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 not 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

La traduction du résumé se trouve à la fin de l'article.

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Since the late 1950s, Canada has had a single-payer, publicly-funded health care system. With few exceptions, all Canadians qualify for universal health coverage regardless of medical history, personal income, or standard of living. Provision of health care is a provincial jurisdiction, and therefore each province is responsible for ensuring access to care. It is uncertain if this translates into comparable health care delivery and outcomes within each province. In particular, we do not know if cancer patients in one region of a province, such as Ontario, fare as well as those in another region.

Endometrial cancer is the most common gynecologic malignancy in Canada and the fourth most common cancer affecting women, after breast, lung, and colorectal cancer. Approximately 3,900 new cases are reported in Canada every year, 1,500 of which are in Ontario.¹ A recent study suggested a significant difference in practice patterns and outcomes in endometrial cancer within a sample of the population representing five regions in Ontario.² The primary objective of this study was to evaluate survival outcomes among all women diagnosed with endometrial cancer from 1996 to 2000 in Ontario, and to compare these outcomes among regions that are presently defined by local health integration networks (LHINs).

METHODS

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.³ 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.⁴ 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

TABLE I

Local Integration Health Networks (LHINs) in Ontario*

LHIN	Name	Population	Endometrial Cancer (N)
1	Erie St. Clair	609,655	164
2	South West	870,592	328
3	Waterloo Wellington	633,478	231
4	Hamilton Niagara Haldimand Brant	1,261,971	482
5	Central West	626,578	143
6	Mississauga Halton	899,192	281
7	Toronto Central	1,093,191	396
8	Central	1,352,976	371
9	Central East	1,356,501	463
10	South East	442,832	229
11	Champlain	1,100,330	302
12	North Simcoe Muskoka	376,307	139
13	North East	553,158	231
14	North West	233,285	67
N/A			48

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.

(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.⁵ 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.⁶ 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 II

Comparison of Demographic Factors of Patients Across LHINs

Variable	Total	LHIN 1	LHIN 2	LHIN 3	LHIN 4	LHIN 5	LHIN 6	LHIN 7	LHIN 8	LHIN 9	LHIN 10	LHIN 11	LHIN 12	LHIN 13	LHIN 14	p-value†
Mean age	63.8 ± 11.6	65.1 ± 12.0	64.4 ± 11.3	63.8 ± 12.5	64.4 ± 11.5	60.7 ± 12.9	62.9 ± 11.1	64.2 ± 12.2	63.0 ± 11.7	63.2 ± 11.5	65.1 ± 10.6	63.8 ± 11.8	66.0 ± 10.9	62.8 ± 11.5	62.8 ± 11.8	0.001
IQ 1	851 (19.0)	40 (20.5)	76 (19.6)	41 (16.1)	108 (19.2)	21 (13.5)	25 (7.9)	103 (22.5)	73 (17.4)	129 (23.6)	58 (21.7)	53 (15.1)	31 (19.4)	82 (30.3)	11 (14.7)	<0.001
IQ 2	896 (20.0)	49 (25.1)	69 (17.8)	60 (23.6)	122 (21.7)	40 (25.6)	55 (17.3)	83 (18.1)	79 (18.9)	129 (23.6)	41 (15.4)	58 (16.6)	27 (16.9)	64 (23.6)	18 (24.0)	
IQ 3	832 (18.6)	34 (17.4)	78 (20.1)	50 (19.7)	99 (17.6)	45 (28.8)	67 (21.1)	60 (13.1)	65 (15.5)	109 (20.0)	61 (22.8)	66 (18.9)	41 (25.6)	42 (15.5)	15 (20.0)	
IQ 4	832 (18.6)	34 (17.4)	81 (20.9)	55 (21.7)	119 (21.2)	22 (14.1)	81 (25.5)	63 (13.8)	99 (23.6)	86 (15.8)	51 (19.1)	65 (18.6)	26 (16.3)	34 (12.5)	16 (21.3)	
IQ 5	905 (20.3)	34 (17.4)	78 (20.1)	43 (16.9)	110 (19.6)	24 (15.4)	88 (27.7)	137 (29.9)	99 (23.6)	74 (13.6)	46 (17.2)	101 (28.9)	29 (18.1)	29 (10.7)	13 (17.3)	<0.001
CMI	2407 (53.9)	115 (59.0)	173 (44.6)	142 (55.9)	292 (52.0)	85 (54.5)	186 (58.5)	257 (56.1)	240 (57.3)	338 (61.9)	91 (34.1)	191 (54.6)	90 (56.3)	146 (53.9)	35 (46.7)	

