 8.74 | 348 | 9.82 | 196 | 5.53 | 2 | 546 | 15.40 | 15.0 |
| 1975 | 278 | 7.66 | 321 | 8.85 | 169 | 4.66 | 1 | 491 | 13.53 | 14.3 |
| 1976 | 292 | 8.15 | 324 | 9.04 | 152 | 4.24 | 2 | 478 | 13.33 | 13.5 |
| 1977 | 246 | 6.70 | 276 | 7.52 | 200 | 5.45 | – | 476 | 12.97 | 12.4 |
| 1978 | 245 | 6.58 | 286 | 7.68 | 178 | 4.78 | – | 464 | 12.46 | 12.0 |
| 1979 | 196 | 5.10 | 239 | 6.22 | 167 | 4.35 | – | 406 | 10.56 | 10.9 |
| 1980 | 188 | 4.69 | 235 | 5.86 | 186 | 4.64 | – | 421 | 10.50 | 10.4 |
| 1981 | 232 | 5.57 | 259 | 6.21 | 140 | 3.36 | 3 | 402 | 9.65 | 9.6 |
| 1982 | 217 | 5.05 | 251 | 5.85 | 150 | 3.49 | – | 401 | 9.34 | 9.1 |
| 1983 | 193 | 4.48 | 212 | 4.92 | 145 | 3.37 | 2 | 359 | 8.34 | 8.5 |
| 1984 | 184 | 4.18 | 205 | 4.65 | 150 | 3.41 | 1 | 356 | 8.08 | 8.1 |
| 1985 | 180 | 4.19 | 198 | 4.61 | 133 | 3.09 | – | 331 | 7.70 | 8.0 |
| 1986 | 164 | 3.93 | 195 | 4.67 | 147 | 3.52 | – | 342 | 8.20 | 7.9 |
| 1987 | 159 | 3.82 | 195 | 4.69 | 160 | 3.85 | – | 355 | 8.53 | 7.3 |
| 1988 | 191 | 4.46 | 220 | 5.13 | 136 | 3.17 | – | 356 | 8.31 | 7.2 |
| 1989 | 186 | 4.27 | 215 | 4.93 | 138 | 3.17 | – | 353 | 8.10 | 7.3 |
| 1990 | 183 | 4.04 | 221 | 4.87 | 112 | 2.47 | – | 333 | 7.34 | 6.8 |
| 1991 | 140 | 3.09 | 164 | 3.62 | 126 | 2.78 | – | 290 | 6.40 | 6.4 |
| 1992 | 153 | 3.32 | 173 | 3.76 | 104 | 2.26 | – | 277 | 6.02 | 6.1 |
| 1993 | 121 | 2.63 | 139 | 3.02 | 110 | 2.39 | – | 249 | 5.42 | 6.3 |
| 1994 | 175 | 3.74 | 198 | 4.23 | 90 | 1.92 | – | 288 | 6.15 | 6.3 |
| 1995 | 158 | 3.38 | 181 | 3.88 | 94 | 2.01 | – | 275 | 5.89 | 6.1 |
| 1996 | 133 | 2.89 | 160 | 3.48 | 68 | 1.48 | – | 228 | 4.96 | 5.6 |
| 1997 | 125 | 2.82 | 146 | 3.29 | 56 | 1.26 | – | 202 | 4.55 | 5.5 |
| 1998 | 94 | 2.19 | 114 | 2.66 | 60 | 1.40 | – | 174 | 4.06 | 5.3 |
| 1999 | 87 | 2.08 | 108 | 2.59 | 51 | 1.22 | – | 159 | 3.81 | 5.3 |
| 2000 | 84 | 2.07 | 105 | 2.59 | 45 | 1.11 | – | 150 | 3.71 | 5.3 |
| 2001 | 103 | 2.55 | 126 | 3.12 | 36 | 0.89 | – | 162 | 4.01 | 5.2 |
| 2002 | 98 | 2.46 | 125 | 3.13 | 54 | 1.35 | – | 179 | 4.49 | 5.4 |
| 2003 | 103 | 2.56 | 119 | 2.95 | 47 | 1.17 | – | 166 | 4.12 | * |
| 2004 | 108 | 2.68 | 122 | 3.03 | 46 | 1.14 | – | 168 | 4.17 | * |

**Source:** BC Vital Statistics Agency
**Note:** Rates per 1,000 live births in the specified year.
N.S. – Not stated. Above information includes late registrations and amendments.
Canadian rates from Statistics Canada. *Rates were not available. Non-residents are excluded.

# APPENDIX 5 – HEALTH AUTHORITIES AND HEALTH SERVICE DELIVERY AREAS




**Based on a map prepared by:** BC STATS, June 2003

## Health Service Delivery Areas

1. Northwest
2. Northeast
3. Northern Interior
4. North Shore/Coast Garibaldi
5. Vancouver
6. Richmond
7. Fraser North
8. Fraser South
9. Fraser East
10. Thompson Cariboo Shuswap
11. Okanagan
12. Kootenay Boundary
13. East Kootenay
14. North Vancouver Island
15. Central Vancouver Island
16. South Vancouver Island

*Note: Nisga'a is a separate governance health board.*

# APPENDIX 6 – OTHER RELEVANT SOURCES OF INFORMATION

Below is a list of sources and web sites where other relevant information on perinatal health information and statistics at the provincial, national and international level can be located.

### *Provincial*

Alberta Perinatal Health Program:
*http://www.aphp.ca/*

BC Ministry of Health:
*www.gov.bc.ca*

BC Vital Statistics Agency:
*http://www.vs.gov.bc.ca/stats*

Niday Perinatal Database (Eastern Ontario):
*http://www.pppeso.on.ca/*

Office of the Provincial Health Officer:
*http://www.healthservices.gov.bc.ca/pho/*

PEI Reproductive Care Perinatal Database Report
*InfoPEI: PEI Reproductive Care Program*

PURRFECT 10.1 (Population Utilization Rates and Referrals For Easy Comparative Tables), BC Ministry of Health

Reproductive Care Program of Nova Scotia:
*http://rcp.nshealth.ca/rcp_3029.html*

The Northern & Central Alberta Perinatal Outreach Program:
*http://www.aphp.ca/*

### *National*

Breastfeeding Committee of Canada:
*http://www.breastfeedingcanada.ca/*

Canadian Institute for Health Information:
*http://www.cihi.ca/*

Canadian Institute of Child Health:
*http://www.cich.ca*

Canadian Paediatric Society:
*http://www.cps.ca/english/*

Canadian Perinatal Surveillance System:
*http://www.phac-aspc.gc.ca/rhs-ssg/*

Canadian Public Health Association:
*http://www.cpha.ca/*

Canadian Women's Health Network:
*http://www.cwhn.ca*

Health Canada:
*http://www.hc-sc.gc.ca/*

Public Health Agency of Canada:
*http://www.phac-aspc.gc.ca/new_e.html*

Statistics Canada:
*http://www.statcan.gc.ca/*

The Society of Obstetricians and Gynaecologists of Canada:
*http://sogc.medical.org/index_e.asp*

Vital Statistics (Can):
*http://www.statcan.ca/*

### *International*

American Academy of Pediatrics:
*http://www.aap.org/*

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN):
*http://www.awhonn.org/*

Medline Plus – Health Information:
*http://www.medlineplus.gov/*

National Institute of Child Health & Human Development (US):
*http://www.nichd.nih.gov/*

National Perinatal Association (US):
*http://www.nationalperinatal.org/*

National Perinatal Epidemiology Unit (NPEU):
*http://www.npeu.ox.ac.uk*

The Academy of Breastfeeding Medicine:
*http://www.bfmed.org/*

The Cochrane Library:
*http://www.nelh.nhs.uk/cochrane.asp*

Vermont Oxford Network:
*http://www.vtoxford.org*

World Health Organization (WHO):
*http://www.who.int*

# APPENDIX 7 – BRITISH COLUMBIA PERINATAL DATABASE REGISTRY INFORMATION REQUEST FORM

**Fields marked with * are required**

## Requester Information Request#:

* **Name:**
* **Profession:** --- Please Select ---
* **Health Authority:** --- Please Select ---
**Organization:**
**Address:**
* **Telephone #:** - - **Local** **Fax #:** - -
* **Email Address:**

## Data Request

* **Purpose: (Briefly describle the purpose for which the data is being requested. How will this information be used?)**

* **Data: (Describe the data requirements. Include fields, selection requirements, exclusion criteria as required. A list of data fields is available at the BCRCP website)**

* **Time Period:** **From:** Day - Month - Year **To:** Day - Month - Year
* **Frequency of data request:**
**One time Only** **Annually** **Other**
* **Date required by:** Day - Month - Year
* **Format of output:** -- Please Select --
**Special Instructions:**

Submit Clear All Cancel

For further information, call the BCPDR office at (604) 875-3753.

DATA TABLE 4A

## Care Provider Present at Delivery by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | | | 2001/2002 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Obstetrician | | Family Physician | | Midwife | | Nurse | | Obstetrician | | Family Physician | | Midwife | | Nurse | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 696 | 28.7 | 1585 | 65.3 | 24 | 1.0 | 114 | 4.7 | 747 | 29.7 | 1620 | 64.5 | 26 | 1.0 | 113 | 4.5 |
| | FN | 2098 | 41.5 | 2547 | 50.4 | 85 | 1.7 | 176 | 3.5 | 2211 | 44.0 | 2481 | 49.4 | 131 | 2.6 | 108 | 2.2 |
| | FS | 3344 | 62.1 | 1475 | 27.4 | 77 | 1.4 | 472 | 8.8 | 3600 | 65.7 | 1391 | 25.4 | 86 | 1.6 | 379 | 6.9 |
| **Total** | | **6138** | **47.7** | **5607** | **43.6** | **186** | **1.4** | **762** | **5.9** | **6558** | **50.4** | **5492** | **42.2** | **243** | **1.9** | **600** | **4.6** |
| **IHA** | EK | 110 | 17.8 | 458 | 74.0 | 0 | 0.0 | 25 | 4.0 | 91 | 16.0 | 405 | 71.1 | 11 | 1.9 | 30 | 5.3 |
| | KB | 148 | 27.6 | 333 | 62.0 | 27 | 5.0 | 14 | 2.6 | 158 | 30.0 | 323 | 61.4 | 29 | 5.5 | 12 | 2.3 |
| | OK | 951 | 36.7 | 1521 | 58.6 | 20 | 0.8 | 87 | 3.4 | 985 | 38.9 | 1455 | 57.4 | 15 | 0.6 | 74 | 2.9 |
| | TCS | 510 | 28.3 | 1147 | 63.6 | 0 | 0.0 | 92 | 5.1 | 498 | 27.4 | 1214 | 66.9 | 0 | 0.0 | 36 | 2.0 |
| **Total** | | **1719** | **31.0** | **3459** | **62.3** | **47** | **0.8** | **218** | **3.9** | **1732** | **31.8** | **3397** | **62.4** | **55** | **1.0** | **152** | **2.8** |
| **NHA** | NE | 180 | 21.8 | 622 | 75.4 | 0 | 0.0 | 19 | 2.3 | 139 | 16.2 | 688 | 80.2 | 0 | 0.0 | 25 | 2.9 |
| | NI | 382 | 24.3 | 1040 | 66.1 | 13 | 0.8 | 103 | 6.5 | 398 | 26.2 | 996 | 65.6 | 19 | 1.3 | 72 | 4.7 |
| | NW | 230 | 23.4 | 704 | 71.8 | 1 | 0.1 | 33 | 3.4 | 232 | 24.7 | 663 | 70.5 | 0 | 0.0 | 37 | 3.9 |
| **Total** | | **792** | **23.4** | **2366** | **70.0** | **14** | **0.4** | **155** | **4.6** | **769** | **23.2** | **2347** | **70.8** | **19** | **0.6** | **134** | **4.0** |
| **VCHA** | NSCG | 657 | 32.5 | 1183 | 58.6 | 48 | 2.4 | 79 | 3.9 | 649 | 35.4 | 1020 | 55.7 | 57 | 3.1 | 64 | 3.5 |
| | RICH | 708 | 50.5 | 651 | 46.5 | 0 | 0.0 | 39 | 2.8 | 798 | 55.3 | 589 | 40.8 | 1 | 0.1 | 51 | 3.5 |
| | VANC | 1230 | 73.8 | 329 | 19.7 | 63 | 3.8 | 24 | 1.4 | 1198 | 69.2 | 434 | 25.1 | 79 | 4.6 | 15 | 0.9 |
| **Total** | | **2595** | **51.0** | **2163** | **42.5** | **111** | **2.2** | **142** | **2.8** | **2645** | **52.8** | **2043** | **40.8** | **137** | **2.7** | **130** | **2.6** |
| **VIHA** | CVI | 858 | 50.2 | 759 | 44.4 | 37 | 2.2 | 47 | 2.8 | 1021 | 56.8 | 676 | 37.6 | 38 | 2.1 | 56 | 3.1 |
| | NVI | 417 | 43.4 | 478 | 49.8 | 56 | 5.8 | 7 | 0.7 | 459 | 47.9 | 408 | 42.5 | 77 | 8.0 | 12 | 1.3 |
| | SVI | 890 | 32.8 | 1625 | 59.8 | 149 | 5.5 | 41 | 1.5 | 956 | 34.6 | 1533 | 55.5 | 215 | 7.8 | 50 | 1.8 |
| **Total** | | **2165** | **40.2** | **2862** | **53.1** | **242** | **4.5** | **95** | **1.8** | **2436** | **44.2** | **2617** | **47.4** | **330** | **6.0** | **118** | **2.1** |
| **PHSA*** | | **4818** | **71.1** | **1650** | **24.4** | **95** | **1.4** | **140** | **2.1** | **4640** | **71.2** | **1612** | **24.7** | **103** | **1.6** | **116** | **1.8** |
| **HB** | | **0** | **0.0** | **0** | **0.0** | **366** | **98.9** | **1** | **0.3** | **0** | **0.0** | **0** | **0.0** | **467** | **98.9** | **0** | **0.0** |
| **Province** | | **18227** | **46.2** | **18107** | **45.9** | **1061** | **2.7** | **1513** | **3.8** | **18780** | **47.8** | **17508** | **44.6** | **1354** | **3.4** | **1250** | **3.2** |

