**SUPPLEMENTAL TABLE AND FIGURE LEGENDS**

Supplemental Table 1. Details on data holdings, identification algorithms, and cohort characteristics by province.

Supplemental Table 2. Comparison of gender distribution by age group.

Supplemental Figure 1. Sensitivity analysis: meta-analysis of annual percentage change in incidence of IBD excluding provinces without validated identification algorithms (Nova Scotia and Quebec).

Supplemental Figure 2. Sensitivity analysis: meta-analysis of annual percentage change in prevalence of IBD excluding provinces without validation identification algorithms (Nova Scotia and Quebec).

Supplemental Table 1. Details on data holdings, identification algorithms, and cohort characteristics by province.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Alberta****(n = 664)** | **Manitoba****(n = 221)** | **Nova Scotia****(n = 236)** | **Ontario****(n = 2656)** | **Quebec****(n = 1437)** |
| **Study Cohort** | 1999-2008 | 1999-2010 | 2000-2008 | 1999-2010 | 1999-2008 |
| **Start Date of IBD Cohort** | April 1, 1996 | April 1, 1987 | April 1, 1993 | April 1, 1991 | April 1, 1996 |
| **Start Date of Incident IBD Cohort** | April 1, 1999 | April 1, 1987 | April 1, 2000 | April 1, 1994 | April 1, 1999 |
| **Identification Algorithm** | 2 hospitalizations, 4 outpatient visits or 2 ACCS contacts within 2 years | 5 outpatient visits or hospitalizations | If scoped: 4 outpatient visits or 2 hospitalizationsIf not scoped: 7 outpatient visits or 3 hospitalizations | If scoped: 4 outpatient visits or 2 hospitalizationsIf not scoped: 7 outpatient visits or 3 hospitalizations | 1 hospitalization or 4 outpatient visits within 2 years |
| **Accuracy of Identification Algorithm (when validated locally)** | Sens 83.4%Spec 99.8%PPV 97.4%NPV 98.5% | Sens 74.4-89.2%Spec 89.8-93.7% | n/a | Sens 89.6-91.1%Spec 99.5-100%PPV 57.7-75.2%NPV >99.9% | n/a |
| **Reference for Algorithm Validation Study** | Rezaie, 2012(16) | Bernstein, 1999(17) | n/a | Benchimol, 2009(7) | n/a |
| **Look-back period to distinguish incident from prevalent cases** | 3 years | 3 years | 3 years | 3 years | 3 years |
| **CD/UC Classification Algorithm** | Alberta-specific system(16):UC: ‘greater than +2’CD: ‘less than -2’IBDU: ‘between -2 and +2’ | 5 of last 9 outpatient contacts | 5 of last 7 outpatient contacts | 5 of last 7 outpatient contacts | 5 of last 7 outpatient contacts |

ACCS: Ambulatory Care Classification System; CD: Crohn’s disease; NPV: negative predictive value; PPV: positive predictive value; Sens: sensitivity; Spec: specificity; UC: ulcerative colitis; n/a: not applicable (i.e. algorithm not validated in province)

