



PUBLIC HEALTH AGENCY *of* CANADA
AGENCE DE SANTÉ PUBLIQUE *du* CANADA



Public Health
Agency of Canada

Agence de santé
publique du Canada

Canada 

HPV Immunization, Canadian Perspective

Mahnaz FarhangMehr

Interim Director, Immunization Division

Center for Immunization and Respiratory Infectious
Diseases, Public Health Agency of Canada



Outline

- Background, Extent of the problem
- Program Planning Framework
- Decision Making Process for Introduction of Vaccines
- Reaction and Response
- Impact on Cervical Screening



Background and Extent

- HPV infection Non-notifiable in Canada
- In Canada, cervical cancer is the 12th most common cancer diagnosed in women.
- In Canada, it is estimated that there were ~ 1,400 new cases and 420 deaths due to the disease in 2005
- No National Surveillance Program.



Prevalence of HPV High-Risk Types Across Canada

- Information from independent studies in select populations
- Variability in prevalence depending on women's age, sampling methods, region, site

Authors	Pub Date	Provinces	SS	Gender	Age	Site	Prevalence (HR)
Hankins et al.	1999	National	375	Women	?	HIV clinics	67.20%
Sellors et al.	2000	ON	1,004	Women	15-49	Family Practise	3.4-24%
Ratnam et al.	2000	NF	2,098	Women	18-69	Clinics (pap)	2.6-16.7%
Sellors et al.	2002	ON	156	Women	50+	Family Practise	10-12%
Richardson et al.	2003	QC	621	Women	18-24	University	11.4-16.3%
Healy et al.	2004	NU	1,290	Women	13-79	Clinics (pap)	26%
Ogilvie et al	2007	BC	151	Women	18+	Outreach	28.50%



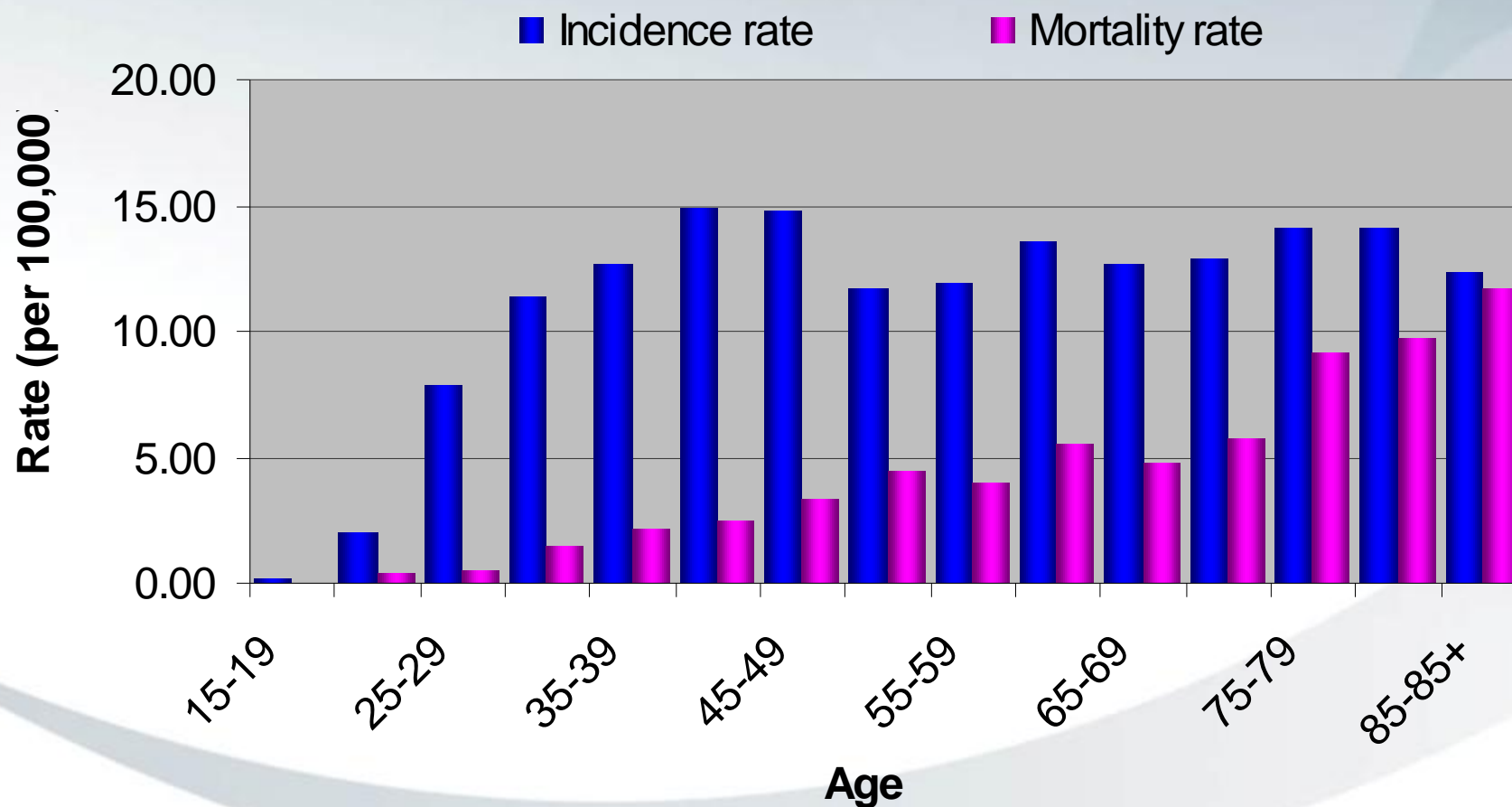
Estimated Cervical Cancer Cases Canada, 2008