| | | 2002/2003 | | | | | | | | 2003/2004 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Obstetrician | | Family Physician | | Midwife | | Nurse | | Obstetrician | | Family Physician | | Midwife | | Nurse | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 809 | 31.3 | 1595 | 61.7 | 32 | 1.2 | 136 | 5.3 | 881 | 33.5 | 1575 | 60.0 | 57 | 2.2 | 107 | 4.1 |
| | FN | 2260 | 46.6 | 2286 | 47.2 | 134 | 2.8 | 144 | 3.0 | 2293 | 48.5 | 2137 | 45.2 | 136 | 2.9 | 148 | 3.1 |
| | FS | 3631 | 64.3 | 1556 | 27.6 | 88 | 1.6 | 359 | 6.4 | 3771 | 66.5 | 1453 | 25.6 | 94 | 1.7 | 337 | 5.9 |
| **Total** | | **6700** | **51.2** | **5437** | **41.6** | **254** | **1.9** | **639** | **4.9** | **6945** | **53.3** | **5165** | **39.7** | **287** | **2.2** | **592** | **4.5** |
| **IHA** | EK | 95 | 15.5 | 445 | 72.5 | 14 | 2.3 | 31 | 5.0 | 135 | 22.7 | 385 | 64.6 | 33 | 5.5 | 11 | 1.8 |
| | KB | 190 | 36.9 | 277 | 53.8 | 35 | 6.8 | 11 | 2.1 | 110 | 22.7 | 331 | 68.2 | 37 | 7.6 | 4 | 0.8 |
| | OK | 947 | 39.6 | 1353 | 56.5 | 26 | 1.1 | 64 | 2.7 | 1007 | 41.8 | 1308 | 54.3 | 46 | 1.9 | 44 | 1.8 |
| | TCS | 471 | 27.0 | 1155 | 66.3 | 0 | 0.0 | 45 | 2.6 | 609 | 34.1 | 1046 | 58.6 | 2 | 0.1 | 70 | 3.9 |
| **Total** | | **1703** | **32.3** | **3230** | **61.3** | **75** | **1.4** | **151** | **2.9** | **1861** | **35.3** | **3070** | **58.2** | **118** | **2.2** | **129** | **2.4** |
| **NHA** | NE | 173 | 19.4 | 699 | 78.5 | 0 | 0.0 | 16 | 1.8 | 91 | 10.6 | 726 | 84.2 | 0 | 0.0 | 39 | 4.5 |
| | NI | 362 | 25.0 | 989 | 68.3 | 32 | 2.2 | 56 | 3.9 | 383 | 26.1 | 966 | 65.8 | 39 | 2.7 | 71 | 4.8 |
| | NW | 287 | 30.5 | 618 | 65.7 | 0 | 0.0 | 33 | 3.5 | 269 | 30.0 | 590 | 65.8 | 0 | 0.0 | 30 | 3.3 |
| **Total** | | **822** | **25.1** | **2306** | **70.3** | **32** | **1.0** | **105** | **3.2** | **743** | **23.0** | **2282** | **70.7** | **39** | **1.2** | **140** | **4.3** |
| **VCHA** | NSCG | 658 | 34.3 | 1096 | 57.1 | 57 | 3.0 | 70 | 3.6 | 664 | 34.7 | 1042 | 54.5 | 102 | 5.3 | 54 | 2.8 |
| | RICH | 696 | 51.8 | 588 | 43.8 | 1 | 0.1 | 54 | 4.0 | 655 | 56.9 | 453 | 39.3 | 0 | 0.0 | 40 | 3.5 |
| | VANC | 1179 | 71.0 | 381 | 23.0 | 73 | 4.4 | 22 | 1.3 | 1235 | 72.9 | 337 | 19.9 | 109 | 6.4 | 7 | 0.4 |
| **Total** | | **2533** | **51.5** | **2065** | **41.9** | **131** | **2.7** | **146** | **3.0** | **2554** | **53.7** | **1832** | **38.5** | **211** | **4.4** | **101** | **2.1** |
| **VIHA** | CVI | 946 | 55.4 | 652 | 38.2 | 61 | 3.6 | 41 | 2.4 | 1029 | 58.9 | 592 | 33.9 | 64 | 3.7 | 55 | 3.1 |
| | NVI | 424 | 45.5 | 395 | 42.4 | 94 | 10.1 | 17 | 1.8 | 458 | 51.5 | 320 | 36.0 | 94 | 10.6 | 12 | 1.3 |
| | SVI | 1025 | 37.8 | 1460 | 53.8 | 178 | 6.6 | 45 | 1.7 | 1049 | 37.2 | 1480 | 52.5 | 232 | 8.2 | 47 | 1.7 |
| **Total** | | **2395** | **44.7** | **2507** | **46.8** | **333** | **6.2** | **103** | **1.9** | **2536** | **46.5** | **2392** | **43.9** | **390** | **7.2** | **114** | **2.1** |
| **PHSA*** | | **4710** | **69.7** | **1798** | **26.6** | **130** | **1.9** | **81** | **1.2** | **4943** | **71.2** | **1738** | **25.0** | **150** | **2.2** | **75** | **1.1** |
| **HB** | | **0** | **0.0** | **0** | **0.0** | **490** | **99.2** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **507** | **99.0** | **0** | **0.0** |
| **Province** | | **18863** | **48.2** | **17343** | **44.3** | **1445** | **3.7** | **1225** | **3.1** | **19582** | **50.0** | **16479** | **42.0** | **1702** | **4.3** | **1151** | **2.9** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

DATA TABLE 5A

## Teen Births by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | 2001/2002 | | | | | | 2002/2003 | | | | | | 2003/2004 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | <= 17 | | 18-19 | | Total Teen Mothers | | <= 17 | | 18-19 | | Total Teen Mothers | | <= 17 | | 18-19 | | Total Teen Mothers | | <= 17 | | 18-19 | | Total Teen Mothers | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 43 | 1.6 | 120 | 4.4 | 163 | 6.0 | 58 | 2.0 | 120 | 4.2 | 178 | 6.2 | 51 | 1.7 | 109 | 3.7 | 160 | 5.4 | 47 | 1.6 | 95 | 3.2 | 142 | 4.7 |
| | FN | 51 | 0.9 | 121 | 2.2 | 172 | 3.1 | 44 | 0.8 | 110 | 2.0 | 154 | 2.8 | 28 | 0.5 | 90 | 1.6 | 118 | 2.2 | 25 | 0.5 | 98 | 1.8 | 123 | 2.2 |
| | FS | 65 | 1.0 | 160 | 2.4 | 225 | 3.3 | 67 | 1.0 | 139 | 2.1 | 206 | 3.0 | 58 | 0.8 | 142 | 2.1 | 200 | 2.9 | 47 | 0.7 | 129 | 1.9 | 176 | 2.6 |
| **Total** | | **159** | **1.1** | **401** | **2.7** | **560** | **3.7** | **169** | **1.1** | **369** | **2.4** | **538** | **3.6** | **137** | **0.9** | **341** | **2.2** | **478** | **3.1** | **119** | **0.8** | **322** | **2.1** | **441** | **2.9** |
| **IHA** | EK | 23 | 3.5 | 51 | 7.9 | 74 | 11.4 | 23 | 3.8 | 41 | 6.7 | 64 | 10.5 | 9 | 1.4 | 40 | 6.1 | 49 | 7.5 | 10 | 1.6 | 32 | 5.2 | 42 | 6.8 |
| | KB | 7 | 1.2 | 13 | 2.2 | 20 | 3.3 | 8 | 1.4 | 15 | 2.5 | 23 | 3.9 | 7 | 1.3 | 17 | 3.0 | 24 | 4.3 | 4 | 0.7 | 11 | 2.0 | 15 | 2.7 |
| | OK | 42 | 1.6 | 99 | 3.9 | 141 | 5.5 | 31 | 1.2 | 90 | 3.6 | 121 | 4.8 | 43 | 1.8 | 67 | 2.8 | 110 | 4.6 | 29 | 1.2 | 85 | 3.6 | 114 | 4.8 |
| | TCS | 47 | 2.5 | 123 | 6.6 | 170 | 9.2 | 40 | 2.2 | 89 | 4.9 | 129 | 7.1 | 43 | 2.5 | 90 | 5.2 | 133 | 7.6 | 28 | 1.6 | 71 | 4.0 | 99 | 5.6 |
| **Total** | | **119** | **2.1** | **286** | **5.1** | **405** | **7.2** | **102** | **1.8** | **235** | **4.3** | **337** | **6.1** | **102** | **1.9** | **214** | **4.0** | **316** | **5.9** | **71** | **1.3** | **199** | **3.7** | **228** | **4.3** |
| **NHA** | NE | 26 | 3.2 | 58 | 7.1 | 84 | 10.3 | 19 | 2.3 | 48 | 5.7 | 67 | 7.9 | 17 | 2.0 | 47 | 5.5 | 64 | 7.4 | 27 | 3.1 | 56 | 6.5 | 83 | 9.7 |
| | NI | 35 | 2.2 | 92 | 5.8 | 127 | 8.0 | 39 | 2.5 | 91 | 5.8 | 130 | 8.2 | 44 | 2.9 | 72 | 4.8 | 116 | 7.7 | 32 | 2.1 | 76 | 4.9 | 108 | 7.0 |
| | NW | 43 | 4.2 | 56 | 5.4 | 99 | 9.6 | 42 | 4.3 | 69 | 7.0 | 111 | 11.3 | 36 | 3.7 | 62 | 6.3 | 98 | 9.9 | 27 | 3.0 | 61 | 6.7 | 88 | 9.6 |
| **Total** | | **104** | **3.0** | **206** | **6.0** | **310** | **9.0** | **100** | **2.9** | **208** | **6.1** | **308** | **9.0** | **97** | **2.9** | **181** | **5.4** | **278** | **8.3** | **86** | **2.6** | **193** | **5.8** | **279** | **8.4** |
| **VCHA** | NSCG | 22 | 0.9 | 42 | 1.8 | 64 | 2.7 | 24 | 1.1 | 35 | 1.6 | 59 | 2.7 | 26 | 1.1 | 42 | 1.9 | 68 | 3.0 | 16 | 0.7 | 42 | 1.8 | 58 | 2.5 |
| | RICH | 3 | 0.2 | 20 | 1.3 | 23 | 1.5 | 5 | 0.3 | 18 | 1.2 | 23 | 1.5 | 4 | 0.3 | 14 | 0.9 | 18 | 1.2 | 6 | 0.4 | 8 | 0.6 | 14 | 1.0 |
| | VANC | 37 | 0.6 | 59 | 1.0 | 96 | 1.7 | 37 | 0.7 | 71 | 1.3 | 108 | 1.9 | 28 | 0.5 | 58 | 1.0 | 86 | 1.5 | 22 | 0.4 | 53 | 0.9 | 75 | 1.3 |
| **Total** | | **62** | **0.6** | **121** | **1.3** | **183** | **1.9** | **66** | **0.7** | **124** | **1.3** | **190** | **2.0** | **58** | **0.6** | **114** | **1.2** | **172** | **1.8** | **44** | **0.5** | **103** | **1.1** | **147** | **1.6** |
| **VIHA** | CVI | 52 | 2.8 | 103 | 5.5 | 155 | 8.2 | 63 | 3.2 | 115 | 5.9 | 178 | 9.1 | 44 | 2.3 | 106 | 5.6 | 150 | 7.9 | 40 | 2.1 | 81 | 4.3 | 121 | 6.4 |
| | NVI | 39 | 3.8 | 49 | 4.8 | 88 | 8.7 | 29 | 2.9 | 60 | 6.0 | 89 | 8.9 | 26 | 2.6 | 51 | 5.1 | 77 | 7.7 | 27 | 2.9 | 52 | 5.6 | 79 | 8.5 |
| | SVI | 35 | 1.3 | 78 | 3.0 | 113 | 4.3 | 29 | 1.1 | 75 | 2.8 | 104 | 3.8 | 29 | 1.1 | 70 | 2.6 | 99 | 3.7 | 32 | 1.1 | 64 | 2.3 | 96 | 3.4 |
| **Total** | | **126** | **2.3** | **230** | **4.2** | **356** | **6.5** | **121** | **2.1** | **250** | **4.4** | **371** | **6.5** | **99** | **1.8** | **227** | **4.1** | **326** | **5.9** | **99** | **1.8** | **197** | **3.5** | **296** | **5.3** |
| **BC UNSPEC** | | **1** | **1.6** | **3** | **4.8** | **4** | **6.3** | **1** | **1.3** | **5** | **6.7** | **6** | **8.0** | **2** | **4.5** | **3** | **6.8** | **5** | **11.4** | **2** | **3.6** | **1** | **1.8** | **3** | **5.4** |
| **NON RES** | | **0** | **0.0** | **6** | **4.7** | **6** | **4.7** | **3** | **2.0** | **6** | **4.1** | **9** | **6.1** | **1** | **0.7** | **8** | **5.7** | **9** | **6.4** | **0** | **0.0** | **3** | **2.2** | **3** | **2.2** |
| **Province** | | **571** | **1.4** | **1253** | **3.2** | **1824** | **4.6** | **562** | **1.4** | **1197** | **3.0** | **1759** | **4.5** | **496** | **1.3** | **1088** | **2.8** | **1584** | **4.0** | **421** | **1.1** | **1018** | **2.6** | **1397** | **3.6** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas
Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)


(Only singleton pregnancies, deliveries and births included)

# Maternal Smoking During Pregnancy by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | 2001/2002 | | | | 2002/2003 | | | | 2003/2004 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | Yes | | No | | Yes | | No | | Yes | | No | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 408 | 14.9 | 2326 | 85.1 | 458 | 15.9 | 2416 | 84.1 | 455 | 15.4 | 2506 | 84.6 | 421 | 14.0 | 2589 | 86.0 |
| | FN | 577 | 10.6 | 4889 | 89.4 | 547 | 10.0 | 4921 | 90.0 | 434 | 8.0 | 5023 | 92.0 | 423 | 7.7 | 5051 | 92.3 |
| | FS | 738 | 11.0 | 5996 | 89.0 | 675 | 10.0 | 6089 | 90.0 | 676 | 9.8 | 6243 | 90.2 | 594 | 8.7 | 6257 | 91.3 |
| **Total** | | **1723** | **11.5** | **13211** | **88.5** | **1680** | **11.1** | **13426** | **88.9** | **1565** | **10.2** | **13772** | **89.8** | **1438** | **9.4** | **13897** | **90.6** |
| **IHA** | EK | 144 | 22.2 | 504 | 77.8 | 125 | 20.5 | 484 | 79.5 | 142 | 21.7 | 512 | 78.3 | 105 | 17.1 | 510 | 82.9 |
| | KB | 98 | 16.3 | 503 | 83.7 | 117 | 19.8 | 475 | 80.2 | 73 | 13.0 | 487 | 87.0 | 80 | 14.7 | 466 | 85.3 |
| | OK | 479 | 18.7 | 2080 | 81.3 | 377 | 15.0 | 2134 | 85.0 | 394 | 16.5 | 1997 | 83.5 | 348 | 14.6 | 2040 | 85.4 |
| | TCS | 425 | 23.0 | 1426 | 77.0 | 361 | 20.0 | 1445 | 80.0 | 374 | 21.5 | 1366 | 78.5 | 321 | 18.1 | 1454 | 81.9 |
| **Total** | | **1146** | **20.3** | **4513** | **79.7** | **980** | **17.8** | **4538** | **82.2** | **983** | **18.4** | **4362** | **81.6** | **854** | **16.0** | **4470** | **84.0** |
| **NHA** | NE | 183 | 22.4 | 635 | 77.6 | 195 | 23.1 | 649 | 76.9 | 167 | 19.4 | 695 | 80.6 | 182 | 21.2 | 677 | 78.8 |
| | NI | 321 | 20.2 | 1272 | 79.8 | 296 | 18.8 | 1282 | 81.2 | 285 | 18.9 | 1221 | 81.1 | 306 | 19.9 | 1230 | 80.1 |
| | NW | 212 | 20.5 | 821 | 79.5 | 173 | 17.6 | 811 | 82.4 | 167 | 16.9 | 819 | 83.1 | 163 | 17.8 | 752 | 82.2 |
| **Total** | | **716** | **20.8** | **2728** | **79.2** | **664** | **19.5** | **2742** | **80.5** | **619** | **18.5** | **2735** | **81.5** | **651** | **19.7** | **2659** | **80.3** |
| **VCHA** | NSCG | 205 | 8.6 | 2172 | 91.4 | 150 | 6.8 | 2041 | 93.2 | 177 | 7.8 | 2087 | 92.2 | 138 | 6.0 | 2152 | 94.0 |
| | RICH | 66 | 4.3 | 1486 | 95.7 | 69 | 4.5 | 1470 | 95.5 | 64 | 4.3 | 1426 | 95.7 | 57 | 4.0 | 1376 | 96.0 |
| | VANC | 300 | 5.2 | 5446 | 94.8 | 269 | 4.8 | 5354 | 95.2 | 252 | 4.5 | 5375 | 95.5 | 230 | 4.0 | 5459 | 96.0 |
| **Total** | | **571** | **5.9** | **9104** | **94.1** | **488** | **5.2** | **8865** | **94.8** | **493** | **5.3** | **8888** | **94.7** | **425** | **4.5** | **8987** | **95.5** |
| **VIHA** | CVI | 370 | 19.6 | 1516 | 80.4 | 388 | 19.8 | 1572 | 80.2 | 327 | 17.3 | 1564 | 82.7 | 306 | 16.1 | 1592 | 83.9 |
| | NVI | 212 | 20.8 | 805 | 79.2 | 203 | 20.3 | 795 | 79.7 | 161 | 16.1 | 842 | 83.9 | 161 | 17.2 | 773 | 82.8 |
| | SVI | 428 | 16.4 | 2177 | 83.6 | 410 | 15.1 | 2309 | 84.9 | 373 | 14.0 | 2282 | 86.0 | 402 | 14.4 | 2392 | 85.6 |
| **Total** | | **1010** | **18.3** | **4498** | **81.7** | **1001** | **17.6** | **4676** | **82.4** | **861** | **15.5** | **4688** | **84.5** | **869** | **15.4** | **4757** | **84.6** |
| **BC UNSPEC** | | **13** | **20.6** | **50** | **79.4** | **14** | **18.7** | **61** | **81.3** | **11** | **25.0** | **33** | **75.0** | **17** | **30.4** | **39** | **69.6** |
| **NON RES** | | **15** | **11.7** | **113** | **88.3** | **18** | **12.2** | **129** | **87.8** | **14** | **9.9** | **127** | **90.1** | **9** | **6.6** | **127** | **93.4** |
| **Province** | | **5194** | **13.2** | **34217** | **86.8** | **4845** | **12.3** | **34437** | **87.7** | **4546** | **11.6** | **34605** | **88.4** | **4263** | **10.9** | **34936** | **89.1** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas
Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

