Are There Regional Differences in Gynecologic Cancer Outcomes in the Context of a Single-payer, Publicly-funded Health Care System?

A Population-based Study

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ABSTRACT

Background: Canada has a single-payer, publicly-funded health care system that provides comprehensive health care, and therefore significant disparities in health outcomes are not expected in our population. The objective of this study was to determine if differences exist in endometrial cancer outcomes across regions in Ontario.

Methods: This was a population-based study of all endometrial (uterine) cancer cases diagnosed from 1996 to 2000 in Ontario and linked to various administrative databases. Univariate analyses examined trends in demographics (age, income, co-morbidities), treatment (surgical staging and adjuvant pelvic radiotherapy), and pathology (grade, histology, stage) across 14 geographic regions defined by local health integration networks (LHINs) in Ontario. Primary outcome was 5-year overall survival among LHINs, which were compared in a multilevel Cox regression model to account for clustering of patient data at the hospital level.

Results: There were 3,875 evaluable cases with complete information on demographics, treatment, pathology, and outcomes. There was significant variation in patient demographics, treatment, and pathology across the 14 LHINs. Low income level and surgery at a low-volume, community hospital without gynecologic oncologists were associated with a higher risk of death. There was a trend towards clustering of patients within hospitals. After adjustment for covariates, there was no significant difference in survival across LHINs.

Conclusions: In the context of a single-payer, publicly-funded health care system, we did not find significant regional differences in endometrial cancer outcomes.

Key words: Endometrial neoplasms; local health integration networks (LHINs); delivery of health care; outcome assessment

Ethics approval for this study was obtained from the Research Ethics Board of the Institute for Clinical Evaluative Sciences in Toronto, Ontario. All electronic records of endometrial cancer (International Classification of Disease code 179 or 182) were identified from the Ontario Cancer Registry (OCR) from 1996 to 2000, and linked to various administrative databases for prognostic information, treatment, and vital statistics to the end of 2005. Tumour histopathology, grade, and stage were abstracted directly from pathology files at the Ontario Cancer Registry. The Canadian Institute for Health Information database provided information on co-morbidities at the time of hospital admission for surgery, classified using Deyo’s clinical co-morbidity index for administrative databases. The Ontario Ministry of Health and Long-Term Care Registered
Persons Database (RPDB) provided residential postal codes, linked to census data to determine median income per neighbourhood, adjusted for regions in Ontario, and divided into quintiles. Treatment information was obtained through Ontario Health Insurance Plan (OHIP) billings for physician services. All patients had surgery as primary treatment for endometrial cancer, which consisted of either 1) hysterectomy with bilateral salpingo-oophorectomy (HBSO), or 2) surgical staging procedure, which consisted of HBSO and pelvic lymphadenectomy. Adjuvant pelvic radiotherapy (RT) was identified from physician billings for an initial radiation oncology consultation followed by at least 3 of 5 weekly assessments during radiotherapy, all within 4 months of surgery. Hospitals were classified according to teaching status (affiliation with one of five medical schools in the province), volume (according to number of inpatient admissions per year relative to the provincial median), and subspecialty (presence of at least one subspecialty surgeon, i.e., gynecologic oncologist). Vital statistics were obtained from the Ontario Cancer Registry. Specific details regarding relapses such as site and treatment were unavailable from these administrative databases, and therefore the primary outcome measure of this study was 5-year overall survival.

### Region definition

In 2004, the province of Ontario established local health integration networks (LHINs) as governance structures to regulate health care delivery at a local level. Each LHIN contains at least one “high-volume” hospital in Ontario, and all other associated institutional and community-funded services within that geographic region. The provincial government transfers funds to each LHIN, which then provides health services within that designated area. The population was analyzed according to region of residence defined by LHINs. A description of the LHINs is provided in Table I.