† 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 co-morbidity index score ≥1

All percentages are expressed in ()

TABLE III

Endometrial Cancer Stage, Grade, and Histopathologic Type Among LHINs

Variable	Total (% of 3875)	LHIN 1	LHIN 2	LHIN 3	LHIN 4	LHIN 5	LHIN 6	LHIN 7	LHIN 8	LHIN 9	LHIN 10	LHIN 11	LHIN 12	LHIN 13	LHIN 14	LHIN N/A	p value†
Stage I	3077 (79.4)	134 (81.7)	264 (80.5)	187 (81.0)	409 (84.9)	115 (80.4)	234 (83.3)	292 (73.7)	271 (73.0)	380 (81.9)	194 (84.3)	221 (73.1)	110 (79.1)	191 (82.7)	51 (76.1)	35 (74.5)	<0.001
Stage II	388 (10.0)	12 (7.3)	23 (7.0)	21 (9.1)	36 (7.5)	19 (13.3)	18 (6.4)	52 (13.1)	54 (14.6)	48 (10.3)	20 (8.7)	37 (12.3)	13 (9.4)	24 (10.4)	8 (11.9)	NA	
Stage III	275 (7.1)	12 (7.3)	25 (7.6)	18 (7.8)	19 (3.9)	6 (4.2)	19 (6.8)	33 (8.3)	37 (10.0)	34 (7.3)	8 (3.5)	35 (11.6)	9 (6.5)	11 (4.8)	6 (9.0)	NA	
Stage IV	135 (3.5)	6 (3.7)	16 (4.9)	≤5*	18 (3.7)	≤5*	10 (3.6)	19 (4.8)	9 (2.4)	12 (2.6)	8 (3.5)	9 (3.0)	7 (5.0)	≤5*	≤5*	6 (12.8)	
EA	1899 (42.5)	79 (40.5)	170 (43.8)	141 (55.5)	245 (43.6)	66 (42.3)	142 (44.7)	179 (39.1)	179 (42.7)	207 (37.9)	132 (49.4)	141 (40.3)	59 (36.9)	110 (40.6)	33 (44.0)	16 (32.0)	<0.001
EA grade 1	1018 (22.8)	43 (22.1)	78 (20.1)	33 (13.0)	132 (23.5)	34 (21.8)	71 (22.3)	114 (24.9)	92 (22.0)	125 (22.9)	54 (20.2)	92 (26.3)	43 (26.9)	72 (26.6)	18 (24.0)	17 (34.0)	
EA grade 2	307 (6.9)	22 (11.3)	20 (5.2)	15 (5.9)	25 (4.4)	11 (7.1)	25 (7.9)	29 (6.3)	24 (5.7)	44 (8.1)	15 (5.6)	31 (8.9)	13 (8.1)	20 (7.4)	6 (8.0)	7 (14.0)	
EA grade 3	290 (6.5)	9 (4.6)	33 (8.5)	15 (5.9)	44 (7.8)	10 (6.4)	18 (5.7)	45 (9.8)	32 (7.6)	31 (5.7)	12 (4.5)	15 (4.3)	≤5*	11 (4.1)	6 (8.0)	NA	
UPSC or CCC	231 (5.2)	9 (4.6)	19 (4.9)	18 (7.1)	21 (3.7)	16 (10.3)	16 (5.0)	23 (5.0)	27 (6.4)	37 (6.8)	9 (3.4)	17 (4.9)	≤5*	7 (2.6)	≤5*	NA	
Sarcoma	724 (16.2)	33 (16.9)	68 (17.5)	32 (12.6)	95 (16.9)	19 (12.2)	46 (14.5)	68 (14.8)	65 (15.5)	102 (18.7)	45 (16.9)	54 (15.4)	35 (21.9)	51 (18.8)	8 (10.7)	NA	