DATA TABLE 7A

## Breastfeeding at Discharge by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | 2001/2002 | | | | 2002/2003 | | | | 2003/2004 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | Yes | | No | | Yes | | No | | Yes | | No | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 2421 | 88.9 | 241 | 8.8 | 2556 | 89.3 | 236 | 8.2 | 2671 | 90.8 | 248 | 8.4 | 2698 | 90.1 | 236 | 7.9 |
| | FN | 5032 | 92.8 | 360 | 6.6 | 5083 | 93.6 | 321 | 5.9 | 5091 | 93.8 | 322 | 5.9 | 5134 | 94.3 | 300 | 5.5 |
| | FS | 6130 | 91.8 | 501 | 7.5 | 6206 | 92.5 | 463 | 6.9 | 6376 | 92.8 | 448 | 6.5 | 6370 | 93.6 | 420 | 6.2 |
| **Total** | | **13583** | **91.7** | **1102** | **7.4** | **13845** | **92.3** | **1020** | **6.8** | **14138** | **92.8** | **1018** | **6.7** | **14202** | **93.1** | **956** | **6.3** |
| **IHA** | EK | 602 | 93.5 | 36 | 5.6 | 548 | 90.1 | 49 | 8.1 | 603 | 92.3 | 46 | 7.0 | 551 | 90.2 | 47 | 7.7 |
| | KB | 548 | 91.5 | 41 | 6.8 | 549 | 93.2 | 33 | 5.6 | 512 | 93.1 | 30 | 5.5 | 499 | 91.7 | 27 | 5.0 |
| | OK | 2354 | 92.6 | 158 | 6.2 | 2331 | 93.3 | 138 | 5.5 | 2189 | 92.2 | 168 | 7.1 | 2231 | 93.8 | 121 | 5.1 |
| | TCS | 1585 | 86.0 | 178 | 9.7 | 1613 | 89.9 | 154 | 8.6 | 1603 | 92.5 | 107 | 6.2 | 1529 | 86.8 | 179 | 10.2 |
| **Total** | | **5089** | **90.4** | **413** | **7.3** | **5041** | **91.8** | **374** | **6.8** | **4907** | **92.4** | **351** | **6.6** | **4810** | **90.8** | **374** | **7.1** |
| **NHA** | NE | 717 | 88.7 | 82 | 10.1 | 747 | 88.9 | 84 | 10.0 | 756 | 88.2 | 93 | 10.9 | 751 | 88.4 | 93 | 10.9 |
| | NI | 1343 | 84.7 | 183 | 11.5 | 1364 | 87.4 | 152 | 9.7 | 1286 | 86.3 | 179 | 12.0 | 1286 | 84.5 | 161 | 10.6 |
| | NW | 915 | 89.3 | 89 | 8.7 | 856 | 88.1 | 96 | 9.9 | 867 | 88.7 | 91 | 9.3 | 811 | 89.0 | 80 | 8.8 |
| **Total** | | **2975** | **87.0** | **354** | **10.4** | **2967** | **88.0** | **332** | **9.8** | **2909** | **87.5** | **363** | **10.9** | **2848** | **86.7** | **334** | **10.2** |
| **VCHA** | NSCG | 2275 | 96.2 | 78 | 3.3 | 2109 | 97.1 | 59 | 2.7 | 2171 | 96.3 | 74 | 3.3 | 2199 | 96.4 | 65 | 2.9 |
| | RICH | 1420 | 92.4 | 107 | 7.0 | 1425 | 93.3 | 93 | 6.1 | 1358 | 91.6 | 119 | 8.0 | 1315 | 92.3 | 88 | 6.2 |
| | VANC | 5072 | 88.9 | 605 | 10.6 | 4997 | 89.4 | 583 | 10.4 | 5034 | 90.2 | 532 | 9.5 | 5159 | 91.1 | 495 | 8.7 |
| **Total** | | **8767** | **91.2** | **790** | **8.2** | **8531** | **91.8** | **735** | **7.9** | **8563** | **91.9** | **725** | **7.8** | **8673** | **92.6** | **648** | **6.9** |
| **VIHA** | CVI | 1732 | 92.6 | 126 | 6.7 | 1799 | 92.5 | 126 | 6.5 | 1742 | 92.5 | 120 | 6.4 | 1771 | 93.7 | 106 | 5.6 |
| | NVI | 926 | 92.0 | 64 | 6.4 | 916 | 92.2 | 60 | 6.0 | 938 | 94.3 | 50 | 5.0 | 834 | 90.2 | 48 | 5.2 |
| | SVI | 2435 | 93.9 | 135 | 5.2 | 2583 | 95.5 | 109 | 4.0 | 2485 | 94.1 | 135 | 5.1 | 2650 | 95.4 | 102 | 3.7 |
| **Total** | | **5093** | **93.1** | **325** | **5.9** | **5298** | **93.9** | **295** | **5.2** | **5165** | **93.6** | **305** | **5.5** | **5255** | **93.9** | **256** | **4.6** |
| **BC UNSPEC** | | **47** | **75.8** | **14** | **22.6** | **64** | **86.5** | **9** | **12.2** | **27** | **61.4** | **17** | **38.6** | **44** | **83.0** | **8** | **15.1** |
| **NON RES** | | **108** | **85.7** | **17** | **13.5** | **125** | **87.4** | **16** | **11.2** | **124** | **87.9** | **14** | **9.9** | **117** | **88.6** | **15** | **11.4** |
| **Province** | | **35662** | **91.1** | **3015** | **7.7** | **35871** | **91.9** | **2781** | **7.1** | **35833** | **92.1** | **2793** | **7.2** | **35949** | **92.2** | **2591** | **6.6** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas
Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)


(Only singleton pregnancies, deliveries and births included)

## Induction of Labour by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | 2001/2002 | | | | 2002/2003 | | | | 2003/2004 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | Yes | | No | | Yes | | No | | Yes | | No | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 514 | 21.2 | 1914 | 78.8 | 623 | 24.8 | 1890 | 75.2 | 632 | 24.5 | 1951 | 75.5 | 629 | 23.9 | 1998 | 76.1 |
| | FN | 1123 | 22.2 | 3927 | 77.8 | 1266 | 25.2 | 3757 | 74.8 | 1131 | 23.3 | 3715 | 76.7 | 1210 | 25.6 | 3518 | 74.4 |
| | FS | 1270 | 23.6 | 4116 | 76.4 | 1387 | 25.3 | 4089 | 74.7 | 1369 | 24.2 | 4278 | 75.8 | 1312 | 23.1 | 4358 | 76.9 |
| **Total** | | **2907** | **22.6** | **9957** | **77.4** | **3276** | **25.2** | **9736** | **74.8** | **3132** | **24.0** | **9944** | **76.0** | **3151** | **24.2** | **9874** | **75.8** |
| **IHA** | EK | 155 | 25.0 | 464 | 75.0 | 147 | 25.8 | 423 | 74.2 | 124 | 20.2 | 490 | 79.8 | 114 | 19.1 | 482 | 80.9 |
| | KB | 141 | 26.3 | 396 | 73.7 | 132 | 25.1 | 394 | 74.9 | 130 | 25.2 | 385 | 74.8 | 121 | 24.9 | 364 | 75.1 |
| | OK | 661 | 25.5 | 1933 | 74.5 | 632 | 24.9 | 1902 | 75.1 | 572 | 23.9 | 1822 | 76.1 | 626 | 26.0 | 1785 | 74.0 |
| | TCS | 297 | 16.5 | 1506 | 83.5 | 361 | 19.9 | 1455 | 80.1 | 345 | 19.8 | 1398 | 80.2 | 367 | 20.5 | 1419 | 79.5 |
| **Total** | | **1254** | **22.6** | **4299** | **77.4** | **1272** | **23.4** | **4174** | **76.6** | **1171** | **22.2** | **4095** | **77.8** | **1228** | **23.3** | **4050** | **76.7** |
| **NHA** | NE | 182 | 22.1 | 643 | 77.9 | 208 | 24.2 | 650 | 75.8 | 186 | 20.9 | 704 | 79.1 | 204 | 23.7 | 658 | 76.3 |
| | NI | 267 | 17.0 | 1306 | 83.0 | 287 | 18.9 | 1232 | 81.1 | 273 | 18.9 | 1174 | 81.1 | 272 | 18.5 | 1196 | 81.5 |
| | NW | 186 | 19.0 | 795 | 81.0 | 189 | 20.1 | 751 | 79.9 | 224 | 23.8 | 717 | 76.2 | 175 | 19.5 | 721 | 80.5 |
| **Total** | | **635** | **18.8** | **2744** | **81.2** | **684** | **20.6** | **2633** | **79.4** | **683** | **20.8** | **2595** | **79.2** | **651** | **20.2** | **2575** | **79.8** |
| **VCHA** | NSCG | 446 | 22.1 | 1574 | 77.9 | 370 | 20.2 | 1462 | 79.8 | 398 | 20.7 | 1522 | 79.3 | 338 | 17.7 | 1573 | 82.3 |
| | RICH | 276 | 19.7 | 1125 | 80.3 | 298 | 20.7 | 1144 | 79.3 | 230 | 17.1 | 1113 | 82.9 | 218 | 18.9 | 934 | 81.1 |
| | VANC | 396 | 23.8 | 1270 | 76.2 | 373 | 21.5 | 1358 | 78.5 | 359 | 21.6 | 1301 | 78.4 | 315 | 18.6 | 1379 | 81.4 |
| **Total** | | **1118** | **22.0** | **3969** | **78.0** | **1041** | **20.8** | **3964** | **79.2** | **987** | **20.0** | **3936** | **80.0** | **871** | **18.3** | **3886** | **81.7** |
| **VIHA** | CVI | 376 | 22.0 | 1332 | 78.0 | 442 | 24.6 | 1354 | 75.4 | 393 | 23.0 | 1314 | 77.0 | 410 | 23.5 | 1337 | 76.5 |
| | NVI | 192 | 20.0 | 768 | 80.0 | 196 | 20.4 | 763 | 79.6 | 156 | 16.7 | 776 | 83.3 | 180 | 20.2 | 710 | 79.8 |
| | SVI | 731 | 26.9 | 1986 | 73.1 | 773 | 28.0 | 1988 | 72.0 | 746 | 27.5 | 1968 | 72.5 | 670 | 23.8 | 2147 | 76.2 |
| **Total** | | **1299** | **24.1** | **4086** | **75.9** | **1411** | **25.6** | **4105** | **74.4** | **1295** | **24.2** | **4058** | **75.8** | **1260** | **23.1** | **4194** | **76.9** |
| **PHSA*** | | **1139** | **16.8** | **5634** | **83.2** | **1154** | **17.7** | **5360** | **82.3** | **1150** | **17.0** | **5611** | **83.0** | **1147** | **16.5** | **5800** | **83.5** |
| **HB** | | **8** | **2.2** | **362** | **97.8** | **8** | **1.7** | **464** | **98.3** | **16** | **3.2** | **478** | **96.8** | **17** | **3.3** | **495** | **96.7** |
| **Province** | | **8360** | **21.2** | **31051** | **78.8** | **8846** | **22.5** | **30436** | **77.5** | **8434** | **21.5** | **30717** | **78.5** | **8325** | **21.2** | **30874** | **78.8** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