### Statistical analysis

Statistical analysis was performed using SAS 8.2 and STATA 6.0. Demographic characteristics, treatment, and pathology were compared among LHINs by chi-square univariate analyses. Overall survival (OS) was calculated from the date of surgery to death from any cause. We assumed that individual patients were clustered within hospitals, and that hospitals with smaller sample sizes could have extreme observations because of chance variation. We therefore created a multilevel model to account for clustering of patients within certain hospitals, and to improve the assessment of smaller hospitals because of greater regression to the mean. The model had random intercepts and fixed slopes because the assumption was that the covariates’ effects were fixed among hospitals while the mean effect of each hospital was allowed to vary. We included individual-level covariates (e.g., patient age, income, comorbidities, treatment, grade, histopathology, stage, and region of residence defined by LHIN), and group-level covariates relating to the hospital (teaching vs. community, high vs. low volume, presence of a gynecologic oncologist) to evaluate the effect of these variables on individual-level outcome (overall survival in endometrial cancer).

Effects of covariates were expressed as hazard ratios with 95% confidence intervals. A hazard ratio greater than 1.0 corresponds to a higher risk of death compared to the reference category of each covariate, whereas a hazard ratio less than 1.0 corresponds to a lower risk of death. The likelihood ratio test was used to determine overall regional differences in outcome by comparing adjusted hazard ratios among LHINs.

### RESULTS

There were 4,471 women with a diagnosis of endometrial cancer in Ontario between 1996 and 2000. The population of Ontario during this time was approximately 11.4 million. Demographic comparison of the population across LHINs is provided in Table II. There were significant differences among LHINs with respect to age, income level, and presence of co-morbidities. For analysis of overall survival, 550 women (12.3%) were excluded because there was no information on treatment or pathology, and another 46 patients had surgery in Ontario but resided in another province or state and therefore vital statistics were unavailable. A total of 3,875 women were evaluable for this study.

Univariate analysis revealed significant differences among LHINs with respect to known predictors of outcome in endometrial cancer, including stage, grade, and histopathology. These results are presented in Table III.

Treatment comparisons are presented in Table IV. The proportion of individuals residing in one LHIN who had surgery in another LHIN varied significantly from 45.9% to 98.7%. In three LHINs, almost 50% of patients went to a different LHIN for their surgery. There were 101 hospitals in this study, 50 of which were high volume. There were 20 teaching hospitals in 5 LHINs (2, 4, 7, 10, 11) and 81 community hospitals. There were 6 subspecialty hospitals with gynecologic oncologists. More than 90% of individuals residing in LHINs with teaching hospitals had surgery in their respective LHINs, except for LHIN 7 (82.3%). We found significant differences in the rates of surgical staging (0.7% to 58.3%) and adjuvant pelvic radiotherapy (11.8% to 27.5%).

### Table I

<table>
<thead>
<tr>
<th>LHIN</th>
<th>Name</th>
<th>Population</th>
<th>Endometrial Cancer (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Erie St. Clair</td>
<td>609,635</td>
<td>146</td>
</tr>
<tr>
<td>2</td>
<td>South West</td>
<td>870,592</td>
<td>328</td>
</tr>
<tr>
<td>3</td>
<td>Waterloo Wellington</td>
<td>633,478</td>
<td>231</td>
</tr>
<tr>
<td>4</td>
<td>Hamilton Niagara Haldimand Brant</td>
<td>1,261,971</td>
<td>482</td>
</tr>
<tr>
<td>5</td>
<td>Central West</td>
<td>626,578</td>
<td>143</td>
</tr>
<tr>
<td>6</td>
<td>Mississauga Halton</td>
<td>899,192</td>
<td>281</td>
</tr>
<tr>
<td>7</td>
<td>Toronto Central</td>
<td>1,093,191</td>
<td>396</td>
</tr>
<tr>
<td>8</td>
<td>Central</td>
<td>1,352,976</td>
<td>371</td>
</tr>
<tr>
<td>9</td>
<td>Central East</td>
<td>1,356,501</td>
<td>463</td>
</tr>
<tr>
<td>10</td>
<td>South East</td>
<td>442,832</td>
<td>229</td>
</tr>
<tr>
<td>11</td>
<td>Champlain</td>
<td>1,100,330</td>
<td>302</td>
</tr>
<tr>
<td>12</td>
<td>North Simcoe Muskoka</td>
<td>376,307</td>
<td>139</td>
</tr>
<tr>
<td>13</td>
<td>North East</td>
<td>553,158</td>
<td>231</td>
</tr>
<tr>
<td>14</td>
<td>North West</td>
<td>233,285</td>
<td>67</td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td>48</td>
</tr>
</tbody>
</table>

