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# **Cervical cancer incidence (2006-2010) and Pap smear screening history in Saskatchewan, Canada**

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# Outline

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- Background
- Purpose of this study
- Methods
- Results
- Conclusions
- Future Directions
- Limitations

# Background - Saskatchewan

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- Population: ~1.1 million
- Major urban centres:
  - Saskatoon (~260,000)
  - Regina (~210,000)



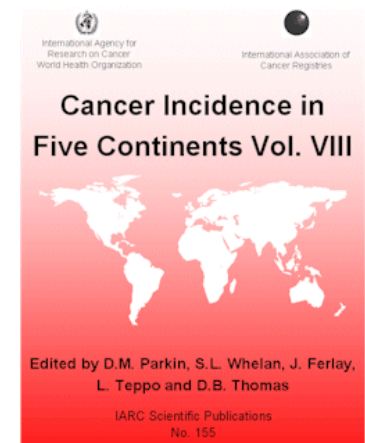
# Background - The Saskatchewan Cancer Agency

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- Responsible for provision of cancer services to the people of Saskatchewan
- Prevention, early detection, treatment, research
- Two primary treatment facilities: Regina & Saskatoon
- Operates the Saskatchewan Cancer Registry

# Background - The Saskatchewan Cancer Registry

- One of the world's oldest cancer registries, started in 1932
- NAACCR Gold Standard Certification six years standing
- Contributed to ten volumes of IARC's "Cancer Incidence in Five Continents"



# Background – Cervical Cancer Screening in Saskatchewan

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- 1960s-2003: Opportunistic screening
- 2003: Prevention Program for Cervical Cancer
- All invasive and in situ cases are reportable

# Purpose Of This Study

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- Investigate Pap test participation in women diagnosed with cervical cancer in Saskatchewan from 2006-2010

# Methods

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- Linked Saskatchewan Cancer Registry database with the Saskatchewan Cancer Agency's Prevention Program for Cervical Cancer database
- Cancer cases from 2006-2010
- Screening data from 2000 onward