DATA TABLE 8B

## Induction of Labour and Caesarean Section Rates for Nullipara and Parity ≥1 by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | | | | 2001/2002 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nullipara | | | Parity ≥ 1 | | | Total | | | Nullipara | | | Parity ≥ 1 | | | Total | | |
| HA | HSDA | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % |
| FHA | FE | 93 | 262 | 35.5 | 27 | 252 | 10.7 | 120 | 514 | 23.3 | 115 | 323 | 35.6 | 32 | 300 | 10.7 | 147 | 623 | 23.6 |
| | FN | 193 | 624 | 30.9 | 45 | 499 | 9.0 | 238 | 1123 | 21.2 | 221 | 664 | 33.3 | 49 | 602 | 8.1 | 270 | 1266 | 21.3 |
| | FS | 212 | 613 | 34.6 | 62 | 657 | 9.4 | 274 | 1270 | 21.6 | 269 | 707 | 38.0 | 70 | 680 | 10.3 | 339 | 1387 | 24.4 |
| **Total** | | **498** | **1499** | **33.2** | **134** | **1408** | **9.5** | **632** | **2907** | **21.7** | **605** | **1694** | **35.7** | **151** | **1582** | **9.5** | **756** | **3276** | **23.1** |
| IHA | EK | 17 | 66 | 25.8 | 9 | 89 | 10.1 | 26 | 155 | 16.8 | 20 | 76 | 26.3 | 7 | 71 | 9.9 | 27 | 147 | 18.4 |
| | KB | 15 | 61 | 24.6 | 5 | 80 | 6.3 | 20 | 141 | 14.2 | 19 | 63 | 30.2 | 4 | 69 | 5.8 | 23 | 132 | 17.4 |
| | OK | 100 | 331 | 30.2 | 25 | 330 | 7.6 | 125 | 661 | 18.9 | 99 | 291 | 34.0 | 22 | 341 | 6.5 | 121 | 632 | 19.1 |
| | TCS | 69 | 163 | 42.3 | 21 | 134 | 15.7 | 90 | 297 | 30.3 | 76 | 171 | 44.4 | 26 | 190 | 13.7 | 102 | 361 | 28.3 |
| **Total** | | **201** | **621** | **32.4** | **60** | **633** | **9.5** | **261** | **1254** | **20.8** | **214** | **601** | **35.6** | **59** | **671** | **8.8** | **273** | **1272** | **21.5** |
| NHA | NE | 32 | 83 | 38.6 | 7 | 99 | 7.1 | 39 | 182 | 21.4 | 34 | 100 | 34.0 | 8 | 108 | 7.4 | 42 | 208 | 20.2 |
| | NI | 38 | 130 | 29.2 | 11 | 137 | 8.0 | 49 | 267 | 18.4 | 61 | 154 | 39.6 | 18 | 133 | 13.5 | 79 | 287 | 27.5 |
| | NW | 32 | 81 | 39.5 | 6 | 105 | 5.7 | 38 | 186 | 20.4 | 36 | 88 | 40.9 | 8 | 101 | 7.9 | 44 | 189 | 23.3 |
| **Total** | | **102** | **294** | **34.7** | **24** | **341** | **7.0** | **126** | **635** | **19.8** | **131** | **342** | **38.3** | **34** | **342** | **9.9** | **165** | **684** | **24.1** |
| VCHA | NSCG | 87 | 235 | 37.0 | 22 | 211 | 10.4 | 109 | 446 | 24.4 | 68 | 189 | 36.0 | 13 | 181 | 7.2 | 81 | 370 | 21.9 |
| | RICH | 70 | 166 | 42.2 | 13 | 110 | 11.8 | 83 | 276 | 30.1 | 59 | 165 | 35.8 | 12 | 133 | 9.0 | 71 | 298 | 23.8 |
| | VANC | 115 | 282 | 40.8 | 18 | 114 | 15.8 | 133 | 396 | 33.6 | 104 | 258 | 40.3 | 9 | 115 | 7.8 | 113 | 373 | 30.3 |
| **Total** | | **272** | **683** | **39.8** | **53** | **435** | **12.2** | **325** | **1118** | **29.1** | **231** | **612** | **37.7** | **34** | **429** | **7.9** | **265** | **1041** | **25.5** |
| VIHA | CVI | 68 | 199 | 34.2 | 12 | 177 | 6.8 | 80 | 376 | 21.3 | 89 | 216 | 41.2 | 16 | 226 | 7.1 | 105 | 442 | 23.8 |
| | NVI | 32 | 90 | 35.6 | 10 | 102 | 9.8 | 42 | 192 | 21.9 | 31 | 100 | 31.0 | 6 | 96 | 6.3 | 37 | 196 | 18.9 |
| | SVI | 117 | 406 | 28.8 | 29 | 325 | 8.9 | 146 | 731 | 20.0 | 142 | 427 | 33.3 | 44 | 346 | 12.7 | 186 | 772 | 24.1 |
| **Total** | | **217** | **695** | **31.2** | **51** | **604** | **8.4** | **268** | **1299** | **20.6** | **262** | **743** | **35.3** | **66** | **668** | **9.9** | **328** | **1410** | **23.3** |
| **PHSA*** | | **247** | **682** | **36.2** | **61** | **457** | **13.3** | **308** | **1139** | **27.0** | **273** | **701** | **38.9** | **53** | **453** | **11.7** | **326** | **1154** | **28.2** |
| **HB** | | **0** | **3** | **0.0** | **0** | **5** | **0.0** | **0** | **8** | **0.0** | **0** | **3** | **0.0** | **0** | **5** | **0.0** | **0** | **8** | **0.0** |
| **Province** | | **1537** | **4477** | **34.3** | **383** | **3883** | **9.9** | **1920** | **8360** | **23.0** | **1716** | **4696** | **36.5** | **397** | **4150** | **9.6** | **2113** | **8845** | **23.9** |

| | | 2002/2003 | | | | | | | | | 2003/2004 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nullipara | | | Parity ≥ 1 | | | Total | | | Nullipara | | | Parity ≥ 1 | | | Total | | |
| HA | HSDA | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % | # CS | # IND | % |
| FHA | FE | 128 | 319 | 40.1 | 30 | 313 | 9.6 | 158 | 632 | 25.0 | 132 | 312 | 42.3 | 38 | 317 | 12.0 | 170 | 629 | 27.0 |
| | FN | 217 | 643 | 33.7 | 40 | 488 | 8.2 | 257 | 1131 | 22.7 | 239 | 710 | 33.7 | 41 | 500 | 8.2 | 280 | 1210 | 23.1 |
| | FS | 269 | 710 | 37.9 | 83 | 659 | 12.6 | 352 | 1369 | 25.7 | 256 | 708 | 36.2 | 63 | 604 | 10.4 | 319 | 1312 | 24.3 |
| **Total** | | **614** | **1672** | **36.7** | **153** | **1460** | **10.5** | **767** | **3132** | **24.5** | **627** | **1730** | **36.2** | **142** | **1421** | **10.0** | **769** | **3151** | **24.4** |
| IHA | EK | 33 | 70 | 47.1 | 6 | 54 | 11.1 | 39 | 124 | 31.5 | 21 | 49 | 42.9 | 8 | 65 | 12.3 | 29 | 114 | 25.4 |
| | KB | 20 | 58 | 34.5 | 3 | 72 | 4.2 | 23 | 130 | 17.7 | 16 | 58 | 27.6 | 3 | 63 | 4.8 | 19 | 121 | 15.7 |
| | OK | 100 | 292 | 34.2 | 21 | 280 | 7.5 | 121 | 572 | 21.2 | 119 | 334 | 35.6 | 22 | 292 | 7.5 | 141 | 626 | 22.5 |
| | TCS | 77 | 165 | 46.7 | 29 | 180 | 16.1 | 106 | 345 | 30.7 | 81 | 181 | 44.8 | 21 | 186 | 11.3 | 102 | 367 | 27.8 |
| **Total** | | **230** | **585** | **39.3** | **59** | **586** | **10.1** | **289** | **1171** | **24.7** | **237** | **622** | **38.1** | **54** | **606** | **8.9** | **291** | **1228** | **23.7** |
| NHA | NE | 35 | 85 | 41.2 | 8 | 101 | 7.9 | 43 | 186 | 23.1 | 45 | 103 | 43.7 | 6 | 101 | 5.9 | 51 | 204 | 25.0 |
| | NI | 53 | 139 | 38.1 | 15 | 134 | 11.2 | 68 | 273 | 24.9 | 51 | 142 | 35.9 | 9 | 130 | 6.9 | 60 | 272 | 22.1 |
| | NW | 42 | 100 | 42.0 | 15 | 124 | 12.1 | 57 | 224 | 25.4 | 30 | 69 | 43.5 | 8 | 106 | 7.5 | 38 | 175 | 21.7 |
| **Total** | | **130** | **324** | **40.1** | **38** | **359** | **10.6** | **168** | **683** | **24.6** | **126** | **314** | **40.1** | **23** | **337** | **6.8** | **149** | **651** | **22.9** |
| VCHA | NSCG | 84 | 229 | 36.7 | 14 | 169 | 8.3 | 98 | 398 | 24.6 | 56 | 183 | 30.6 | 13 | 155 | 8.4 | 69 | 338 | 20.4 |
| | RICH | 55 | 127 | 43.3 | 11 | 103 | 10.7 | 66 | 230 | 28.7 | 42 | 128 | 32.8 | 10 | 90 | 11.1 | 52 | 218 | 23.9 |
| | VANC | 118 | 263 | 44.9 | 7 | 96 | 7.3 | 125 | 359 | 34.8 | 97 | 217 | 44.7 | 8 | 98 | 8.2 | 105 | 315 | 33.3 |
| **Total** | | **257** | **619** | **41.5** | **32** | **368** | **8.7** | **289** | **987** | **29.3** | **195** | **528** | **36.9** | **31** | **343** | **9.0** | **226** | **871** | **25.9** |
| VIHA | CVI | 63 | 203 | 31.0 | 18 | 190 | 9.5 | 81 | 393 | 20.6 | 83 | 229 | 36.2 | 14 | 181 | 7.7 | 97 | 410 | 23.7 |
| | NVI | 34 | 78 | 43.6 | 7 | 78 | 9.0 | 41 | 156 | 26.3 | 29 | 96 | 30.2 | 9 | 84 | 10.7 | 38 | 180 | 21.1 |
| | SVI | 180 | 440 | 40.9 | 38 | 306 | 12.4 | 218 | 746 | 29.2 | 160 | 417 | 38.4 | 26 | 253 | 10.3 | 186 | 670 | 27.8 |
| **Total** | | **277** | **721** | **38.4** | **63** | **574** | **11.0** | **340** | **1295** | **26.3** | **272** | **742** | **36.7** | **49** | **518** | **9.5** | **321** | **1260** | **25.5** |
| **PHSA*** | | **260** | **711** | **36.6** | **50** | **439** | **11.4** | **310** | **1150** | **27.0** | **278** | **748** | **37.2** | **47** | **399** | **11.8** | **325** | **1147** | **28.3** |
| **HB** | | **0** | **3** | **0.0** | **0** | **13** | **0.0** | **0** | **16** | **0.0** | **0** | **6** | **0.0** | **0** | **11** | **0.0** | **0** | **17** | **0.0** |
| **Province** | | **1768** | **4635** | **38.1** | **395** | **3799** | **10.4** | **2163** | **8434** | **25.6** | **1735** | **4690** | **37.0** | **346** | **3635** | **9.5** | **2081** | **8325** | **25.0** |

***PHSA:** Refers to BC Women's Hospital patients only
**Note:** CS = Caesarean Section
IND = Induction of Labour

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas
Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

# Electronic Fetal Monitoring by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | 2001/2002 | | | | | | 2002/2003 | | | | | | 2003/2004 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | Moms Laboured | | Yes | | No | | Moms Laboured | | Yes | | No | | Moms Laboured | | Yes | | No | | Moms Laboured | |
| **HA** | **HSDA** | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 1817 | 82.9 | 375 | 17.1 | 2192 | 100.0 | 1849 | 81.5 | 420 | 18.5 | 2269 | 100.0 | 1795 | 77.6 | 518 | 22.4 | 2313 | 100.0 | 1727 | 74.0 | 608 | 26.0 | 2335 | 100.0 |
| | FN | 4160 | 88.9 | 518 | 11.1 | 4678 | 100.0 | 4120 | 90.9 | 412 | 9.1 | 4532 | 100.0 | 4023 | 92.1 | 345 | 7.9 | 4368 | 100.0 | 3769 | 89.4 | 448 | 10.6 | 4217 | 100.0 |
| | FS | 4256 | 86.9 | 639 | 13.1 | 4895 | 100.0 | 4037 | 82.9 | 832 | 17.1 | 4869 | 100.0 | 3911 | 77.7 | 1124 | 22.3 | 5035 | 100.0 | 3860 | 76.6 | 1179 | 23.4 | 5039 | 100.0 |
| **Total** | | **10233** | **87.0** | **1532** | **13.0** | **11765** | **100.0** | **10006** | **85.7** | **1664** | **14.3** | **11670** | **100.0** | **9729** | **83.0** | **1987** | **17.0** | **11716** | **100.0** | **9356** | **80.7** | **2235** | **19.3** | **11591** | **100.0** |
| **IHA** | EK | 392 | 68.7 | 179 | 31.3 | 571 | 100.0 | 411 | 79.0 | 109 | 21.0 | 520 | 100.0 | 446 | 83.7 | 87 | 16.3 | 533 | 100.0 | 403 | 79.2 | 106 | 20.8 | 509 | 100.0 |
| | KB | 392 | 80.0 | 98 | 20.0 | 490 | 100.0 | 326 | 69.8 | 141 | 30.2 | 467 | 100.0 | 323 | 71.0 | 132 | 29.0 | 455 | 100.0 | 298 | 68.3 | 138 | 31.7 | 436 | 100.0 |
| | OK | 2201 | 93.8 | 145 | 6.2 | 2346 | 100.0 | 2077 | 91.4 | 196 | 8.6 | 2273 | 100.0 | 1960 | 92.7 | 154 | 7.3 | 2114 | 100.0 | 1889 | 88.5 | 246 | 11.5 | 2135 | 100.0 |
| | TCS | 1320 | 81.0 | 310 | 19.0 | 1630 | 100.0 | 1278 | 80.0 | 319 | 20.0 | 1597 | 100.0 | 1015 | 65.7 | 531 | 34.3 | 1546 | 100.0 | 1221 | 77.6 | 353 | 22.4 | 1574 | 100.0 |
| **Total** | | **4305** | **85.5** | **732** | **14.5** | **5037** | **100.0** | **4092** | **84.2** | **765** | **15.8** | **4857** | **100.0** | **3744** | **80.6** | **904** | **19.4** | **4648** | **100.0** | **3811** | **81.9** | **843** | **18.1** | **4654** | **100.0** |
| **NHA** | NE | 672 | 88.2 | 90 | 11.8 | 762 | 100.0 | 734 | 92.7 | 58 | 7.3 | 792 | 100.0 | 672 | 85.4 | 115 | 14.6 | 787 | 100.0 | 663 | 86.1 | 107 | 13.9 | 770 | 100.0 |
| | NI | 1190 | 83.3 | 239 | 16.7 | 1429 | 100.0 | 1127 | 82.6 | 238 | 17.4 | 1365 | 100.0 | 990 | 76.9 | 298 | 23.1 | 1288 | 100.0 | 1071 | 82.3 | 231 | 17.7 | 1302 | 100.0 |
| | NW | 764 | 84.5 | 140 | 15.5 | 904 | 100.0 | 709 | 82.6 | 149 | 17.4 | 858 | 100.0 | 637 | 78.3 | 177 | 21.7 | 814 | 100.0 | 608 | 77.7 | 174 | 22.3 | 782 | 100.0 |
| **Total** | | **2626** | **84.8** | **469** | **15.2** | **3095** | **100.0** | **2570** | **85.2** | **445** | **14.8** | **3015** | **100.0** | **2299** | **79.6** | **590** | **20.4** | **2889** | **100.0** | **2342** | **82.1** | **512** | **17.9** | **2854** | **100.0** |
| **VCHA** | NSCG | 1536 | 85.9 | 253 | 14.1 | 1789 | 100.0 | 1348 | 84.7 | 243 | 15.3 | 1591 | 100.0 | 1416 | 83.8 | 274 | 16.2 | 1690 | 100.0 | 1306 | 81.3 | 301 | 18.7 | 1607 | 100.0 |
| | RICH | 1095 | 86.4 | 172 | 13.6 | 1267 | 100.0 | 1151 | 90.3 | 123 | 9.7 | 1274 | 100.0 | 1071 | 91.2 | 103 | 8.8 | 1174 | 100.0 | 913 | 89.2 | 110 | 10.8 | 1023 | 100.0 |
| | VANC | 1357 | 88.8 | 171 | 11.2 | 1528 | 100.0 | 1195 | 77.1 | 355 | 22.9 | 1550 | 100.0 | 1209 | 80.5 | 292 | 19.5 | 1501 | 100.0 | 1270 | 84.7 | 230 | 15.3 | 1500 | 100.0 |
| **Total** | | **3988** | **87.0** | **596** | **13.0** | **4584** | **100.0** | **3694** | **83.7** | **721** | **16.3** | **4415** | **100.0** | **3696** | **84.7** | **669** | **15.3** | **4365** | **100.0** | **3489** | **84.5** | **641** | **15.5** | **4130** | **100.0** |
| **VIHA** | CVI | 1100 | 70.5 | 461 | 29.5 | 1561 | 100.0 | 1115 | 69.5 | 489 | 30.5 | 1604 | 100.0 | 1092 | 71.0 | 445 | 29.0 | 1537 | 100.0 | 1084 | 70.2 | 461 | 29.8 | 1545 | 100.0 |
| | NVI | 632 | 72.6 | 239 | 27.4 | 871 | 100.0 | 585 | 68.7 | 266 | 31.3 | 851 | 100.0 | 522 | 64.8 | 284 | 35.2 | 806 | 100.0 | 422 | 54.3 | 355 | 45.7 | 777 | 100.0 |
| | SVI | 1969 | 81.2 | 457 | 18.8 | 2426 | 100.0 | 1771 | 73.0 | 656 | 27.0 | 2427 | 100.0 | 1356 | 57.3 | 1012 | 42.7 | 2368 | 100.0 | 1610 | 64.4 | 891 | 35.6 | 2501 | 100.0 |
| **Total** | | **3701** | **76.2** | **1157** | **23.8** | **4858** | **100.0** | **3471** | **71.1** | **1411** | **28.9** | **4882** | **100.0** | **2970** | **63.0** | **1741** | **37.0** | **4711** | **100.0** | **3116** | **64.6** | **1707** | **35.4** | **4823** | **100.0** |
| **PHSA*** | | **5182** | **85.0** | **915** | **15.0** | **6097** | **100.0** | **4650** | **81.8** | **1036** | **18.2** | **5686** | **100.0** | **4773** | **80.9** | **1127** | **19.1** | **5900** | **100.0** | **5244** | **86.3** | **836** | **13.8** | **6080** | **100.0** |
| **HB** | | **1** | **0.3** | **369** | **99.7** | **370** | **100.0** | **0** | **0.0** | **472** | **100.0** | **472** | **100.0** | **2** | **0.4** | **492** | **99.6** | **494** | **100.0** | **0** | **0.0** | **512** | **100.0** | **512** | **100.0** |
| **Province** | | **30035** | **83.9** | **5770** | **16.1** | **35805** | **100.0** | **28483** | **81.4** | **6514** | **18.6** | **34997** | **100.0** | **27213** | **78.4** | **7510** | **21.6** | **34723** | **100.0** | **27358** | **79.0** | **7286** | **21.0** | **34644** | **100.0** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