Number of new cases: 1,300

Number of deaths: 380

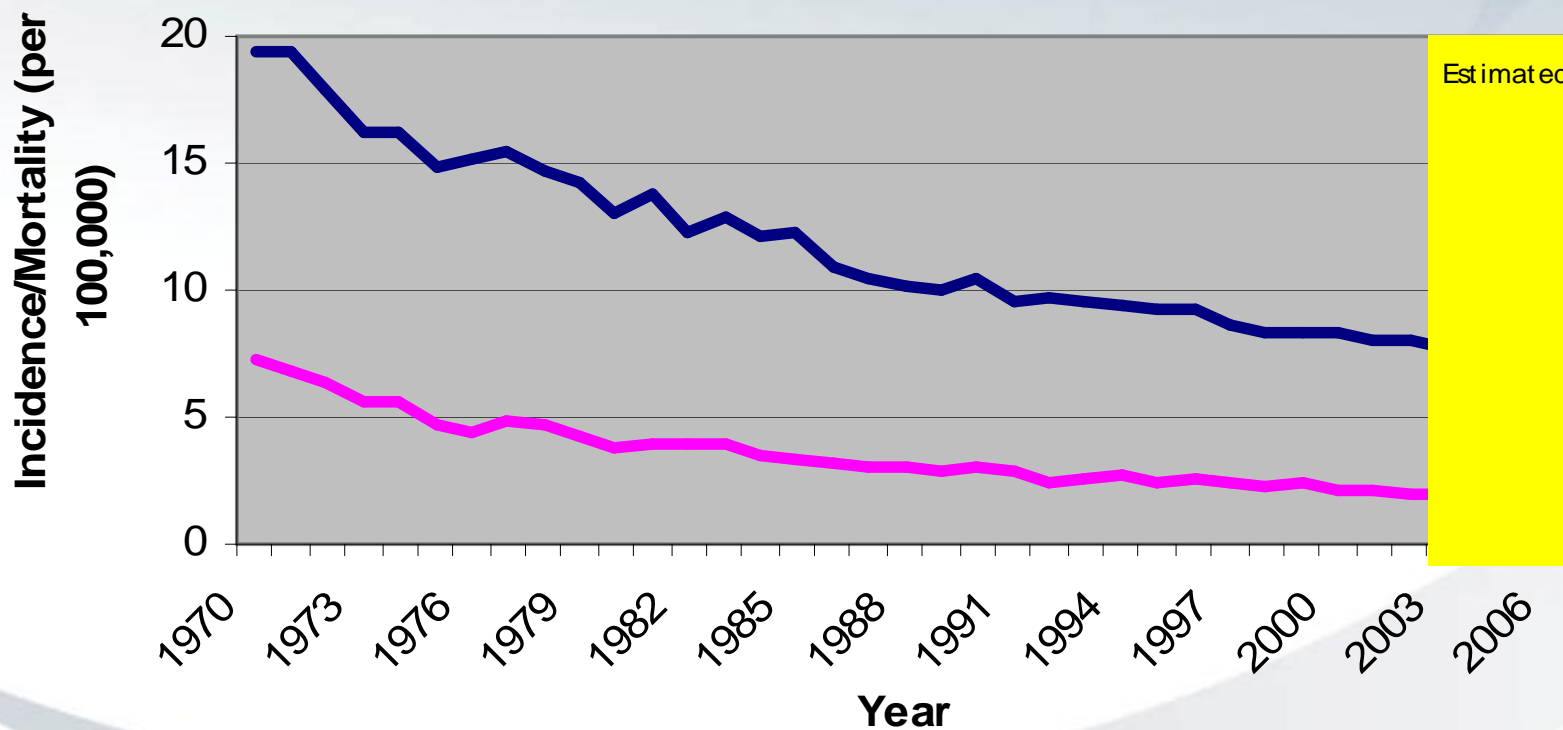


Cervical Cancer Incidence and Mortality Rates by