N/A = LHIN information not available
Total evaluable includes those with survival data available
* Ontario Ministry of Health and Long-Term Care. Local Health Integration Networks: Geographic Boundaries and Supporting Information. 2005.
### TABLE II

Comparison of Demographic Factors of Patients Across LHINs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>LHIN 1</th>
<th>LHIN 2</th>
<th>LHIN 3</th>
<th>LHIN 4</th>
<th>LHIN 5</th>
<th>LHIN 6</th>
<th>LHIN 7</th>
<th>LHIN 8</th>
<th>LHIN 9</th>
<th>LHIN 10</th>
<th>LHIN 11</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age ± SD</td>
<td>63.8 ± 16.1</td>
<td>63.4 ± 16.4</td>
<td>63.8 ± 16.4</td>
<td>64.1 ± 16.4</td>
<td>60.7 ± 16.3</td>
<td>62.9 ± 16.9</td>
<td>64.2 ± 16.9</td>
<td>63.0 ± 16.9</td>
<td>63.2 ± 16.9</td>
<td>65.1 ± 16.8</td>
<td>66.0 ± 16.8</td>
<td>62.6 ± 16.9</td>
<td>0.001</td>
</tr>
<tr>
<td>IQ 1</td>
<td>851 (19.0)</td>
<td>76 (18.1)</td>
<td>92 (23.6)</td>
<td>87 (25.5)</td>
<td>79 (25.3)</td>
<td>73 (24.9)</td>
<td>78 (25.2)</td>
<td>72 (25.3)</td>
<td>77 (25.3)</td>
<td>59 (24.1)</td>
<td>65 (26.3)</td>
<td>63 (27.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>IQ 2</td>
<td>896 (20.0)</td>
<td>60 (15.4)</td>
<td>80 (21.0)</td>
<td>79 (25.1)</td>
<td>55 (18.7)</td>
<td>81 (27.5)</td>
<td>79 (26.1)</td>
<td>83 (27.4)</td>
<td>81 (27.4)</td>
<td>41 (17.8)</td>
<td>42 (17.8)</td>
<td>41 (17.8)</td>
<td>0.073</td>
</tr>
<tr>
<td>IQ 3</td>
<td>832 (18.6)</td>
<td>74 (18.0)</td>
<td>59 (15.2)</td>
<td>61 (17.9)</td>
<td>45 (15.3)</td>
<td>60 (19.9)</td>
<td>65 (19.9)</td>
<td>65 (19.9)</td>
<td>61 (19.9)</td>
<td>66 (19.9)</td>
<td>41 (17.8)</td>
<td>42 (17.8)</td>
<td>0.027</td>
</tr>
<tr>
<td>IQ 4</td>
<td>832 (18.6)</td>
<td>74 (18.0)</td>
<td>59 (15.2)</td>
<td>61 (17.9)</td>
<td>45 (15.3)</td>
<td>60 (19.9)</td>
<td>65 (19.9)</td>
<td>65 (19.9)</td>
<td>61 (19.9)</td>
<td>66 (19.9)</td>
<td>41 (17.8)</td>
<td>42 (17.8)</td>
<td>0.027</td>
</tr>
<tr>
<td>IQ 5</td>
<td>905 (20.3)</td>
<td>74 (18.0)</td>
<td>59 (15.2)</td>
<td>61 (17.9)</td>
<td>45 (15.3)</td>
<td>60 (19.9)</td>
<td>65 (19.9)</td>
<td>65 (19.9)</td>
<td>61 (19.9)</td>
<td>66 (19.9)</td>
<td>41 (17.8)</td>
<td>42 (17.8)</td>
<td>0.027</td>
</tr>
<tr>
<td>CMI</td>
<td>2407 (53.9)</td>
<td>590 (46.6)</td>
<td>559 (45.2)</td>
<td>520 (45.4)</td>
<td>585 (58.5)</td>
<td>561 (57.3)</td>
<td>619 (56.3)</td>
<td>546 (53.9)</td>
<td>567 (54.6)</td>
<td>531 (51.6)</td>
<td>546 (53.9)</td>
<td>467 (50.1)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