DATA TABLE 10A

## Episiotomies by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | 2001/2002 | | | | 2002/2003 | | | | 2003/2004 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | Yes | | No | | Yes | | No | | Yes | | No | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 329 | 17.5 | 1556 | 82.5 | 412 | 21.4 | 1509 | 78.6 | 332 | 17.2 | 1599 | 82.8 | 289 | 14.8 | 1661 | 85.2 |
| | FN | 809 | 20.6 | 3112 | 79.4 | 664 | 17.8 | 3071 | 82.2 | 666 | 18.4 | 2944 | 81.6 | 638 | 18.5 | 2810 | 81.5 |
| | FS | 1058 | 25.4 | 3108 | 74.6 | 1046 | 26.0 | 2973 | 74.0 | 1005 | 24.3 | 3134 | 75.7 | 891 | 21.9 | 3184 | 78.1 |
| **Total** | | **2196** | **22.0** | **7776** | **78.0** | **2122** | **21.9** | **7553** | **78.1** | **2003** | **20.7** | **7677** | **79.3** | **1818** | **19.2** | **7655** | **80.8** |
| **IHA** | EK | 66 | 13.1 | 439 | 86.9 | 64 | 13.7 | 403 | 86.3 | 70 | 15.7 | 377 | 84.3 | 60 | 14.3 | 361 | 85.7 |
| | KB | 53 | 12.3 | 378 | 87.7 | 60 | 14.7 | 349 | 85.3 | 40 | 10.8 | 331 | 89.2 | 34 | 9.0 | 342 | 91.0 |
| | OK | 257 | 12.9 | 1737 | 87.1 | 281 | 14.7 | 1637 | 85.3 | 222 | 12.6 | 1539 | 87.4 | 235 | 13.4 | 1521 | 86.6 |
| | TCS | 180 | 13.7 | 1136 | 86.3 | 147 | 11.5 | 1131 | 88.5 | 103 | 8.4 | 1119 | 91.6 | 101 | 8.3 | 1122 | 91.7 |
| **Total** | | **556** | **13.1** | **3690** | **86.9** | **552** | **13.6** | **3520** | **86.4** | **435** | **11.4** | **3366** | **88.6** | **430** | **11.4** | **3346** | **88.6** |
| **NHA** | NE | 120 | 18.6 | 525 | 81.4 | 129 | 19.1 | 548 | 80.9 | 105 | 15.6 | 566 | 84.4 | 98 | 15.0 | 556 | 85.0 |
| | NI | 150 | 12.2 | 1083 | 87.8 | 133 | 11.9 | 983 | 88.1 | 117 | 10.9 | 961 | 89.1 | 105 | 9.6 | 984 | 90.4 |
| | NW | 92 | 12.2 | 663 | 87.8 | 82 | 11.8 | 614 | 88.2 | 63 | 9.5 | 598 | 90.5 | 61 | 9.3 | 594 | 90.7 |
| **Total** | | **362** | **13.7** | **2271** | **86.3** | **344** | **13.8** | **2145** | **86.2** | **285** | **11.8** | **2125** | **88.2** | **264** | **11.0** | **2134** | **89.0** |
| **VCHA** | NSCG | 283 | 18.3 | 1261 | 81.7 | 264 | 19.6 | 1086 | 80.4 | 255 | 17.7 | 1186 | 82.3 | 197 | 14.2 | 1191 | 85.8 |
| | RICH | 241 | 23.1 | 802 | 76.9 | 238 | 23.2 | 787 | 76.8 | 219 | 23.1 | 730 | 76.9 | 225 | 27.5 | 592 | 72.5 |
| | VANC | 238 | 19.5 | 981 | 80.5 | 204 | 16.6 | 1026 | 83.4 | 222 | 19.2 | 934 | 80.8 | 208 | 17.8 | 959 | 82.2 |
| **Total** | | **762** | **20.0** | **3044** | **80.0** | **706** | **19.6** | **2899** | **80.4** | **696** | **19.6** | **2850** | **80.4** | **630** | **18.7** | **2742** | **81.3** |
| **VIHA** | CVI | 196 | 15.0 | 1114 | 85.0 | 207 | 15.7 | 1112 | 84.3 | 176 | 13.9 | 1088 | 86.1 | 172 | 13.7 | 1079 | 86.3 |
| | NVI | 109 | 14.6 | 638 | 85.4 | 91 | 12.4 | 640 | 87.6 | 74 | 10.6 | 622 | 89.4 | 70 | 10.6 | 589 | 89.4 |
| | SVI | 266 | 13.1 | 1762 | 86.9 | 193 | 9.9 | 1758 | 90.1 | 196 | 10.7 | 1642 | 89.3 | 227 | 11.7 | 1710 | 88.3 |
| **Total** | | **571** | **14.0** | **3514** | **86.0** | **491** | **12.3** | **3510** | **87.7** | **446** | **11.7** | **3352** | **88.3** | **469** | **12.2** | **3378** | **87.8** |
| **PHSA*** | | **1299** | **26.0** | **3696** | **74.0** | **1190** | **25.5** | **3474** | **74.5** | **1155** | **23.6** | **3744** | **76.4** | **998** | **20.0** | **3980** | **80.0** |
| **HB** | | **3** | **0.8** | **367** | **99.2** | **1** | **0.2** | **471** | **99.8** | **6** | **1.2** | **488** | **98.8** | **3** | **0.6** | **509** | **99.4** |
| **Province** | | **5749** | **19.1** | **24358** | **80.9** | **5406** | **18.7** | **23572** | **81.3** | **5026** | **17.6** | **23602** | **82.4** | **4612** | **16.3** | **23744** | **83.7** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)



(Only singleton pregnancies, deliveries and births included)

# Method of Delivery by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | 2001/2002 | | | | | | 2002/2003 | | | | | | 2003/2004 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | C/Section | | Vaginal | | Total | | C/Section | | Vaginal | | Total | | C/Section | | Vaginal | | Total | | C/Section | | Vaginal | | Total | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| FHA | FE | 543 | 22.4 | 1885 | 77.6 | 2428 | 100.0 | 592 | 23.6 | 1921 | 76.4 | 2513 | 100.0 | 652 | 25.2 | 1931 | 74.8 | 2583 | 100.0 | 677 | 25.8 | 1950 | 74.2 | 2627 | 100.0 |
| | FN | 1129 | 22.4 | 3921 | 77.6 | 5050 | 100.0 | 1288 | 25.6 | 3735 | 74.4 | 5023 | 100.0 | 1236 | 25.5 | 3610 | 74.5 | 4846 | 100.0 | 1280 | 27.1 | 3448 | 72.9 | 4728 | 100.0 |
| | FS | 1220 | 22.7 | 4166 | 77.3 | 5386 | 100.0 | 1457 | 26.6 | 4019 | 73.4 | 5476 | 100.0 | 1508 | 26.7 | 4139 | 73.3 | 5647 | 100.0 | 1595 | 28.1 | 4075 | 71.9 | 5670 | 100.0 |
| **Total** | | **2892** | **22.5** | **9972** | **77.5** | **12864** | **100.0** | **3337** | **25.6** | **9675** | **74.4** | **13012** | **100.0** | **3396** | **26.0** | **9680** | **74.0** | **13076** | **100.0** | **3552** | **27.3** | **9473** | **72.7** | **13025** | **100.0** |
| IHA | EK | 114 | 18.4 | 505 | 81.6 | 619 | 100.0 | 103 | 18.1 | 467 | 81.9 | 570 | 100.0 | 167 | 27.2 | 447 | 72.8 | 614 | 100.0 | 175 | 29.4 | 421 | 70.6 | 596 | 100.0 |
| | KB | 106 | 19.7 | 431 | 80.3 | 537 | 100.0 | 117 | 22.2 | 409 | 77.8 | 526 | 100.0 | 144 | 28.0 | 371 | 72.0 | 515 | 100.0 | 109 | 22.5 | 376 | 77.5 | 485 | 100.0 |
| | OK | 600 | 23.1 | 1994 | 76.9 | 2594 | 100.0 | 616 | 24.3 | 1918 | 75.7 | 2534 | 100.0 | 633 | 26.4 | 1761 | 73.6 | 2394 | 100.0 | 655 | 27.2 | 1756 | 72.8 | 2411 | 100.0 |
| | TCS | 487 | 27.0 | 1316 | 73.0 | 1803 | 100.0 | 538 | 29.6 | 1278 | 70.4 | 1816 | 100.0 | 521 | 29.9 | 1222 | 70.1 | 1743 | 100.0 | 563 | 31.5 | 1223 | 68.5 | 1786 | 100.0 |
| **Total** | | **1307** | **23.5** | **4246** | **76.5** | **5553** | **100.0** | **1374** | **25.2** | **4072** | **74.8** | **5446** | **100.0** | **1465** | **27.8** | **3801** | **72.2** | **5266** | **100.0** | **1502** | **28.5** | **3776** | **71.5** | **5278** | **100.0** |
| NHA | NE | 180 | 21.8 | 645 | 78.2 | 825 | 100.0 | 181 | 21.1 | 677 | 78.9 | 858 | 100.0 | 219 | 24.6 | 671 | 75.4 | 890 | 100.0 | 208 | 24.1 | 654 | 75.9 | 862 | 100.0 |
| | NI | 340 | 21.6 | 1233 | 78.4 | 1573 | 100.0 | 403 | 26.5 | 1116 | 73.5 | 1519 | 100.0 | 369 | 25.5 | 1078 | 74.5 | 1447 | 100.0 | 379 | 25.8 | 1089 | 74.2 | 1468 | 100.0 |
| | NW | 226 | 23.0 | 755 | 77.0 | 981 | 100.0 | 244 | 26.0 | 696 | 74.0 | 940 | 100.0 | 280 | 29.8 | 661 | 70.2 | 941 | 100.0 | 241 | 26.9 | 655 | 73.1 | 896 | 100.0 |
| **Total** | | **746** | **22.1** | **2633** | **77.9** | **3379** | **100.0** | **828** | **25.0** | **2489** | **75.0** | **3317** | **100.0** | **868** | **26.5** | **2410** | **73.5** | **3278** | **100.0** | **828** | **25.7** | **2398** | **74.3** | **3226** | **100.0** |
| VCHA | NSCG | 476 | 23.6 | 1544 | 76.4 | 2020 | 100.0 | 482 | 26.3 | 1350 | 73.7 | 1832 | 100.0 | 479 | 24.9 | 1441 | 75.1 | 1920 | 100.0 | 523 | 27.4 | 1388 | 72.6 | 1911 | 100.0 |
| | RICH | 358 | 25.6 | 1043 | 74.4 | 1401 | 100.0 | 417 | 28.9 | 1025 | 71.1 | 1442 | 100.0 | 394 | 29.3 | 949 | 70.7 | 1343 | 100.0 | 335 | 29.1 | 817 | 70.9 | 1152 | 100.0 |
| | VANC | 447 | 26.8 | 1219 | 73.2 | 1666 | 100.0 | 501 | 28.9 | 1230 | 71.1 | 1731 | 100.0 | 504 | 30.4 | 1156 | 69.6 | 1660 | 100.0 | 527 | 31.1 | 1167 | 68.9 | 1694 | 100.0 |
| **Total** | | **1281** | **25.2** | **3806** | **74.8** | **5087** | **100.0** | **1400** | **28.0** | **3605** | **72.0** | **5005** | **100.0** | **1377** | **28.0** | **3546** | **72.0** | **4923** | **100.0** | **1385** | **29.1** | **3372** | **70.9** | **4757** | **100.0** |
| VIHA | CVI | 398 | 23.3 | 1310 | 76.7 | 1708 | 100.0 | 477 | 26.6 | 1319 | 73.4 | 1796 | 100.0 | 443 | 26.0 | 1264 | 74.0 | 1707 | 100.0 | 496 | 28.4 | 1251 | 71.6 | 1747 | 100.0 |
| | NVI | 213 | 22.2 | 747 | 77.8 | 960 | 100.0 | 228 | 23.8 | 731 | 76.2 | 959 | 100.0 | 236 | 25.3 | 696 | 74.7 | 932 | 100.0 | 231 | 26.0 | 659 | 74.0 | 890 | 100.0 |
| | SVI | 689 | 25.4 | 2028 | 74.6 | 2717 | 100.0 | 810 | 29.3 | 1951 | 70.7 | 2761 | 100.0 | 876 | 32.3 | 1838 | 67.7 | 2714 | 100.0 | 880 | 31.2 | 1937 | 68.8 | 2817 | 100.0 |
| **Total** | | **1300** | **24.1** | **4085** | **75.9** | **5385** | **100.0** | **1515** | **27.5** | **4001** | **72.5** | **5516** | **100.0** | **1555** | **29.0** | **3798** | **71.0** | **5353** | **100.0** | **1607** | **29.5** | **3847** | **70.5** | **5454** | **100.0** |
| **PHSA*** | | **1778** | **26.3** | **4995** | **73.7** | **6773** | **100.0** | **1850** | **28.4** | **4664** | **71.6** | **6514** | **100.0** | **1862** | **27.5** | **4899** | **72.5** | **6761** | **100.0** | **1969** | **28.3** | **4978** | **71.7** | **6947** | **100.0** |
| **HB** | | **0** | **0.0** | **370** | **100.0** | **370** | **100.0** | **0** | **0.0** | **472** | **100.0** | **472** | **100.0** | **0** | **0.0** | **494** | **100.0** | **494** | **100.0** | **0** | **0.0** | **512** | **100.0** | **512** | **100.0** |
| **Province** | | **9304** | **23.6** | **30107** | **76.4** | **39411** | **100.0** | **10304** | **26.2** | **28978** | **73.8** | **39282** | **100.0** | **10523** | **26.9** | **28628** | **73.1** | **39151** | **100.0** | **10843** | **27.7** | **28356** | **72.3** | **39199** | **100.0** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