EA = endometrioid adenocarcinoma

UPSC = uterine papillary serous carcinoma

CCC = clear cell carcinoma

Sarcoma = endometrial stromal sarcoma, leiomyosarcoma, malignant mixed müllerian tumors (carcinosarcoma)

Other = rare histologic types of endometrial cancer, including adenosquamous, small cell, squamous cell, and undifferentiated carcinoma

All percentages are expressed in ()

* Cell counts less than 5 suppressed as per Institute for Clinical Evaluative Sciences

NA = not available

† chi-square univariate analysis

TABLE IV

Comparison of Treatment Among LHINs

Variable	Total (% of 3875)	LHIN 1	LHIN 2	LHIN 3	LHIN 4	LHIN 5	LHIN 6	LHIN 7	LHIN 8	LHIN 9	LHIN 10	LHIN 11	LHIN 12	LHIN 13	LHIN 14	p value†
Surgery in same LHIN	2921 (75.4)	105 (64)	308 (93.9)	187 (81)	458 (95)	72 (50.3)	129 (45.9)	326 (82.3)	178 (48)	285 (61.4)	211 (92.1)	298 (98.7)	100 (71.9)	200 (86.6)	64 (95.5)	<0.001
Surgical staging‡	475 (12.3)	13 (7.9)	33 (10.1)	18 (7.8)	65 (13.5)	15 (10.5)	18 (6.4)	27 (6.8)	30 (8.1)	29 (6.3)	12 (5.2)	176 (58.3)	≤5*	NA	20 (29.9)	<0.001
Adjuvant pelvic RT	852 (22.0)	39 (23.8)	81 (24.7)	46 (19.9)	57 (11.8)	36 (25.2)	57 (20.3)	93 (23.5)	100 (27.0)	116 (25.0)	63 (27.5)	61 (20.2)	21 (15.1)	54 (23.4)	18 (26.9)	<0.001

All percentages are expressed in ()

* Cell counts less than 5 suppressed as per Institute for Clinical Evaluative Sciences

NA = not available

† chi-square univariate analysis

‡ Surgical staging by a gynecologic oncologist at a tertiary care centre

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.⁷ In the United States, lower income has been shown to be associated with a higher risk of death in endometrial

TABLE V

Predictors of Overall Survival in a Multilevel Cox Regression Model

Variable	Category *	Hazard ratio (95% CI)
Age (years)	60-70	1.77 (1.44-2.18)
	>70	3.47 (2.88-4.17)
Income quintile	2	0.85 (0.69-1.05)
	3	0.78 (0.62-0.98)
	4	0.99 (0.79-1.24)
	5	0.92 (0.74-1.15)
Co-morbidity index Histology and grade	≥ 1	1.29 (1.12-1.49)
	EA Grade 2	1.67 (1.35-2.06)
	EA Grade 3	4.74 (3.72-6.02)
	UPSC / CCC	4.23 (3.33-5.37)
	Sarcoma	7.98 (6.26-10.19)
	Other†	2.13 (1.43-3.19)
Stage	II	1.87 (1.51-2.33)
	III	3.09 (2.51-3.81)
	IV	6.55 (5.18-8.29)
	Surgical staging	0.72 (0.57-0.90)
Adjuvant therapy	Pelvic radiotherapy	0.87 (0.74-1.03)
	Teaching	0.76 (0.54-1.08)
Hospital	High volume	1.20 (0.96-1.50)
	Gynecologic oncologist	1.23 (0.95-1.59)

Likelihood-ratio test of $\theta = 6.93$, $p=0.063$ where θ is a measure of the degree of within-group (hospital) correlation.