† chi-square univariate analyses
SD = standard deviation
IQ = income quintile available on 4316 patients, missing data on 155 (3.5%) not shown. IQ 1 = less than 20th percentile, IQ 2 = 20th-40th percentile, IQ 3 = 40th-60th percentile, IQ 4 = 60th-80th percentile, IQ 5 = above 80th percentile
CMI = number of individuals with morbidity index score ≥ 1
All percentages are expressed in (%)
We fitted a multilevel Cox regression model to describe the association between covariates and survival at 5 years, and the estimates of covariate effects are presented in Table V. The multilevel model revealed a trend towards clustering of patients within hospitals (likelihood ratio test $\theta = 6.93$, $p=0.063$). Covariates associated with a higher risk of death included age (greater than 60 years), high grade and adverse histologic type, advanced stage, and the presence of co-morbidities. There was a lower risk of death among women in the middle income quintile relative to the lowest (hazard ratio 0.78, 95% CI 0.62-0.98), and those who underwent a surgical staging procedure (HR 0.72, 95% CI 0.57-0.90) compared to those who had HBsO. Hospital type did not have a significant effect on survival. The unadjusted and adjusted hazard ratios for the 14 LHINs are presented in anonymous and random order in Table VI. After adjustment for both patient- and hospital-level variables, only 1 LHIN had a significantly lower hazard ratio compared to the reference LHIN, however there was no overall difference in survival across all LHINs (likelihood ratio test $= 20.65$, $p=0.11$).

### DISCUSSION

In this large population-based study, there were three important findings regarding endometrial cancer treatment and outcomes at a provincial level. First, we did not find a significant difference in 5-year overall survival among the 14 LHINs. We did find a trend towards clustering of patients within hospitals, which could have been partly attributable to unequal geographic distribution of the population across LHINs (Table I), in addition to other unknown factors, such as referral bias towards certain hospitals (teaching or high volume), or towards specific surgeons (gynecologic oncologists).

The second important finding is that survival among the lowest income level was no different from the highest income level. Income inequality appears to be less of a problem in Canada than in the United States, and it has not been shown to be significantly associated with mortality in this country. In the United States, lower income has been shown to be associated with a higher risk of death in endometrial cancer, as lower-income American women are more likely to present with advanced stage disease. Under a single-payer, publicly-funded health care system, everyone should theoretically have access to primary and specialist care, regardless of socioeconomic status or income. While we did not find a survival difference between the lowest and highest income quintiles, we did find a lower risk of death among women in the middle income quintile compared to the lowest quintile. There may have been other potential covariates that we were unable to assess in this study, such as ethnicity, smoking, obesity, and other social or occupational determinants of health.

The third important finding is that hospital type was not associated with outcome. Women who had surgery at a community, low-volume hospital without a gynecologic oncologist did not have a higher risk of death than those who had surgery at a teaching, high-volume hospital with such subspecialty surgeons. Previous studies have demonstrated that certain cancer patients have better short- and long-term outcomes in higher-volume hospitals.