DATA TABLE 12A

## Postpartum Length of Stay (Vaginal Deliveries) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | | | 2001/2002 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | < 48 Hours | | 48 -72 Hours | | > 72 Hours | | Total Applicable | | < 48 Hours | | 48 -72 Hours | | > 72 Hours | | Total Applicable | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| FHA | FE | 1268 | 68.5 | 486 | 26.3 | 97 | 5.2 | 1851 | 100.0 | 1337 | 71.4 | 419 | 22.4 | 117 | 6.2 | 1873 | 100.0 |
| | FN | 2446 | 62.8 | 1078 | 27.7 | 373 | 9.6 | 3897 | 100.0 | 2492 | 67.1 | 914 | 24.6 | 309 | 8.3 | 3715 | 100.0 |
| | FS | 3268 | 78.9 | 680 | 16.4 | 196 | 4.7 | 4144 | 100.0 | 3259 | 81.6 | 584 | 14.6 | 150 | 3.8 | 3993 | 100.0 |
| **Total** | | **6982** | **70.6** | **2244** | **22.7** | **666** | **6.7** | **9892** | **100.0** | **7088** | **74.0** | **1917** | **20.0** | **576** | **6.0** | **9581** | **100.0** |
| IHA | EK | 281 | 58.9 | 129 | 27.0 | 67 | 14.0 | 477 | 100.0 | 269 | 59.9 | 124 | 27.6 | 56 | 12.5 | 449 | 100.0 |
| | KB | 193 | 46.2 | 136 | 32.5 | 89 | 21.3 | 418 | 100.0 | 161 | 41.0 | 145 | 36.9 | 87 | 22.1 | 393 | 100.0 |
| | OK | 1224 | 62.1 | 510 | 25.9 | 238 | 12.1 | 1972 | 100.0 | 1206 | 63.2 | 483 | 25.3 | 218 | 11.4 | 1907 | 100.0 |
| | TCS | 870 | 67.8 | 290 | 22.6 | 123 | 9.6 | 1283 | 100.0 | 830 | 66.1 | 309 | 24.6 | 116 | 9.2 | 1255 | 100.0 |
| **Total** | | **2568** | **61.9** | **1065** | **25.7** | **517** | **12.5** | **4150** | **100.0** | **2466** | **61.6** | **1061** | **26.5** | **477** | **11.9** | **4004** | **100.0** |
| NHA | NE | 284 | 44.9 | 225 | 35.6 | 123 | 19.5 | 632 | 100.0 | 325 | 48.4 | 216 | 32.2 | 130 | 19.4 | 671 | 100.0 |
| | NI | 555 | 46.1 | 431 | 35.8 | 217 | 18.0 | 1203 | 100.0 | 578 | 53.4 | 371 | 34.3 | 133 | 12.3 | 1082 | 100.0 |
| | NW | 432 | 58.3 | 204 | 27.5 | 105 | 14.2 | 741 | 100.0 | 383 | 56.7 | 211 | 31.3 | 81 | 12.0 | 675 | 100.0 |
| **Total** | | **1271** | **49.3** | **860** | **33.4** | **445** | **17.3** | **2576** | **100.0** | **1286** | **53.0** | **798** | **32.9** | **344** | **14.2** | **2428** | **100.0** |
| VCHA | NSCG | 870 | 57.0 | 441 | 28.9 | 214 | 14.0 | 1525 | 100.0 | 803 | 60.1 | 343 | 25.7 | 191 | 14.3 | 1337 | 100.0 |
| | RICH | 708 | 68.1 | 288 | 27.7 | 44 | 4.2 | 1040 | 100.0 | 745 | 72.9 | 235 | 23.0 | 42 | 4.1 | 1022 | 100.0 |
| | VANC | 675 | 55.6 | 379 | 31.2 | 159 | 13.1 | 1213 | 100.0 | 730 | 59.6 | 365 | 29.8 | 130 | 10.6 | 1225 | 100.0 |
| **Total** | | **2253** | **59.6** | **1108** | **29.3** | **417** | **11.0** | **3778** | **100.0** | **2278** | **63.6** | **943** | **26.3** | **363** | **10.1** | **3584** | **100.0** |
| VIHA | CVI | 671 | 51.9 | 387 | 30.0 | 234 | 18.1 | 1292 | 100.0 | 734 | 56.5 | 351 | 27.0 | 214 | 16.5 | 1299 | 100.0 |
| | NVI | 422 | 57.9 | 203 | 27.8 | 104 | 14.3 | 729 | 100.0 | 418 | 59.4 | 213 | 30.3 | 73 | 10.4 | 704 | 100.0 |
| | SVI | 1088 | 54.3 | 622 | 31.1 | 292 | 14.6 | 2002 | 100.0 | 1005 | 52.0 | 622 | 32.2 | 304 | 15.7 | 1931 | 100.0 |
| **Total** | | **2181** | **54.2** | **1212** | **30.1** | **630** | **15.7** | **4023** | **100.0** | **2157** | **54.8** | **1186** | **30.1** | **591** | **15.0** | **3934** | **100.0** |
| **PHSA*** | | **2933** | **59.0** | **1479** | **29.8** | **558** | **11.2** | **4970** | **100.0** | **2682** | **57.8** | **1390** | **30.0** | **567** | **12.2** | **4639** | **100.0** |
| **HB** | | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Province** | | **18188** | **61.9** | **7968** | **27.1** | **3233** | **11.0** | **29389** | **100.0** | **17957** | **63.7** | **7295** | **25.9** | **2918** | **10.4** | **28170** | **100.0** |

| | | 2002/2003 | | | | | | | | 2003/2004 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | < 48 Hours | | 48 -72 Hours | | > 72 Hours | | Total Applicable | | < 48 Hours | | 48 -72 Hours | | > 72 Hours | | Total Applicable | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| FHA | FE | 1491 | 78.3 | 340 | 17.8 | 74 | 3.9 | 1905 | 100.0 | 1554 | 80.1 | 296 | 15.3 | 90 | 4.6 | 1940 | 100.0 |
| | FN | 2483 | 69.1 | 881 | 24.5 | 231 | 6.4 | 3595 | 100.0 | 2382 | 69.6 | 807 | 23.6 | 234 | 6.8 | 3423 | 100.0 |
| | FS | 3581 | 87.0 | 446 | 10.8 | 87 | 2.1 | 4114 | 100.0 | 3570 | 88.2 | 397 | 9.8 | 79 | 2.0 | 4046 | 100.0 |
| **Total** | | **7555** | **78.6** | **1667** | **17.3** | **392** | **4.1** | **9614** | **100.0** | **7506** | **79.8** | **1500** | **15.9** | **403** | **4.3** | **9409** | **100.0** |
| IHA | EK | 265 | 61.2 | 118 | 27.3 | 50 | 11.5 | 433 | 100.0 | 245 | 60.3 | 112 | 27.6 | 49 | 12.1 | 406 | 100.0 |
| | KB | 161 | 45.0 | 121 | 33.8 | 76 | 21.2 | 358 | 100.0 | 187 | 51.1 | 116 | 31.7 | 63 | 17.2 | 366 | 100.0 |
| | OK | 1152 | 65.8 | 392 | 22.4 | 208 | 11.9 | 1752 | 100.0 | 1112 | 63.9 | 396 | 22.8 | 232 | 13.3 | 1740 | 100.0 |
| | TCS | 831 | 69.0 | 264 | 21.9 | 109 | 9.1 | 1204 | 100.0 | 855 | 70.9 | 253 | 21.0 | 98 | 8.1 | 1206 | 100.0 |
| **Total** | | **2409** | **64.3** | **895** | **23.9** | **443** | **11.8** | **3747** | **100.0** | **2399** | **64.5** | **877** | **23.6** | **442** | **11.9** | **3718** | **100.0** |
| NHA | NE | 361 | 54.3 | 200 | 30.1 | 104 | 15.6 | 665 | 100.0 | 350 | 54.1 | 214 | 33.1 | 83 | 12.8 | 647 | 100.0 |
| | NI | 653 | 62.4 | 296 | 28.3 | 97 | 9.3 | 1046 | 100.0 | 698 | 66.0 | 263 | 24.9 | 96 | 9.1 | 1057 | 100.0 |
| | NW | 347 | 53.5 | 186 | 28.7 | 115 | 17.7 | 648 | 100.0 | 385 | 61.3 | 162 | 25.8 | 81 | 12.9 | 628 | 100.0 |
| **Total** | | **1361** | **57.7** | **682** | **28.9** | **316** | **13.4** | **2359** | **100.0** | **1433** | **61.4** | **639** | **27.4** | **260** | **11.1** | **2332** | **100.0** |
| VCHA | NSCG | 868 | 61.4 | 383 | 27.1 | 163 | 11.5 | 1414 | 100.0 | 913 | 66.9 | 317 | 23.2 | 135 | 9.9 | 1365 | 100.0 |
| | RICH | 691 | 73.2 | 224 | 23.7 | 29 | 3.1 | 944 | 100.0 | 595 | 73.4 | 190 | 23.4 | 26 | 3.2 | 811 | 100.0 |
| | VANC | 727 | 63.1 | 308 | 26.7 | 117 | 10.2 | 1152 | 100.0 | 760 | 65.6 | 273 | 23.6 | 125 | 10.8 | 1158 | 100.0 |
| **Total** | | **2286** | **65.1** | **915** | **26.1** | **309** | **8.8** | **3510** | **100.0** | **2268** | **68.0** | **780** | **23.4** | **286** | **8.6** | **3334** | **100.0** |
| VIHA | CVI | 718 | 57.9 | 340 | 27.4 | 182 | 14.7 | 1240 | 100.0 | 732 | 59.3 | 285 | 23.1 | 218 | 17.7 | 1235 | 100.0 |
| | NVI | 404 | 59.6 | 187 | 27.6 | 87 | 12.8 | 678 | 100.0 | 404 | 62.3 | 149 | 23.0 | 95 | 14.7 | 648 | 100.0 |
| | SVI | 994 | 54.5 | 568 | 31.1 | 263 | 14.4 | 1825 | 100.0 | 1080 | 56.2 | 572 | 29.7 | 271 | 14.1 | 1923 | 100.0 |
| **Total** | | **2116** | **56.5** | **1095** | **29.3** | **532** | **14.2** | **3743** | **100.0** | **2216** | **58.2** | **1006** | **26.4** | **584** | **15.3** | **3806** | **100.0** |
| **PHSA*** | | **2898** | **59.5** | **1363** | **28.0** | **608** | **12.5** | **4869** | **100.0** | **3038** | **61.4** | **1268** | **25.6** | **640** | **12.9** | **4946** | **100.0** |
| **HB** | | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Province** | | **18625** | **66.9** | **6617** | **23.8** | **2600** | **9.3** | **27842** | **100.0** | **18860** | **68.5** | **6070** | **22.0** | **2615** | **9.5** | **27545** | **100.0** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)



(Only singleton pregnancies, deliveries and births included)

# Postpartum Length of Stay (Caesarean Section Deliveries) by Place of Delivery for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | 2001/2002 | | | | | | 2002/2003 | | | | | | 2003/2004 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | <= 96 Hours | | > 96 Hours | | Total Applicable | | <= 96 Hours | | > 96 Hours | | Total Applicable | | <= 96 Hours | | > 96 Hours | | Total Applicable | | <= 96 Hours | | > 96 Hours | | Total Applicable | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| **FHA** | FE | 445 | 85.7 | 74 | 14.3 | 519 | 100.0 | 480 | 86.0 | 78 | 14.0 | 558 | 100.0 | 585 | 93.2 | 43 | 6.8 | 628 | 100.0 | 631 | 94.3 | 38 | 5.7 | 669 | 100.0 |
| | FN | 881 | 78.1 | 247 | 21.9 | 1128 | 100.0 | 1070 | 83.3 | 214 | 16.7 | 1284 | 100.0 | 1047 | 84.8 | 187 | 15.2 | 1234 | 100.0 | 1102 | 86.4 | 173 | 13.6 | 1275 | 100.0 |
| | FS | 1091 | 90.2 | 119 | 9.8 | 1210 | 100.0 | 1313 | 90.3 | 141 | 9.7 | 1454 | 100.0 | 1382 | 91.8 | 123 | 8.2 | 1505 | 100.0 | 1494 | 94.0 | 95 | 6.0 | 1589 | 100.0 |
| **Total** | | **2417** | **84.6** | **440** | **15.4** | **2857** | **100.0** | **2863** | **86.9** | **433** | **13.1** | **3296** | **100.0** | **3014** | **89.5** | **353** | **10.5** | **3367** | **100.0** | **3227** | **91.3** | **306** | **8.7** | **3533** | **100.0** |
| **IHA** | EK | 62 | 60.8 | 40 | 39.2 | 102 | 100.0 | 61 | 64.2 | 34 | 35.8 | 95 | 100.0 | 130 | 83.3 | 26 | 16.7 | 156 | 100.0 | 132 | 81.5 | 30 | 18.5 | 162 | 100.0 |
| | KB | 50 | 48.5 | 53 | 51.5 | 103 | 100.0 | 58 | 52.7 | 52 | 47.3 | 110 | 100.0 | 79 | 56.8 | 60 | 43.2 | 139 | 100.0 | 61 | 58.1 | 44 | 41.9 | 105 | 100.0 |
| | OK | 460 | 77.4 | 134 | 22.6 | 594 | 100.0 | 455 | 74.5 | 156 | 25.5 | 611 | 100.0 | 490 | 77.8 | 140 | 22.2 | 630 | 100.0 | 499 | 76.9 | 150 | 23.1 | 649 | 100.0 |
| | TCS | 364 | 78.4 | 100 | 21.6 | 464 | 100.0 | 401 | 77.3 | 118 | 22.7 | 519 | 100.0 | 417 | 83.1 | 85 | 16.9 | 502 | 100.0 | 477 | 86.9 | 72 | 13.1 | 549 | 100.0 |
| **Total** | | **936** | **74.1** | **327** | **25.9** | **1263** | **100.0** | **975** | **73.0** | **360** | **27.0** | **1335** | **100.0** | **1116** | **78.2** | **311** | **21.8** | **1427** | **100.0** | **1169** | **79.8** | **296** | **20.2** | **1465** | **100.0** |
| **NHA** | NE | 118 | 66.7 | 59 | 33.3 | 177 | 100.0 | 123 | 68.3 | 57 | 31.7 | 180 | 100.0 | 165 | 75.3 | 54 | 24.7 | 219 | 100.0 | 163 | 79.5 | 42 | 20.5 | 205 | 100.0 |
| | NI | 228 | 69.9 | 98 | 30.1 | 326 | 100.0 | 304 | 78.4 | 84 | 21.6 | 388 | 100.0 | 272 | 76.0 | 86 | 24.0 | 358 | 100.0 | 304 | 83.5 | 60 | 16.5 | 364 | 100.0 |
| | NW | 142 | 64.8 | 77 | 35.2 | 219 | 100.0 | 162 | 70.1 | 69 | 29.9 | 231 | 100.0 | 153 | 57.7 | 112 | 42.3 | 265 | 100.0 | 158 | 70.5 | 66 | 29.5 | 224 | 100.0 |
| **Total** | | **488** | **67.6** | **234** | **32.4** | **722** | **100.0** | **589** | **73.7** | **210** | **26.3** | **799** | **100.0** | **590** | **70.1** | **252** | **29.9** | **842** | **100.0** | **625** | **78.8** | **168** | **21.2** | **793** | **100.0** |
| **VCHA** | NSCG | 276 | 59.4 | 189 | 40.6 | 465 | 100.0 | 316 | 67.1 | 155 | 32.9 | 471 | 100.0 | 359 | 77.0 | 107 | 23.0 | 466 | 100.0 | 398 | 78.5 | 109 | 21.5 | 507 | 100.0 |
| | RICH | 281 | 80.5 | 68 | 19.5 | 349 | 100.0 | 328 | 78.8 | 88 | 21.2 | 416 | 100.0 | 347 | 88.5 | 45 | 11.5 | 392 | 100.0 | 306 | 92.7 | 24 | 7.3 | 330 | 100.0 |
| | VANC | 274 | 62.0 | 168 | 38.0 | 442 | 100.0 | 353 | 71.2 | 143 | 28.8 | 496 | 100.0 | 358 | 72.0 | 139 | 28.0 | 497 | 100.0 | 389 | 74.7 | 132 | 25.3 | 521 | 100.0 |
| **Total** | | **831** | **66.2** | **425** | **33.8** | **1256** | **100.0** | **997** | **72.1** | **386** | **27.9** | **1383** | **100.0** | **1064** | **78.5** | **291** | **21.5** | **1355** | **100.0** | **1093** | **80.5** | **265** | **19.5** | **1358** | **100.0** |
| **VIHA** | CVI | 234 | 60.8 | 151 | 39.2 | 385 | 100.0 | 322 | 69.1 | 144 | 30.9 | 466 | 100.0 | 302 | 69.7 | 131 | 30.3 | 433 | 100.0 | 349 | 73.0 | 129 | 27.0 | 478 | 100.0 |
| | NVI | 150 | 71.4 | 60 | 28.6 | 210 | 100.0 | 159 | 74.0 | 56 | 26.0 | 215 | 100.0 | 160 | 70.5 | 67 | 29.5 | 227 | 100.0 | 168 | 74.0 | 59 | 26.0 | 227 | 100.0 |
| | SVI | 468 | 68.8 | 212 | 31.2 | 680 | 100.0 | 599 | 74.9 | 201 | 25.1 | 800 | 100.0 | 616 | 70.7 | 255 | 29.3 | 871 | 100.0 | 643 | 73.3 | 234 | 26.7 | 877 | 100.0 |
| **Total** | | **852** | **66.8** | **423** | **33.2** | **1275** | **100.0** | **1080** | **72.9** | **401** | **27.1** | **1481** | **100.0** | **1078** | **70.4** | **453** | **29.6** | **1531** | **100.0** | **1160** | **73.3** | **422** | **26.7** | **1582** | **100.0** |
| **PHSA*** | | **1300** | **73.4** | **471** | **26.6** | **1771** | **100.0** | **1370** | **74.2** | **476** | **25.8** | **1846** | **100.0** | **1452** | **78.3** | **402** | **21.7** | **1854** | **100.0** | **1521** | **77.5** | **442** | **22.5** | **1963** | **100.0** |
| **HB** | | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** |
| **Province** | | **6824** | **74.6** | **2320** | **25.4** | **9144** | **100.0** | **7874** | **77.7** | **2266** | **22.3** | **10140** | **100.0** | **8314** | **80.1** | **2062** | **19.9** | **10376** | **100.0** | **8795** | **82.2** | **1899** | **17.8** | **10694** | **100.0** |