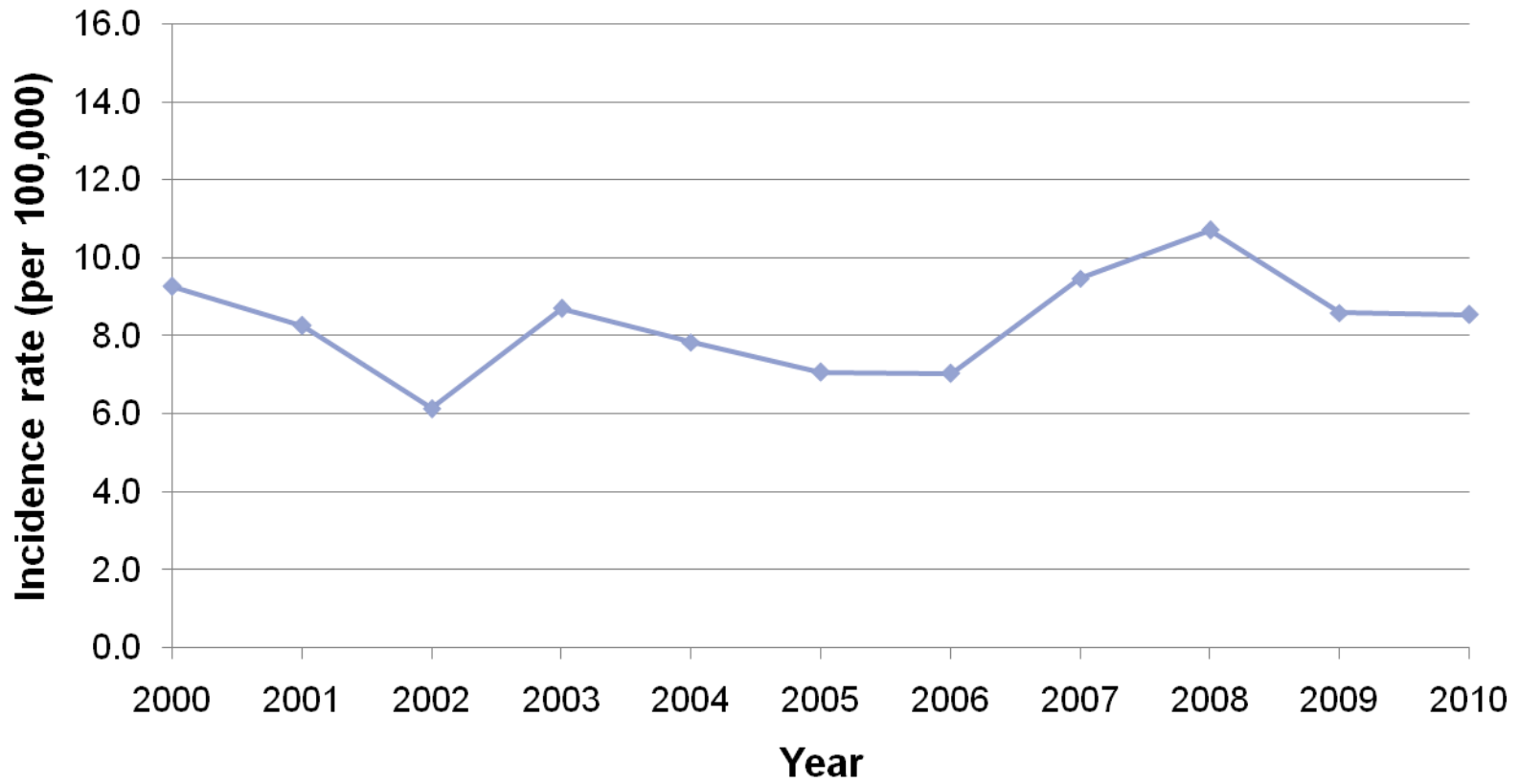
# Methods

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- No Pap Test/0-6 months:
  - No Pap test (since 2000)
  - Only Pap test(s) (since 2000) was taken within 6 months of diagnosis
- At Least One Pap Test:
  - At least one Pap test (since 2000) taken >6 months before diagnosis
  - If most recent Pap test was taken within 6 months, this test was excluded

# Results

Age-standardized\* incidence rate (per 100,000) for invasive cervical cancer (2000-2010)



\*Based on 1991 Canadian population

# Pap test and cancer behaviour

	No Pap Test/0-6 months	At Least One Pap Test
<b>In Situ</b>		
Frequency	120	927
%	11.5	88.5
<b>Invasive</b>		
Frequency	68	154
%	30.6	69.4
<b>Total</b>		
Frequency	188	1081
%	14.8	85.2

OR=3.44

N=1269

p-value <.0001

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# Invasive cervical cancer: screening and cancer stage

	No Pap Test/0-6 months	At Least One Pap Test
<b>Stage I &amp; II</b>		
Frequency	34	109
%	23.8	76.2
<b>Stage III &amp; IV</b>		
Frequency	32	41
%	43.8	56.2
<b>Total</b>		
Frequency	66	150
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N=216 (6 missing)

p-value = .0189

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# Invasive cervical cancer: screening and cancer stage

	No Pap Test/0-6 months	At Least One Pap Test
<b>Stage I, II, &amp; III</b>		
Frequency	52	140
%	27.1	72.9
<b>Stage IV</b>		
Frequency	14	10
%	58.3	41.7
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# Screening interval and cancer behaviour

	No Pap Test	0-182 days (0-6 months)	183-1095 days (>6 months-3 years)	1096-1825 days (>3-5 years)	1826+ days (>5 years)
<b>In Situ</b>					
Frequency	55	65	762	83	82
%	5.3	6.2	72.8	7.9	7.8
<b>Invasive</b>					
Frequency	32	36	96	19	39
%	14.4	16.2	43.2	8.6	17.6
<b>Total</b>					
Frequency	87	101	858	102	121
%	6.9	8.0	67.6	8.0	9.5

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# Conclusions

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- Later stages of invasive were less likely than earlier stages to have received a Pap test
- Invasive cases were less likely than in situ cases to have received a Pap test between 6 months-5 years before diagnosis

# Future Directions

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- Investigate last Pap test result before cancer diagnosis (abnormal versus normal)
- Follow-up of abnormal results
- Continue to utilize registry and screening data to evaluate screening program



# Limitations

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- Small numbers
- Diagnostic/screening within 6 months of diagnosis
- Data only as far back as 2000

# Questions

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