### TABLE V

**Predictors of Overall Survival in a Multilevel Cox Regression Model**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Hazard ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>60-70</td>
<td>1.77 (1.42-2.20)</td>
</tr>
<tr>
<td>Income quintile</td>
<td>2</td>
<td>3.47 (2.88-4.17)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0.85 (0.69-1.05)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0.78 (0.62-0.98)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>0.99 (0.79-1.24)</td>
</tr>
<tr>
<td>Co-morbidity index</td>
<td>≥1</td>
<td>0.92 (0.74-1.15)</td>
</tr>
<tr>
<td>Histology and grade</td>
<td>EA Grade 2</td>
<td>1.29 (1.12-1.49)</td>
</tr>
<tr>
<td></td>
<td>EA Grade 3</td>
<td>1.67 (1.35-2.06)</td>
</tr>
<tr>
<td></td>
<td>UPSC / CCC Sarcoma</td>
<td>4.74 (3.72-6.02)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>7.98 (6.26-10.19)</td>
</tr>
<tr>
<td>Stage</td>
<td>I</td>
<td>2.13 (1.43-3.19)</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>1.87 (1.51-2.33)</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>3.09 (2.51-3.61)</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>6.55 (5.18-8.29)</td>
</tr>
<tr>
<td>Surgery</td>
<td>Surgical staging</td>
<td>0.72 (0.57-0.90)</td>
</tr>
<tr>
<td></td>
<td>Pelvic radiotherapy</td>
<td>0.87 (0.74-1.03)</td>
</tr>
<tr>
<td></td>
<td>Teaching</td>
<td>0.76 (0.54-1.08)</td>
</tr>
<tr>
<td></td>
<td>High volume</td>
<td>1.20 (0.96-1.50)</td>
</tr>
<tr>
<td></td>
<td>Gynecologic oncologist</td>
<td>1.23 (0.95-1.59)</td>
</tr>
</tbody>
</table>

### TABLE VI

**Comparison of Unadjusted and Adjusted Hazard Ratios Among LHINs**

<table>
<thead>
<tr>
<th>LHIN</th>
<th>Unadjusted HR</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
<th>Adjusted HR</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.848</td>
<td>0.604</td>
<td>1.192</td>
<td>1.064</td>
<td>0.750</td>
<td>1.508</td>
</tr>
<tr>
<td>B</td>
<td>0.947</td>
<td>0.543</td>
<td>1.652</td>
<td>1.057</td>
<td>0.600</td>
<td>1.863</td>
</tr>
<tr>
<td>C</td>
<td>1.051</td>
<td>0.688</td>
<td>1.606</td>
<td>1.046</td>
<td>0.667</td>
<td>1.616</td>
</tr>
<tr>
<td>D</td>
<td>0.943</td>
<td>0.645</td>
<td>1.379</td>
<td>1.003</td>
<td>0.676</td>
<td>1.448</td>
</tr>
<tr>
<td>E</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>F</td>
<td>0.942</td>
<td>0.658</td>
<td>1.347</td>
<td>0.997</td>
<td>0.690</td>
<td>1.442</td>
</tr>
<tr>
<td>G</td>
<td>0.911</td>
<td>0.633</td>
<td>1.310</td>
<td>0.977</td>
<td>0.661</td>
<td>1.443</td>
</tr>
<tr>
<td>H</td>
<td>0.822</td>
<td>0.563</td>
<td>1.379</td>
<td>0.975</td>
<td>0.663</td>
<td>1.433</td>
</tr>
<tr>
<td>I</td>
<td>0.866</td>
<td>0.615</td>
<td>1.219</td>
<td>0.900</td>
<td>0.633</td>
<td>1.277</td>
</tr>
<tr>
<td>J</td>
<td>0.955</td>
<td>0.676</td>
<td>1.350</td>
<td>0.835</td>
<td>0.585</td>
<td>1.193</td>
</tr>
<tr>
<td>K</td>
<td>0.624</td>
<td>0.624</td>
<td>0.946</td>
<td>0.782</td>
<td>0.508</td>
<td>1.204</td>
</tr>
<tr>
<td>L</td>
<td>0.801</td>
<td>0.560</td>
<td>1.346</td>
<td>0.767</td>
<td>0.531</td>
<td>1.106</td>
</tr>
<tr>
<td>M</td>
<td>0.610</td>
<td>0.404</td>
<td>0.923</td>
<td>0.643</td>
<td>0.418</td>
<td>0.907</td>
</tr>
<tr>
<td>N</td>
<td>0.640</td>
<td>0.400</td>
<td>1.204</td>
<td>0.629</td>
<td>0.386</td>
<td>1.025</td>
</tr>
</tbody>
</table>