***PHSA:** Refers to BC Women's Hospital patients only

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas

Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

DATA TABLE 14A

## Low and Very Low Birth Weight by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | | | | | 2001/2002 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | < 500g | | 500-999g | | 1000-1499g | | 1500-2499g | | Total Low Birth Wt | | < 500g | | 500-999g | | 1000-1499g | | 1500-2499g | | Total Low Birth Wt | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| FHA | FE | 1 | 0.0 | 1 | 0.0 | 13 | 0.5 | 87 | 3.2 | 102 | 3.7 | 3 | 0.1 | 5 | 0.2 | 13 | 0.5 | 89 | 3.1 | 110 | 3.8 |
| | FN | 11 | 0.2 | 18 | 0.3 | 16 | 0.3 | 201 | 3.7 | 246 | 4.5 | 6 | 0.1 | 17 | 0.3 | 17 | 0.3 | 165 | 3.0 | 205 | 3.7 |
| | FS | 11 | 0.2 | 28 | 0.4 | 24 | 0.4 | 236 | 3.5 | 299 | 4.4 | 7 | 0.1 | 28 | 0.4 | 28 | 0.4 | 235 | 3.5 | 298 | 4.4 |
| **Total** | | **23** | **0.2** | **47** | **0.3** | **53** | **0.4** | **524** | **3.5** | **647** | **4.3** | **16** | **0.1** | **50** | **0.3** | **58** | **0.4** | **489** | **3.2** | **613** | **4.1** |
| IHA | EK | 1 | 0.2 | 1 | 0.2 | 0 | 0.0 | 16 | 2.5 | 18 | 2.8 | 0 | 0.0 | 1 | 0.2 | 2 | 0.3 | 16 | 2.6 | 19 | 3.1 |
| | KB | 0 | 0.0 | 1 | 0.2 | 1 | 0.2 | 15 | 2.5 | 17 | 2.8 | 0 | 0.0 | 0 | 0.0 | 4 | 0.7 | 20 | 3.4 | 24 | 4.1 |
| | OK | 2 | 0.1 | 8 | 0.3 | 6 | 0.2 | 86 | 3.4 | 102 | 4.0 | 3 | 0.1 | 5 | 0.2 | 10 | 0.4 | 76 | 3.0 | 94 | 3.7 |
| | TCS | 2 | 0.1 | 4 | 0.2 | 9 | 0.5 | 67 | 3.6 | 82 | 4.4 | 3 | 0.2 | 3 | 0.2 | 10 | 0.6 | 69 | 3.8 | 85 | 4.7 |
| **Total** | | **5** | **0.1** | **14** | **0.2** | **16** | **0.3** | **184** | **3.3** | **219** | **3.9** | **6** | **0.1** | **9** | **0.2** | **26** | **0.5** | **181** | **3.3** | **222** | **4.0** |
| NHA | NE | 6 | 0.7 | 1 | 0.1 | 1 | 0.1 | 18 | 2.2 | 26 | 3.2 | 0 | 0.0 | 0 | 0.0 | 2 | 0.2 | 29 | 3.4 | 31 | 3.7 |
| | NI | 1 | 0.1 | 3 | 0.2 | 6 | 0.4 | 59 | 3.7 | 69 | 4.3 | 4 | 0.3 | 5 | 0.3 | 4 | 0.3 | 43 | 2.7 | 56 | 3.5 |
| | NW | 0 | 0.0 | 6 | 0.6 | 5 | 0.5 | 27 | 2.6 | 38 | 3.7 | 3 | 0.3 | 4 | 0.4 | 4 | 0.4 | 27 | 2.7 | 38 | 3.9 |
| **Total** | | **7** | **0.2** | **10** | **0.3** | **12** | **0.3** | **104** | **3.0** | **133** | **3.9** | **7** | **0.2** | **9** | **0.3** | **10** | **0.3** | **99** | **2.9** | **125** | **3.7** |
| VCHA | NSCG | 1 | 0.0 | 3 | 0.1 | 4 | 0.2 | 67 | 2.8 | 75 | 3.2 | 4 | 0.2 | 3 | 0.1 | 6 | 0.3 | 62 | 2.8 | 75 | 3.4 |
| | RICH | 4 | 0.3 | 4 | 0.3 | 3 | 0.2 | 62 | 4.0 | 73 | 4.7 | 3 | 0.2 | 3 | 0.2 | 4 | 0.3 | 42 | 2.7 | 52 | 3.4 |
| | VANC | 9 | 0.2 | 19 | 0.3 | 20 | 0.3 | 223 | 3.9 | 271 | 4.7 | 7 | 0.1 | 19 | 0.3 | 24 | 0.4 | 185 | 3.3 | 235 | 4.2 |
| **Total** | | **14** | **0.1** | **26** | **0.3** | **27** | **0.3** | **352** | **3.6** | **419** | **4.3** | **14** | **0.1** | **25** | **0.3** | **34** | **0.4** | **289** | **3.1** | **362** | **3.9** |
| VIHA | CVI | 0 | 0.0 | 6 | 0.3 | 7 | 0.4 | 65 | 3.4 | 78 | 4.1 | 2 | 0.1 | 6 | 0.3 | 8 | 0.4 | 63 | 3.2 | 79 | 4.0 |
| | NVI | 2 | 0.2 | 5 | 0.5 | 8 | 0.8 | 36 | 3.5 | 51 | 5.0 | 0 | 0.0 | 7 | 0.7 | 1 | 0.1 | 27 | 2.7 | 35 | 3.5 |
| | SVI | 6 | 0.2 | 6 | 0.2 | 11 | 0.4 | 77 | 3.0 | 100 | 3.8 | 3 | 0.1 | 7 | 0.3 | 13 | 0.5 | 90 | 3.3 | 113 | 4.2 |
| **Total** | | **8** | **0.1** | **17** | **0.3** | **26** | **0.5** | **178** | **3.2** | **229** | **4.2** | **5** | **0.1** | **20** | **0.4** | **22** | **0.4** | **180** | **3.2** | **227** | **4.0** |
| **BC UNSPEC** | | **0** | **0.0** | **0** | **0.0** | **0** | **0.0** | **4** | **6.3** | **4** | **6.3** | **1** | **1.3** | **1** | **1.3** | **1** | **1.3** | **3** | **4.0** | **6** | **8.0** |
| **NON RES** | | **1** | **0.8** | **0** | **0.0** | **3** | **2.3** | **14** | **10.9** | **18** | **14.1** | **1** | **0.7** | **6** | **4.1** | **1** | **0.7** | **5** | **3.4** | **13** | **8.8** |
| **Province** | | **58** | **0.1** | **114** | **0.3** | **137** | **0.3** | **1360** | **3.5** | **1669** | **4.2** | **50** | **0.1** | **120** | **0.3** | **152** | **0.4** | **1246** | **3.2** | **1568** | **4.0** |

| | | 2002/2003 | | | | | | | | | | 2003/2004 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | < 500g | | 500-999g | | 1000-1499g | | 1500-2499g | | Total Low Birth Wt | | < 500g | | 500-999g | | 1000-1499g | | 1500-2499g | | Total Low Birth Wt | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| FHA | FE | 3 | 0.1 | 7 | 0.2 | 6 | 0.2 | 84 | 2.8 | 100 | 3.4 | 3 | 0.1 | 7 | 0.2 | 13 | 0.4 | 100 | 3.3 | 123 | 4.1 |
| | FN | 5 | 0.1 | 18 | 0.3 | 21 | 0.4 | 186 | 3.4 | 230 | 4.2 | 2 | 0.0 | 26 | 0.5 | 17 | 0.3 | 191 | 3.5 | 236 | 4.3 |
| | FS | 13 | 0.2 | 29 | 0.4 | 26 | 0.4 | 225 | 3.3 | 293 | 4.2 | 10 | 0.1 | 19 | 0.3 | 26 | 0.4 | 240 | 3.5 | 295 | 4.3 |
| **Total** | | **21** | **0.1** | **54** | **0.4** | **53** | **0.3** | **495** | **3.2** | **623** | **4.1** | **15** | **0.1** | **52** | **0.3** | **56** | **0.4** | **531** | **3.5** | **654** | **4.3** |
| IHA | EK | 1 | 0.2 | 1 | 0.2 | 0 | 0.0 | 20 | 3.1 | 22 | 3.4 | 0 | 0.0 | 2 | 0.3 | 1 | 0.2 | 20 | 3.3 | 23 | 3.7 |
| | KB | 0 | 0.0 | 5 | 0.9 | 2 | 0.4 | 20 | 3.6 | 27 | 4.8 | 0 | 0.0 | 1 | 0.2 | 1 | 0.2 | 17 | 3.1 | 19 | 3.5 |
| | OK | 3 | 0.1 | 6 | 0.3 | 4 | 0.2 | 81 | 3.4 | 94 | 3.9 | 0 | 0.0 | 6 | 0.3 | 8 | 0.3 | 73 | 3.1 | 87 | 3.6 |
| | TCS | 1 | 0.1 | 5 | 0.3 | 5 | 0.3 | 73 | 4.2 | 84 | 4.8 | 0 | 0.0 | 9 | 0.5 | 10 | 0.6 | 72 | 4.1 | 91 | 5.1 |
| **Total** | | **5** | **0.1** | **17** | **0.3** | **11** | **0.2** | **194** | **3.6** | **227** | **4.2** | **0** | **0.0** | **18** | **0.3** | **20** | **0.4** | **182** | **3.4** | **220** | **4.1** |
| NHA | NE | 1 | 0.1 | 1 | 0.1 | 2 | 0.2 | 24 | 2.8 | 28 | 3.2 | 2 | 0.2 | 1 | 0.1 | 1 | 0.1 | 18 | 2.1 | 22 | 2.6 |
| | NI | 3 | 0.2 | 7 | 0.5 | 9 | 0.6 | 62 | 4.1 | 81 | 5.4 | 0 | 0.0 | 8 | 0.5 | 9 | 0.6 | 51 | 3.3 | 68 | 4.4 |
| | NW | 3 | 0.3 | 5 | 0.5 | 1 | 0.1 | 20 | 2.0 | 29 | 2.9 | 1 | 0.1 | 1 | 0.1 | 3 | 0.3 | 25 | 2.7 | 30 | 3.3 |
| **Total** | | **7** | **0.2** | **13** | **0.4** | **12** | **0.4** | **106** | **3.2** | **138** | **4.1** | **3** | **0.1** | **10** | **0.3** | **13** | **0.4** | **94** | **2.8** | **120** | **3.6** |
| VCHA | NSCG | 4 | 0.2 | 3 | 0.1 | 4 | 0.2 | 70 | 3.1 | 81 | 3.6 | 1 | 0.0 | 7 | 0.3 | 6 | 0.3 | 52 | 2.3 | 66 | 2.9 |
| | RICH | 5 | 0.3 | 4 | 0.3 | 2 | 0.1 | 54 | 3.6 | 65 | 4.4 | 1 | 0.1 | 7 | 0.5 | 7 | 0.5 | 49 | 3.4 | 64 | 4.5 |
| | VANC | 13 | 0.2 | 17 | 0.3 | 19 | 0.3 | 216 | 3.8 | 265 | 4.7 | 3 | 0.1 | 9 | 0.2 | 21 | 0.4 | 224 | 3.9 | 257 | 4.5 |
| **Total** | | **22** | **0.2** | **24** | **0.3** | **25** | **0.3** | **340** | **3.6** | **411** | **4.4** | **5** | **0.1** | **23** | **0.2** | **34** | **0.4** | **325** | **3.5** | **387** | **4.1** |
| VIHA | CVI | 2 | 0.1 | 9 | 0.5 | 9 | 0.5 | 63 | 3.3 | 83 | 4.4 | 0 | 0.0 | 6 | 0.3 | 7 | 0.4 | 67 | 3.5 | 80 | 4.2 |
| | NVI | 2 | 0.2 | 5 | 0.5 | 4 | 0.4 | 33 | 3.3 | 44 | 4.4 | 1 | 0.1 | 5 | 0.5 | 3 | 0.3 | 34 | 3.6 | 43 | 4.6 |
| | SVI | 1 | 0.0 | 8 | 0.3 | 11 | 0.4 | 107 | 4.0 | 127 | 4.8 | 5 | 0.2 | 6 | 0.2 | 18 | 0.6 | 81 | 2.9 | 110 | 3.9 |
| **Total** | | **5** | **0.1** | **22** | **0.4** | **24** | **0.4** | **203** | **3.7** | **254** | **4.6** | **6** | **0.1** | **17** | **0.3** | **28** | **0.5** | **182** | **3.2** | **233** | **4.1** |
| **BC UNSPEC** | | **0** | **0.0** | **2** | **4.5** | **1** | **2.3** | **6** | **13.6** | **9** | **20.5** | **1** | **1.8** | **1** | **1.0** | **3** | **5.4** | **9** | **16.1** | **14** | **25.0** |
| **NON RES** | | **0** | **0.0** | **1** | **0.7** | **2** | **1.4** | **9** | **6.4** | **12** | **8.5** | **2** | **1.5** | **3** | **2.2** | **0** | **0.0** | **7** | **5.1** | **12** | **8.8** |
| **Province** | | **60** | **0.2** | **133** | **0.3** | **128** | **0.3** | **1353** | **3.5** | **1674** | **4.3** | **32** | **0.1** | **124** | **0.3** | **154** | **0.4** | **1330** | **3.4** | **1640** | **4.2** |

