Cervical Cancer in Manitoba: evaluating risk, Pap test utilization, and access

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Objectives

- Compare the risk of invasive cervical cancer among women who received regular Pap tests and those who received irregular or no Pap tests.

- Determine if cases and controls had the same opportunity to be screened.

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- Determine if there is a relationship between physician characteristics and the probability of a woman being screened.

- Determine if tumour stage at diagnosis depends on screening history.

- Calculate the possible reduction in risk of cervical cancer if all Manitoba women were screened regularly.

Data Sources

- Manitoba Cancer Registry (MCR)
- Manitoba Health Insurance Plan Registration File (MH Population Registry)
- Manitoba Physician Claims Database
- Physician Master File
- 1996 Canadian Census
- Cervical Cancer Database

Method

- Case control study.

- 678 cases diagnosed between 1989 and 2001 were matched to 3378 controls by age at diagnosis and area of residence.

- Women had to be at least 18 years of age.

- Controls had no history of cervical cancer or any other malignant neoplasm excluding non-melanoma skin cancer.

- All cases and controls had at least 5 years of coverage by Manitoba Health prior to diagnosis date.

Results – Risk of cervical cancer and rate of Pap tests

- Between 1989 and 2001 (the whole study period)

  The rate of Pap test was 17% higher amongst control than cancer cases.

	N	OR	95% CI
Never had a Pap test	1500	2.77	2.30 - 3.30
Ever had a Pap test	2570	1.00	--
$10,000 income increase		0.78	0.69 - 0.89
Urban	2851	0.49	0.23 - 1.07
Rural	1219	1.00	--

Results – Risk of cervical cancer in relation to Pap test regularity

Women screened regularly - at least one Pap test every 3 years.

- Analyses were restricted to the 5-year period before diagnosis.

	OR	95% CI
Pap test regular	0.47	0.39 - 0.57
Other (irregular / none)	1.00	--
$10,000 income increase	0.85	0.79 - 0.91

Results – Rate of Pap test

- We looked at the rate of Pap test within the 5 year preceding the diagnosis dates of cases.

- The mean number of Pap tests for cases was 0.87.

- The mean number of Pap tests for controls was 1.38.

	N	RR	95% CI
Controls	3391	1.57	1.44 - 1.73
Cases	679	1.00	--
Age increase (10-yr steps)		0.80	0.78 - 0.81
$10,000 income increase	4070	1.06	1.04 - 1.07
Urban	2851	1.22	1.15 - 1.30
Rural	1219	1.00	--

Results – Tumour Stage (FIGO) and Regular Screening

Tumour stage for 460 cases

272 (59%) stage I

95 (21%) stage II

71 (15%) stage III

22 (5%) stage IV

	Tumour Stage	OR	95% CI
Not screened regularly	1	1.00	- -
	2	2.14	1.26 – 3.63
	3	8.71	3.56 – 21.32
	4	1.70	0.61 – 4.76

Method – Opportunity to be screened

- An opportunity to be screened was defined as any physician visit within the 5 years preceding the diagnosis date of the case excluding the 6 months prior to diagnosis.

- All physician visits up to 10 months after a Pap test were not considered another opportunity to be screened.

Results – Rate of physician visits (opportunity to be screened)

Within the 5 year period preceding a cancer diagnosis

Cancer cases had a mean number of 17.8 visits/opportunities.

Controls had a mean number of 18.3 visits/opportunities.

	RR	95% CI
Controls	1.04	0.96 - 1.12
Cases of cancer	1.00	--
Age (10-yr steps)	1.20	1.18 - 1.22
$10,000 income increase	0.94	0.92 - 0.95
Urban	1.02	0.96 - 1.09
Rural	1.00	--

Results – Physician Characteristics

We examined the probability of having a Pap test in the 5 years prior to diagnosis by physician characteristics.

	OR	95% CI
Entire data set		
Rural GP	0.81	0.77 – 0.85
Obstetrician/gynecologist	6.35	6.03 – 6.68
Sub set (55%)		
Canadian graduate	1.22	1.16 – 1.28
Graduation year	1.36	1.20 – 1.54
Female	1.67	1.59 – 1.76

Results – Risk reduction

- We calculated the possible reduction in the number of cervical cancer cases for the year 1999 if all women had been screened regularly.

- We assumed that the rate of regularity among controls was the same as the general population and that all of the population was regular.

- Regular screening was defined as at least one Pap test every 3 years.

Results – Risk reduction

Featured Bear: Butterbear Garden
Sponsor: Arnold Bros. Transport Ltd.
Artist: Jennifer LaBella

BEARS BEYOND BROADWAY

CLEARSPRING CENTRE, STEINBACH
MONDAY, MARCH 13

Four of CancerCare Manitoba (CCMB) Foundation's "Bears" are coming out of hibernation for a one-day only trip to Steinbach. Come see these amazing works of art, on display from 10am – 6pm.

SPECIAL PRESENTATIONS at 11am, 2pm & 5pm

REDUCE YOUR RISK OF CANCER: CHECK UP!

Regular breast screening can lower deaths in women aged 50 - 69 by 25%. A 30-minute appointment every two years could save your life. This March, CCMB's Mobile Breast Screening Unit will be in the following communities. To make an appointment for your free mammogram, call 1-800-903-9290.

• Steinbach: March 6-16
• St. Pierre: March 13-16
• Morris: March 21-29
• Carman: March 20-April 5

Regular Pap tests and treating early changes will reduce the risk of developing cervical cancer. Women should have a Pap test at least every 2 years. To find out when you had your last Pap test or where you can go, call 1-866-616-8805.

CancerCareManitoba FOUNDATION

MANITOBA BREAST SCREENING PROGRAM

PROGRAMME MANITOBAIN DE DÉPISTAGE DU CANCER DU SEIN

PROGRAMME MANITOBAIN DU DÉPISTAGE DU CANCER DU COL UTÉRIN

MANITOBA CERVICAL CANCER SCREENING PROGRAM

- There were 51 cases of invasive cervical cancer in Manitoba in 1999.

- If all women were screened regularly, there would have been 34.4 cases.

- 51 – 34 cases = 17 fewer cases (33%).

- Conclusions.

- Implications for program delivery.

- Expanded analysis.

Every woman should know about Pap tests.

Pap tests prevent cervical cancer.
Book your appointment today.