LHINs are anonymized and reported randomly in this table. Likelihood ratio test $= 20.65$, $p=0.11$. Although one of the LHINs has a significantly lower hazard ratio than the reference LHIN in the multivariable analysis, there is no significant difference in overall survival across all LHINs.
term outcomes in high-volume hospitals by subspecialty surgeons.\textsuperscript{9-14} In contrast to complex cancer procedures such as pancreatectomy, hepatectomy, esophagectomy, or ovarian cancer debulking, for which surgical expertise and procedure volume are associated with outcome,\textsuperscript{25,26} hysterectomy with bilateral salpingo-oophorectomy (HBSO) is not a cancer-specific procedure. It is a common operation that is offered by obstetrician-gynecologists for many benign gynecologic conditions,\textsuperscript{16,17} and therefore we would not expect surgeon type or procedure volume to be a significant factor in endometrial cancer outcomes.

There are several notable limitations to this study. First, details about relapses, such as timing, site, and treatment, were unavailable from administrative databases. For this reason, we could not determine disease-free survival or endometrial cancer-specific deaths. Second, although surgical staging was identified as a significant predictor of outcome, there could have been a considerable selection bias associated with this procedure. A surgical staging procedure generally requires greater exposure and more time than HBSO. Obese women are less likely to have this procedure because lymphadenectomy is technically challenging for these patients.\textsuperscript{18,19} Obesity may be associated with significant morbidity\textsuperscript{20-22} and mortality,\textsuperscript{23} and it is possible that non-obese women were selected for surgical staging. The third limitation is the absence of specific details regarding adjuvant radiotherapy. We did not find a survival benefit associated with adjuvant pelvic radiotherapy, in keeping with results from three other randomized trials.\textsuperscript{24-26} However, because we relied on physician billings to the Ministry of Health as a surrogate marker of adjuvant pelvic radiotherapy, we do not know if patients actually received treatment as prescribed. The limitations of the administrative databases underscore the need for prospective collection of data at a population level, including details pertaining to surgery, radiotherapy, and relapse.

CONCLUSIONS

This population-based study did not reveal significant regional differences in endometrial cancer outcomes across Ontario, Canada. These results were expected in the context of a single-payer, publicly-funded health care system. Ontario comprises almost one third of the Canadian population. The nine other provinces and three territories are serviced by a similar health care system, and therefore the Ontario experience should be generalizable to the rest of the Canadian population. Prospective data collection would enable LHINs to accurately evaluate and compare treatment and outcomes, and this data could prove to be essential in initiating strategies for improvement of health care delivery to their constituents.

REFERENCES


RÉSUMÉ

Contexte : Puisque le Canada est doté d’un régime public de soins de santé à payeur unique qui offre toute la gamme des soins, on ne s’attend pas à observer de disparités importantes dans les résultats cliniques de la population. Notre étude visait à déterminer l’existence d’écart régionaux dans les résultats des cancers de l’endomètre en Ontario.

Méthode : Il s’agissait d’une étude représentative de tous les cas de cancer de l’endomètre (utérus) diagnostiqués entre 1996 et 2000 en Ontario et liés à diverses bases de données administratives. Des analyses univariées ont permis de dégager des tendances concernant le profil démographique (âge, revenu, comorbidités), le traitement (stadiﬁcation par chirurgie et radiothérapie pelvienne adjuvante) et la pathologie (degré, histologie, stade) dans les 14 régions géographiques déﬁnies par les réseaux locaux d’intégration des services de santé (RLISS) de l’Ontario. Le principal résultat était la survie globale de 5 ans dans les divers RLISS, que nous avons comparés à l’aide dun modèle de régression de Cox multiniveau pour tenir compte de la concentration des données des patientes dans les hôpitaux.