Age Group in Canada, 2001

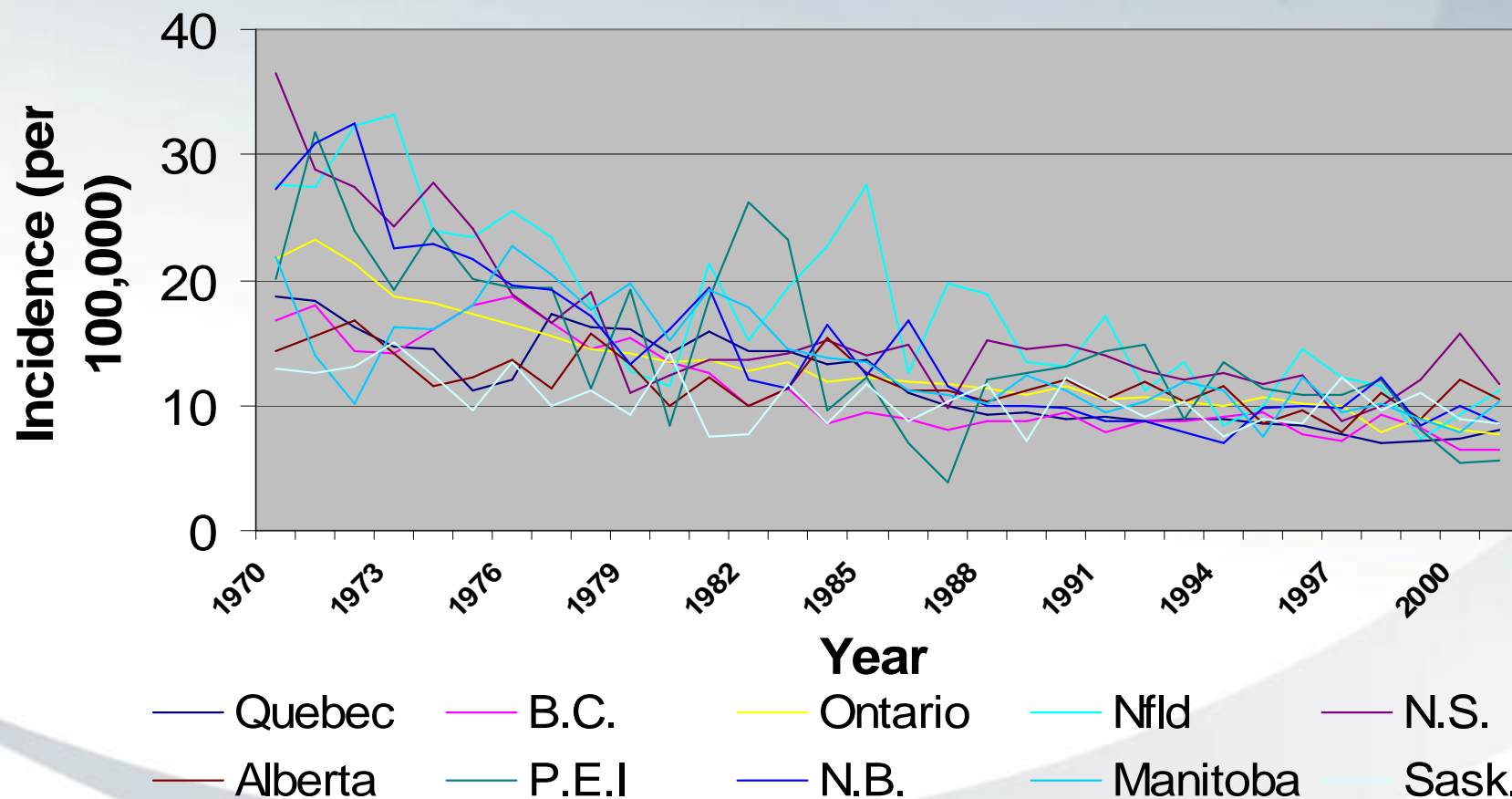


Age-Standardized Cervical Cancer Incidence & Mortality in Canada 1970-2006