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas
Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)


(Only singleton pregnancies, deliveries and births included)

# Body Mass Index (BMI) by Place of Residence for Health Service Delivery Areas, Health Authorities and Province, 2000/2001, 2001/2002, 2002/2003, 2003/2004

| | | 2000/2001 | | | | | | | | | | 2001/2002 | | | | | | | | | | 2002/2003 | | | | | | | | | | 2003/2004 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unclassified | | Underweight | | Normal Weight | | Overweight | | Obese | | Unclassified | | Underweight | | Normal Weight | | Overweight | | Obese | | Unclassified | | Underweight | | Normal Weight | | Overweight | | Obese | | Unclassified | | Underweight | | Normal Weight | | Overweight | | Obese | |
| HA | HSDA | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| FHA | FE | 1060 | 38.8 | 113 | 4.1 | 988 | 36.1 | 383 | 14.0 | 190 | 6.9 | 1060 | 36.9 | 145 | 5.0 | 1068 | 37.2 | 380 | 13.2 | 221 | 7.7 | 1335 | 45.1 | 95 | 3.2 | 974 | 32.9 | 335 | 11.3 | 222 | 7.5 | 1904 | 63.3 | 60 | 2.0 | 652 | 21.7 | 223 | 7.4 | 171 | 5.7 |
| | FN | 1064 | 19.5 | 326 | 6.0 | 2783 | 50.9 | 847 | 15.5 | 446 | 8.2 | 998 | 18.3 | 313 | 5.7 | 2788 | 51.0 | 900 | 16.5 | 469 | 8.6 | 1136 | 20.8 | 334 | 6.1 | 2662 | 48.8 | 838 | 15.4 | 487 | 8.9 | 1360 | 24.8 | 275 | 5.0 | 2598 | 47.5 | 805 | 14.7 | 436 | 8.0 |
| | FS | 1075 | 16.0 | 489 | 7.3 | 3428 | 50.9 | 1149 | 17.1 | 593 | 8.8 | 960 | 14.2 | 469 | 6.9 | 3517 | 52.0 | 1202 | 17.8 | 616 | 9.1 | 873 | 12.6 | 514 | 7.4 | 3631 | 52.5 | 1265 | 18.3 | 636 | 9.2 | 1203 | 17.6 | 437 | 6.4 | 3432 | 50.1 | 1167 | 17.0 | 612 | 8.9 |
| **Total** | | **3199** | **21.4** | **928** | **6.2** | **7199** | **48.2** | **2379** | **15.9** | **1229** | **8.2** | **3018** | **20.0** | **927** | **6.1** | **7373** | **48.8** | **2482** | **16.4** | **1306** | **8.6** | **3344** | **21.8** | **943** | **6.1** | **7267** | **47.4** | **2438** | **15.9** | **1345** | **8.8** | **4467** | **29.1** | **772** | **5.0** | **6682** | **43.6** | **2195** | **14.3** | **1219** | **7.9** |
| IHA | EK | 350 | 54.0 | 17 | 2.6 | 167 | 25.8 | 77 | 11.9 | 37 | 5.7 | 279 | 45.8 | 18 | 3.0 | 197 | 32.3 | 70 | 11.5 | 45 | 7.4 | 327 | 50.0 | 18 | 2.8 | 203 | 31.0 | 64 | 9.8 | 42 | 6.4 | 373 | 60.7 | 11 | 1.8 | 148 | 24.1 | 49 | 8.0 | 34 | 5.5 |
| | KB | 220 | 36.6 | 28 | 4.7 | 230 | 38.3 | 87 | 14.5 | 36 | 6.0 | 254 | 42.9 | 21 | 3.5 | 206 | 34.8 | 64 | 10.8 | 47 | 7.9 | 230 | 41.1 | 12 | 2.1 | 218 | 38.9 | 70 | 12.5 | 30 | 5.4 | 225 | 41.2 | 20 | 3.7 | 207 | 37.9 | 61 | 11.2 | 33 | 6.0 |
| | OK | 758 | 29.6 | 106 | 4.1 | 1143 | 44.7 | 361 | 14.1 | 191 | 7.5 | 742 | 29.5 | 105 | 4.2 | 1114 | 44.4 | 346 | 13.8 | 204 | 8.1 | 786 | 32.9 | 94 | 3.9 | 991 | 41.4 | 330 | 13.8 | 190 | 7.9 | 889 | 37.2 | 72 | 3.0 | 916 | 38.4 | 334 | 14.0 | 177 | 7.4 |
| | TCS | 712 | 38.5 | 60 | 3.2 | 657 | 35.5 | 259 | 14.0 | 163 | 8.8 | 687 | 38.0 | 62 | 3.4 | 633 | 35.0 | 272 | 15.1 | 152 | 8.4 | 650 | 37.4 | 57 | 3.3 | 663 | 38.1 | 215 | 12.4 | 155 | 8.9 | 854 | 48.1 | 51 | 2.9 | 527 | 29.7 | 212 | 11.9 | 131 | 7.4 |
| **Total** | | **2040** | **36.0** | **211** | **3.7** | **2197** | **38.8** | **784** | **13.9** | **427** | **7.5** | **1962** | **35.6** | **206** | **3.7** | **2150** | **39.0** | **752** | **13.6** | **448** | **8.1** | **1993** | **37.3** | **181** | **3.4** | **2075** | **38.8** | **679** | **12.7** | **417** | **7.8** | **2341** | **44.0** | **154** | **2.9** | **1798** | **33.8** | **656** | **12.3** | **375** | **7.0** |
| NHA | NE | 294 | 35.9 | 20 | 2.4 | 310 | 37.9 | 117 | 14.3 | 77 | 9.4 | 304 | 36.0 | 27 | 3.2 | 273 | 32.3 | 130 | 15.4 | 110 | 13.0 | 342 | 39.7 | 23 | 2.7 | 268 | 31.1 | 126 | 14.6 | 103 | 11.9 | 311 | 36.2 | 25 | 2.9 | 297 | 34.6 | 136 | 15.8 | 90 | 10.5 |
| | NI | 687 | 43.1 | 60 | 3.8 | 520 | 32.6 | 193 | 12.1 | 133 | 8.3 | 738 | 46.8 | 48 | 3.0 | 459 | 29.1 | 199 | 12.6 | 134 | 8.5 | 582 | 38.6 | 51 | 3.4 | 506 | 33.6 | 224 | 14.9 | 143 | 9.5 | 573 | 37.3 | 44 | 2.9 | 513 | 33.4 | 228 | 14.8 | 178 | 11.6 |
| | NW | 647 | 62.6 | 13 | 1.3 | 202 | 19.6 | 105 | 10.2 | 66 | 6.4 | 701 | 71.2 | 13 | 1.3 | 138 | 14.0 | 75 | 7.6 | 57 | 5.8 | 722 | 73.2 | 10 | 1.0 | 139 | 14.1 | 64 | 6.5 | 51 | 5.2 | 747 | 81.6 | 7 | 0.8 | 78 | 8.5 | 39 | 4.3 | 44 | 4.8 |
| **Total** | | **1628** | **47.3** | **93** | **2.7** | **1032** | **30.0** | **415** | **12.0** | **276** | **8.0** | **1743** | **51.2** | **88** | **2.6** | **870** | **25.5** | **404** | **11.9** | **301** | **8.8** | **1646** | **49.1** | **84** | **2.5** | **913** | **27.2** | **414** | **12.3** | **297** | **8.9** | **1631** | **49.3** | **76** | **2.3** | **888** | **26.8** | **403** | **12.2** | **312** | **9.4** |
| VCHA | NSCG | 652 | 27.4 | 107 | 4.5 | 1182 | 49.7 | 304 | 12.8 | 132 | 5.6 | 603 | 27.5 | 88 | 4.0 | 1115 | 50.9 | 266 | 12.1 | 119 | 5.4 | 660 | 29.2 | 107 | 4.7 | 1108 | 48.9 | 280 | 12.4 | 109 | 4.8 | 757 | 33.1 | 88 | 3.8 | 1075 | 46.9 | 272 | 11.9 | 98 | 4.3 |
| | RICH | 270 | 17.4 | 133 | 8.6 | 867 | 55.9 | 200 | 12.9 | 82 | 5.3 | 295 | 19.2 | 117 | 7.6 | 853 | 55.4 | 193 | 12.5 | 81 | 5.3 | 298 | 20.0 | 112 | 7.5 | 838 | 56.2 | 177 | 11.9 | 65 | 4.4 | 262 | 18.3 | 101 | 7.0 | 783 | 54.6 | 201 | 14.0 | 86 | 6.0 |
| | VANC | 1496 | 26.0 | 436 | 7.6 | 3049 | 53.1 | 550 | 9.6 | 215 | 3.7 | 1333 | 23.7 | 415 | 7.4 | 2998 | 53.3 | 623 | 11.1 | 254 | 4.5 | 1403 | 24.9 | 419 | 7.4 | 3026 | 53.8 | 584 | 10.4 | 195 | 3.5 | 1573 | 27.6 | 371 | 6.5 | 3012 | 52.9 | 536 | 9.4 | 197 | 3.5 |
| **Total** | | **2418** | **25.0** | **676** | **7.0** | **5098** | **52.7** | **1054** | **10.9** | **429** | **4.4** | **2231** | **23.9** | **620** | **6.6** | **4966** | **53.1** | **1082** | **11.6** | **454** | **4.9** | **2361** | **25.2** | **638** | **6.8** | **4972** | **53.0** | **1041** | **11.1** | **369** | **3.9** | **2592** | **27.5** | **560** | **5.9** | **4870** | **51.7** | **1009** | **10.7** | **381** | **4.0** |
| VIHA | CVI | 614 | 32.6 | 60 | 3.2 | 718 | 38.1 | 307 | 16.3 | 187 | 9.9 | 635 | 32.4 | 71 | 3.6 | 759 | 38.7 | 296 | 15.1 | 199 | 10.2 | 695 | 36.8 | 72 | 3.8 | 675 | 35.7 | 244 | 12.9 | 205 | 10.8 | 845 | 44.5 | 60 | 3.2 | 587 | 30.9 | 242 | 12.8 | 164 | 8.6 |
| | NVI | 409 | 40.2 | 37 | 3.6 | 328 | 32.3 | 148 | 14.6 | 95 | 9.3 | 445 | 44.6 | 21 | 2.1 | 337 | 33.8 | 123 | 12.3 | 72 | 7.2 | 427 | 42.6 | 32 | 3.2 | 330 | 32.9 | 125 | 12.5 | 89 | 8.9 | 427 | 45.7 | 25 | 2.7 | 292 | 31.3 | 110 | 11.8 | 80 | 8.6 |
| | SVI | 280 | 10.7 | 133 | 5.1 | 1445 | 55.5 | 468 | 18.0 | 279 | 10.7 | 254 | 9.3 | 131 | 4.8 | 1533 | 56.4 | 529 | 19.5 | 272 | 10.0 | 296 | 11.1 | 117 | 4.4 | 1440 | 54.2 | 500 | 18.8 | 302 | 11.4 | 341 | 12.2 | 110 | 3.9 | 1474 | 52.8 | 550 | 19.7 | 319 | 11.4 |
| **Total** | | **1303** | **23.7** | **230** | **4.2** | **2491** | **45.2** | **923** | **16.8** | **561** | **10.2** | **1334** | **23.5** | **223** | **3.9** | **2629** | **46.3** | **948** | **16.7** | **543** | **9.6** | **1418** | **25.6** | **221** | **4.0** | **2445** | **44.1** | **869** | **15.7** | **596** | **10.7** | **1613** | **28.7** | **195** | **3.5** | **2353** | **41.8** | **902** | **16.0** | **563** | **10.0** |
| **BC UNSPEC** | | **18** | **28.6** | **3** | **4.8** | **27** | **42.9** | **5** | **7.9** | **10** | **15.9** | **17** | **22.7** | **6** | **8.0** | **35** | **46.7** | **7** | **9.3** | **10** | **13.3** | **14** | **31.8** | **6** | **13.6** | **17** | **38.6** | **6** | **13.6** | **1** | **2.3** | **21** | **37.5** | **4** | **7.1** | **21** | **37.5** | **7** | **12.5** | **3** | **5.4** |
| **NON RES** | | **59** | **46.1** | **7** | **5.5** | **45** | **35.2** | **10** | **7.8** | **7** | **5.5** | **71** | **48.3** | **11** | **7.5** | **50** | **34.0** | **11** | **7.5** | **4** | **2.7** | **56** | **39.7** | **6** | **4.3** | **57** | **40.4** | **13** | **9.2** | **9** | **6.4** | **76** | **55.9** | **6** | **4.4** | **37** | **27.2** | **8** | **5.9** | **9** | **6.6** |
| **Province** | | **10665** | **27.1** | **2148** | **5.5** | **18089** | **45.9** | **5570** | **14.1** | **2939** | **7.5** | **10376** | **26.4** | **2081** | **5.3** | **18073** | **46.0** | **5686** | **14.5** | **3066** | **7.8** | **10832** | **27.7** | **2079** | **5.3** | **17746** | **45.3** | **5460** | **13.9** | **3034** | **7.7** | **12741** | **32.5** | **1767** | **4.5** | **16649** | **42.5** | **5180** | **13.2** | **2862** | **7.3** |

**Note:** Unclassified – Unable to calculate body mass index
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

**Note:** Please refer to back flap for legend of the Health Authorities and Health Service Delivery Areas
Detailed data tables are available in the Publications/BCRCP Annual Report 2005 section of the BCRCP website (www.rcp.gov.bc.ca)

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## LEGEND

| Health Authority (HA) | |
|---|---|
| **FHA** | Fraser HA |
| **IHA** | Interior HA |
| **NHA** | Northern HA |
| **VCHA** | Vancouver Coastal HA |
| **VIHA** | Vancouver Island HA |
| **PHSA** | Provincial Health Services Authority |
| **BC UNSPEC** | Resident of BC – Postal Code Unknown |
| **NON RES** | Non-Resident of BC |
| **HB** | Home Birth |

| Health Service Delivery Area (HSDA) | |
|---|---|
| **FE** | Fraser East |
| **FN** | Fraser North |
| **FS** | Fraser South |
| **EK** | East Kootenay |
| **KB** | Kootenay Boundary |
| **OK** | Okanagan |
| **TCS** | Thompson Cariboo Shuswap |
| **NE** | Northeast |
| **NI** | Northern Interior |
| **NW** | Northwest |
| **NSCG** | Northshore/Coast Garibaldi |
| **RICH** | Richmond |
| **VANC** | Vancouver |
| **CVI** | Central Vancouver Island |
| **NVI** | North Vancouver Island |
| **SVI** | South Vancouver Island |