Résultats : Nous avons trouvé 3 875 cas évaluables pour lesquels il existait des données complètes (sur le proﬁl démographique, le traitement, la pathologie et les résultats). Le proﬁl démographique des patientes, le traitement et la pathologie variaient de façon signiﬁcative dans les 14 RLISS. Les faibles niveaux de revenu et les chirurgies dans les petits hôpitaux communautaires sans gynécologue oncologue n’étaient toutefois pas associés à un risque de décès plus élevé. Nous avons observé une tendance à la concentration des cas dans les RLISS. Compte tenu des covariables, il n’y avait pas d’écart signiﬁcatif dans les taux de survie d’un RLISS à l’autre.

Conclusion : Dans le contexte d’un régime public de soins de santé à payeur unique, nous n’avons constaté aucune différence régionale signiﬁcative dans les résultats des cas de cancer de l’endomètre.

Mots clés : tumeurs de l’endomètre; réseaux locaux d’intégration des services de santé (RLISS); prestation des soins de santé; évaluation des résultats...
REGENAL COMPARISON OF ENDOMETRIAL CANCER OUTCOMES IN ONTARIO


Accepted: March 18, 2007

**Coming Events / Activités à venir**

To be assured of publication in the next issue, announcements should be received by May 31, 2008 and valid as of June 30, 2008. Announcements received after May 31, 2008 will be inserted as time and space permit.

**2nd National Community Health Nurses Conference**
Shaping the Future: Practice, Power, Politics
Community Health Nurses Initiative Group and Community Health Nurses Association of Canada
29-31 May 2008
Contact: First Stage Enterprises
Tel: 416-426-7029
www.chnc.ca and www.cnign.org

2008 CPHA Annual Conference/conference annuelle de l’ACSP
Public Health in Canada: Reducing Health Inequalities Through Evidence and Action/
La santé publique au Canada : vers une réduction des inégalités en santé par la recherche et l’action
1-4 June/1 juin 2008
Halifax, NS/N-É
Contact/contacter :
E-mail/courriel : conference@cpha.ca
www.cpha.ca

5th World Conference on Breast Cancer
Heart, Soul, & Science: “It’s a Small World After All”
4-8 June 2008
Winnipeg, MB
Contact: Tel: 204-480-4588
E-mail: mail@wcbcf.ca
www.wcbcf.ca

18th World Conference on Disaster Management
Resiliency – Individual, Community, Business
The Canadian Centre for Emergency Preparedness
15-18 June 2008
Toronto, ON
Contact:
www.wcmd.org

International Nursing Research Conference
Facing the Challenge of Health Care Systems in Transition
29 June-3 July 2008
Jerusalem, Israel
Contact: Dieneshaus Unitours – Convention Department
Tel: 972-3-5651313
Fax: 972-3-5610152
E-mail: meetings@dieneshaus.com
www.d-convention.com/israelnursing

Beyond the Horizon
74th Annual Educational Conference of the Canadian Institute of Public Health Inspectors (CIPH)
20-23 July 2008
St. John’s, NL
Contact: www.ciph.ca/events.htm

**CALL FOR ABSTRACTS**

**2nd European Conference on Injury Prevention and Safety Promotion**
Making Europe a Safer Place
9-10 October 2008
Paris, France
Contact: Conference Secretariat
Mrs. Joke Broekhuizen
Tel: +31 20 511 4513
Fax: +31 20 511 4510
E-mail: secretariat@eurosafe.eu.com
www.eurosafe.eu.com/paris2008

**Deadline for abstracts: 30 June 2008**

**CALL FOR ABSTRACTS**

**29th ICOH, International Congress on Occupational Health**
29th CIST, Congrès International de la Sante au Travail
Occupational Health: A Basic Right at Work – An Asset to Society / Santé au travail : un droit fondamental au travail – un atout à la société
22-27 March/mars 2009
Cape Town, South Africa / Afrique du Sud
Contact: Congress Secretariat / Secrétariat du Congrès
Tel/Tél : +27(0)21-938-9328/9245/9082/9651
Fax/Téléc : +27(0)21 933 2649
E-mail/Courriel : admin@icoh2009.co.za
www.icoh2009.co.za

**Deadline for abstracts: Late Spring 2008**