**Supplemental File:**

**Appendix Table A: Visits excluded from the number of physician visits indicator**

| **ICD-9 Codes** | **PopData Specific Codes** |
| --- | --- |
| **Code** | **Definition** | **Code** | **Definition** |
| 630-633 | Ectopic and molar pregnancy | L01 | Laboratory codes |
| 634-639 | Other pregnancy with abortive outcomes | X01 | X-ray codes |
| 640-648 | Complications mainly related to pregnancy | 08A | Healthy Newborn Care |
| 650-659 | Normal delivery, and other indications for care in pregnancy, labour and delivery | 10B | Sterilization – Female |
| 660-669 | Complications occurring mainly in the course of labour and delivery | 11B | Consultation Re Sterilization – Female |
| 670-677 | Complications of the puerperium | 12B | Genetic Counselling – Female |
| 760-763 | Maternal cause of perinatal morbidity and mortality | 15B | Artificial Insemination |
| 764-779 | Other conditions originating in the perinatal period | 16B | Insertion/Removal of IUD |
| V20 | Health supervision of infant or child | 18B | Prenatal Care |
| V21 | Constitutional states in development | 19B | Hypertrophy of Breast, Mammary Gland, Nipple Arising During Pregnancy |
| V22 | Normal pregnancy | 23B | Erosion and Inflammation Of Cervix (Uteri) Arising During Pregnancy |
| V23 | Supervision of high-risk pregnancy | 30B | Leukerrhea, Vaginal Discharge Not Otherwise Specified Arising DuringPregnancy |
| V24 | Postpartum care and examination | 31B | Contraceptive Advice |
| V25 | Encounter for contraceptive management | 32B | Hypertensive Disease Arising During Pregnancy |
| V26 | Procreative management | 33B | False Labour |
| V27 | Outcome of delivery | 34A | Pregnancy, Examination Pregnancy Unconfirmed |
| V28 | Antenatal screening | 34B | Premature Rupture of Membranes |
|  |  | 35B | Threatened Abortion |
|  |  | 36B | Pregnancy, Examination Pregnancy Unconfirmed |
|  |  | 37B | Premature Rupture of Membranes |
|  |  | 38B | Threatened Abortion |

ICD-9= International Classification of Diseases, Ninth Revision. PopData= Population Data BC.

**Appendix Table B: Description of maternal health outcomes**

|  |  |
| --- | --- |
| **Outcome** | **Definition** |
| Number of physician visits  | A physician visit is based on number of unique records by date and specialty, excluding visits for pregnancy or birth. Pregnancy or birth related visits excluded were any visit coded with the following ICD-9 or Popdata codes: 630 to 677, 760 to 779, V20 to V28, PopData codes 30B, 31B, 32B, 33B, 34B, 35B, 36B, 37B, 38B, 34A, 23B, 08A, 12B, 15B, 16B, 10B, 18B, 11B, 19B (these codes are described in Appendix Table A). |
| Number of different 3-level ATC codes  | Anatomical Therapeutic Classification (ATC) codes divide active substances into groups according to the organ or system on which they act and their therapeutic, pharmacological and chemical properties. Level-3 ATC codes represent major therapeutic or pharmacological subgroups. Prescriptions for systemic use hormonal contraceptives (code G03A) were excluded.  |
| Health conditions (%) | One or more of the following health conditions based on ICD-9 codes (listed in parentheses): allergy (287.0, 477, 995.27 or 995.3), arthritis (714), asthma (493), back problem (724), bronchitis (490, 491, 492, 466.0, 506.0), cancer (140-208,235-239), diabetes (249, 250), hearing problem (388, 389), heart disease (393-398, 401-405,410-414, 415-417,420-429), herpes (054, 771.2), hypertension (401, 796.2), injury (E800.0-E999), migraine (346), sinusitis (473), ulcer (531, 532), vision problem (365, 368). |

ICD-9= International Classification of Diseases, Ninth Revision. PopData= Population Data BC.