Supplemental Table 2. Comparison of sex distribution by age group.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Ontario** | **Quebec** | **Alberta** | **Nova Scotia** | **Manitoba** |
| Age Group | Female(%) | Males(%) | P | Female(%) | Males(%) | P | Females(%) | Males(%) |  P | Female(%) | Male(%) |  P | Female(%) | Male(%) |  P |
| IBD |
| 0.6-4.9y | 50(36.8%) | 86(63.2%) | 0.09 | 26(36.1%) | 46(63.9%) | 0.09 | 42(51.2%) | 40(48.8%) | 0.89 | 6 (46.2%) | 7 (53.9%) | 0.67 | ~25% | ~75% | 0.48 |
| 5-9.9y | 212(45.0%) | 259(55.0%) | 123(47.3%) | 137(52.7%) | 56(50.0%) | 56(50.0%) | 15(39.5%) | 23(60.5%) | 18(42.9%) | 24(57.1%) |
| 0.6-4.9y | 50(36.8%) | 86(63.2%) | 0.22 | 26(36.1%) | 46(63.9%) | 0.16 | 42(51.2%) | 40(48.8%) | 0.23 | 6(46.2%)  | 7(53.9%) | 0.84 | ~25% | ~75% | 0.82 |
| 10-15.9y | 863(42.1%) | 1186(57.9%) | 644(44.6%) | 801(55.4%) | 201(43.4%) | 262(56.6%) | 80(43.2%) | 105 (56.8%) | 99(56.6%) | 76(43.4%) |
| 5-9.9y | 212(45.0%) | 259(55.0%) | 0.25 | 123(47.3%) | 137(52.7%) | 0.41 | 56(50.0%) | 56(50.0%) | 0.24 | 15(39.5%) | 23(60.5%) | 0.67 | 18(42.9%) | 24(57.1%) | 0.15 |
| 10-15.9y | 863(42.1%) | 1186(57.9%) | 644(44.6%) | 801(55.4%) | 201(43.4%) | 262(56.6%) | 80(43.2%) | 105(56.8%) | 99(56.6%) | 76(43.4%) |
| CD |
| 0.6-4.9y | 16(44.4%) | 20(55.6%) | 0.60 | 20(31.8%) | 43(68.3%) | 0.05 | 18(50.0%) | 18(50.0%) | 0.67 | ~66.7% | ~33.3% | 0.36 | ~100% | ~0% | 1.0 |
| 5-9.9y | 102(39.8%) | 154(60.2%) | 98(45.6%) | 117(54.4%) | 22(44.9%) | 27(55.1%) | 10(45.5%) | 12(54.6%) | ~59.1% | ~40.9% |
| 0.6-4.9y | 16(44.4%) | 20(55.6%) | 0.54 | 20(31.8%) | 43(68.3%) | 0.11 | 18(50.0%) | 18(50.0%) | 0.37 | ~66.7% | ~33.3% | 0.19 | ~100% | ~0% | 1.0 |
| 10-15.9y | 503(39.4%) | 775(60.6%) | 525(41.9%) | 727(58.1%) | 129(41.2%) | 184(58.8%) | 48(39.7%) | 73(60.3%) | 65(61.3%) | 41(38.7%) |
| 5-9.9y | 102(39.8%) | 154(60.2%) | 0.88 | 98(45.6%) | 117(54.4%) | 0.32 | 22(44.9%) | 27(55.1%) | 0.64 | 10(45.5%) | 12(54.6%) | 0.61 | ~59.1% | ~40.9% | 1.0 |
| 10-15.9y | 503(39.4%) | 775(60.6%) | 525(41.9%) | 727(58.1%) | 129(41.2%) | 184(58.8%) | 48(39.7%) | 73(60.3%) | 65(61.3%) | 41(38.7%) |
| UC |
| 0.6-4.9y | 31(39.2%) | 48(60.8%) | 0.07 | ~62.5% | ~37.5% | 0.72 | 10(47.6%) | 11(52.4%) | 0.86 | ~28.6% | ~71.4% | 0.83 | ~66.7% | ~33.3% | 0.43 |
| 5-9.9y | 92(51.4%) | 87(48.6%) | 20(55.6%) | 16(44.4%) | 20(50.0%) | 20(50.0%) | ~33.3% | ~66.7% | ~25% | ~75% |
| 0.6-4.9y | 31(39.2%) | 48(60.8%) | 0.14 | ~62.5% | ~37.5% | 0.96 | 10(47.6%) | 11(52.4%) | 0.84 | ~28.6% | ~71.4% | 0.21 | ~66.7% | ~33.3% | 0.18 |
| 10-15.9y | 309(48.0%) | 335(52.0%) | 101(61.6%) | 63(38.4%) | 63(50.0%) | 63(50.0%) | 29(53.7%) | 25(46.3%) | 34(49.3%) | 35(50.7%) |
| 5-9.9y | 309(48.0%) | 335 (52.0%) | 0.42 | 20(55.6%) | 16(44.4%) | 0.50 | 20(50.0%) | 20(50.0%) | 1.0 | ~33.3% | ~66.7% | 0.20 | ~25% | ~75% | 1.0 |
| 10-15.9y | 92(51.4%) | 87 (48.6%) | 101(61.6%) | 63(38.4%) | 63(50.0%) | 63(50.0%) | 29 (53.7%) | 25 (46.3%) | 34 (49.3%) | 35(50.7%) |

y: years.
Note: Where estimates (~) are provided, small cell sizes were suppressed. Analysis used raw values and were analyzed using Wilcoxon rank sum.