* Reference categories are as follows: age <60, 1st income quintile (0-20th percentile), co-morbidity index 0, endometrioid adenocarcinoma histology grade 1, Stage I, hysterectomy with bilateral salpingo-oophorectomy without lymphadenectomy, no adjuvant pelvic radiotherapy, community hospital, low-volume hospital, hospital without gynecologic oncologists
EA = endometrioid adenocarcinoma
UPSC = uterine papillary serous carcinoma
CCC = clear cell carcinoma

Sarcoma = endometrial stromal sarcoma, leiomyosarcoma, malignant mixed müllerian tumors (carcinosarcoma)

† Other rare histologic types of endometrial cancer, including adenosquamous, small cell, squamous cell, and undifferentiated carcinoma

TABLE VI

Comparison of Unadjusted and Adjusted Hazard Ratios Among LHINs

LHIN	Unadjusted HR	95% CI Lower	95% CI Upper	Adjusted HR	95% CI Lower	95% CI Upper
A	0.848	0.604	1.192	1.064	0.750	1.508
B	0.947	0.543	1.652	1.057	0.600	1.863
C	1.051	0.688	1.606	1.046	0.667	1.616
D	0.943	0.645	1.379	1.003	0.676	1.448
E	1	—	—	1	—	—
F	0.942	0.658	1.347	0.997	0.690	1.442
G	0.911	0.633	1.310	0.977	0.661	1.443
H	0.822	0.563	1.199	0.975	0.663	1.433
I	0.866	0.615	1.219	0.900	0.635	1.277
J	0.955	0.676	1.350	0.835	0.585	1.193
K	0.624	0.624	0.946	0.782	0.508	1.204
L	0.801	0.560	1.146	0.767	0.531	1.106
M	0.610	0.404	0.923	0.643	0.418	0.987
N	0.640	0.400	1.024	0.629	0.386	1.025

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.

cancer, as lower-income American women are more likely to present with advanced stage disease.⁸ 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 high-volume hospitals by subspecialty surgeons.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,^{9,12,14,15} 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,^{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.^{18,19} Obesity may be associated with significant morbidity²⁰⁻²² and mortality,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.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.

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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'écarts 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 (stadiation 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 d'un 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 évaluable 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 à l'intérieur des hôpitaux. 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

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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.

Pour être publiés dans le prochain numéro, les avis doivent parvenir à la rédaction avant le **31 mai 2008** et être valables à compter du **30 juin 2008**. Les avis reçus après le **31 mai 2008** seront insérés si le temps et l'espace le permettent.

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 Toronto, ON
Contact: First Stage Enterprises
Tel: 416-426-7029
www.chnac.ca and www.chnig.org

2008 CPHA Annual Conference/conférence 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/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.wcdm.org

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

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

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
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E-mail: secretariat@eurosaf.eu.com
www.eurosaf.eu.com/paris2008

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Partnership, Innovation, Education
Hosted by PHAC in collaboration with CAIRE, CPA
and CPHA
30 November-3 December 2008
Toronto, ON
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Tel: 613-238-4870
Fax: 613-236-2727
E-mail: immunconf@phac-aspc.gc.ca
Deadline for abstracts: 30 June 2008

29th ICOH, International Congress on Occupational
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au Travail
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14th International Congress on Circumpolar Health
Health Canada and the Government of the
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11-16 July 2009 Yellowknife, NT
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Fax: 867-873-9338
E-mail: icch14@theedge.ca
Deadline for abstracts: Late Spring 2008