**Appendix Table C: Description of discontinuous (piecewise) growth models**

|  |
| --- |
| Discontinuous (piecewise) models allow growth (i.e., time) to be divided in multiple meaningful segments of time representing shifts in individual change.[[1](#_ENREF_1)] In this study, in addition to the linear effect of time over our study period, we considered three distinct segments of time: year before birth, year after birth, and time post-birth. Thus, the following linear discontinuous model was used to examine individual change in the maternal number of physician visits and the number of types of medication health outcomes:At Level 1:Y*ij*= π*0i* + π*1i* (*Timeij*) + π*2i* (*Year before birthij*) + π*3i* (*Year after birthij*) + π*4i* (*Time post-birthij*) + + π*5i* (*premium subsidyij*) + π*6i* (*low-income quintile neighbourhoodij*) + ε*ij* (1)where: Y*ij* is the health outcome of mother *i*at time *j*; π*0i* is the intercept indicating mother *i*’shealth outcome at baseline: π*1i* is the linear rate of change in mother *i*’shealth outcome; *Timeij* is a measure of years from baseline (i.e., 4 years before the child’s birth) until 7 years post-birth at time *j* for mother *i*, and takes on the integer values between 0 and 11; π*2i* , π*3i* , and π*4i* represent the change in slope in mother *i*’shealth outcome associated with the corresponding segments of time; *Year before birthij* and *Year after birthij* are dichotomous variables that allow the outcome for mother *i* to differ in these two years relative to the linear effect of *Timeij*; *Time post-birthij* measures the additional segment of time after the birth of the child, taking on integer values between 0 (year of child’s birth) and 7; π*5i* and π*6i* represent average population differences in mother’shealth outcome between mothers who receive premium subsidies and those who do not, and mothers who live in low-income quintile neighbourhoods and those who do not, respectively, with the two subscripts in *premium subsidyij* and *low-income quintile neighbourhoodij* indicate their time-varying nature; and, finally, ε*ij* is the random error associated with each mother’s trajectory representing the unexplained variation within mothers about each mother’s individual change.Thus, Equation 1 represents that the maternal health outcome trajectory is linear and discontinuous with 4 temporal predictors and two other individual growth parameters that specify its shape for the *i*th mother in the population. At Level 2, the intercept and slopes of the Level 1 model become the outcomes. Thus, the equations can be expressed as:π*0i* = *β00* + *β01* (CHP)*i + β02* (age of mother)*i + β03*(other CHP)*i +* r*0i* (2)π*1i* = *β10* + *β11* (CHP)*i + β12* (age of mother)*i + β13*(other CHP)*i +* r*1i* (3)π*2i* = *β20* + *β21* (CHP)*i + β22* (age of mother)*i + β23*(other CHP)*i* (4)π*3i* = *β30* + *β31* (CHP)*i + β32* (age of mother)*i + β33*(other CHP)*i* (5)π*4i* = *β40* + *β41* (CHP)*i + β42* (age of mother)*i + β43*(other CHP)*i +* r*4i* (6)π*5i* = *β50* (7)π*6i* = *β60* (8)Equation 2 shows that mother *i*’s average health outcome at the baseline (i.e., 4 years before the child’s birth; π*0i*) is a function of: the grand mean of the outcome for the sample (*β00*); the average difference in the outcome at baseline between mothers of CHPs and mothers of non-CHPs; the average difference in the outcome at baseline associated with a 10-year difference in maternal age, with mothers’ age centered on the group mean of 26 years; the average difference in the outcome at baseline between mothers who had another CHP born 1996 to 2000 vs mothers who did not; and, a random error component (r*0i*). Subsequent equations (2-8) estimate the differences in each temporal predictor and the two time-varying predictors, with or without a random error component.A logistic discontinuous growth-curve model was used to examine individual change in the probability of being diagnosed with a selected health condition. Although the same specification of fixed and random effects was used, these analyses defined the probability of being diagnosed with a selected health condition as equal to: *pij* = Pr(Y*ij* = 1) where *pij* was modeled using a logit link function. Thus at Level 1, the following model was estimated:log[*pij* /(1 - *pij* )]= π*0i* + π*1i* (*Timeij*) + π*2i* (*Year before birthij*) + π*3i* (*Year after birthij*) + π*4i* (*Time post-birthij*) + + π*5i* (*premium subsidyij*) + π*6i* (*low-income quintile neighbourhoodij*) Given this, π*0i* represented the log-odds of being diagnosed with a selected health condition at baseline. The remainder of the model specification is very similar to the linear discontinuous model that was used to examine individual change in the maternal number of physician visits and the number of types of medication health outcomes, except for the omission of the random error at Level 1, which is not estimated in logistic models. |

References:

[1]. Singer J, Willett J. Applied longitudinal data analysis: modeling change and event occurrence. New York: Oxford University Press; 2003.