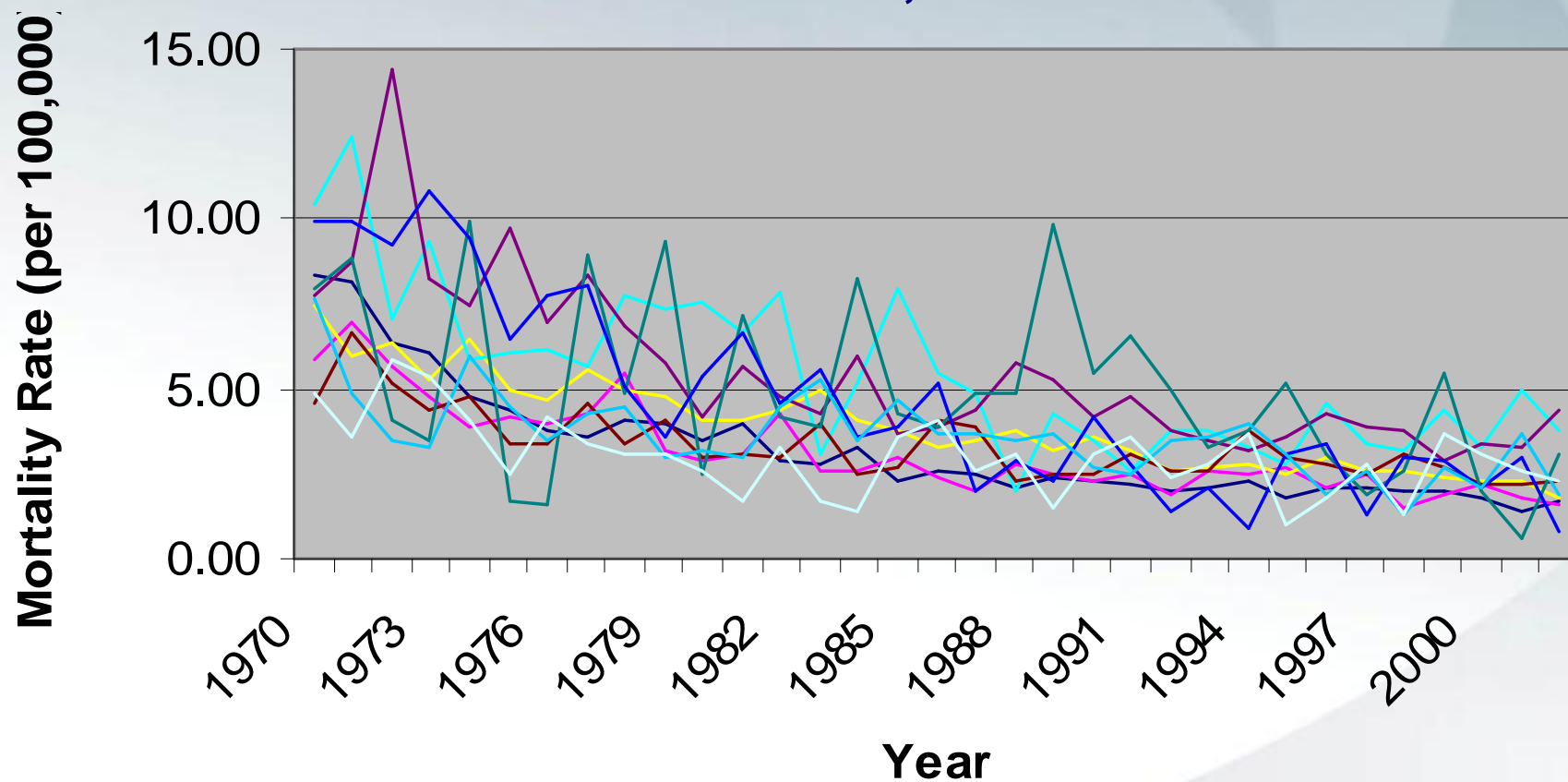
— Incidence — Mortality



Age-Standardized Cervical Cancer Incidence in Ten Provinces, 1970-2001



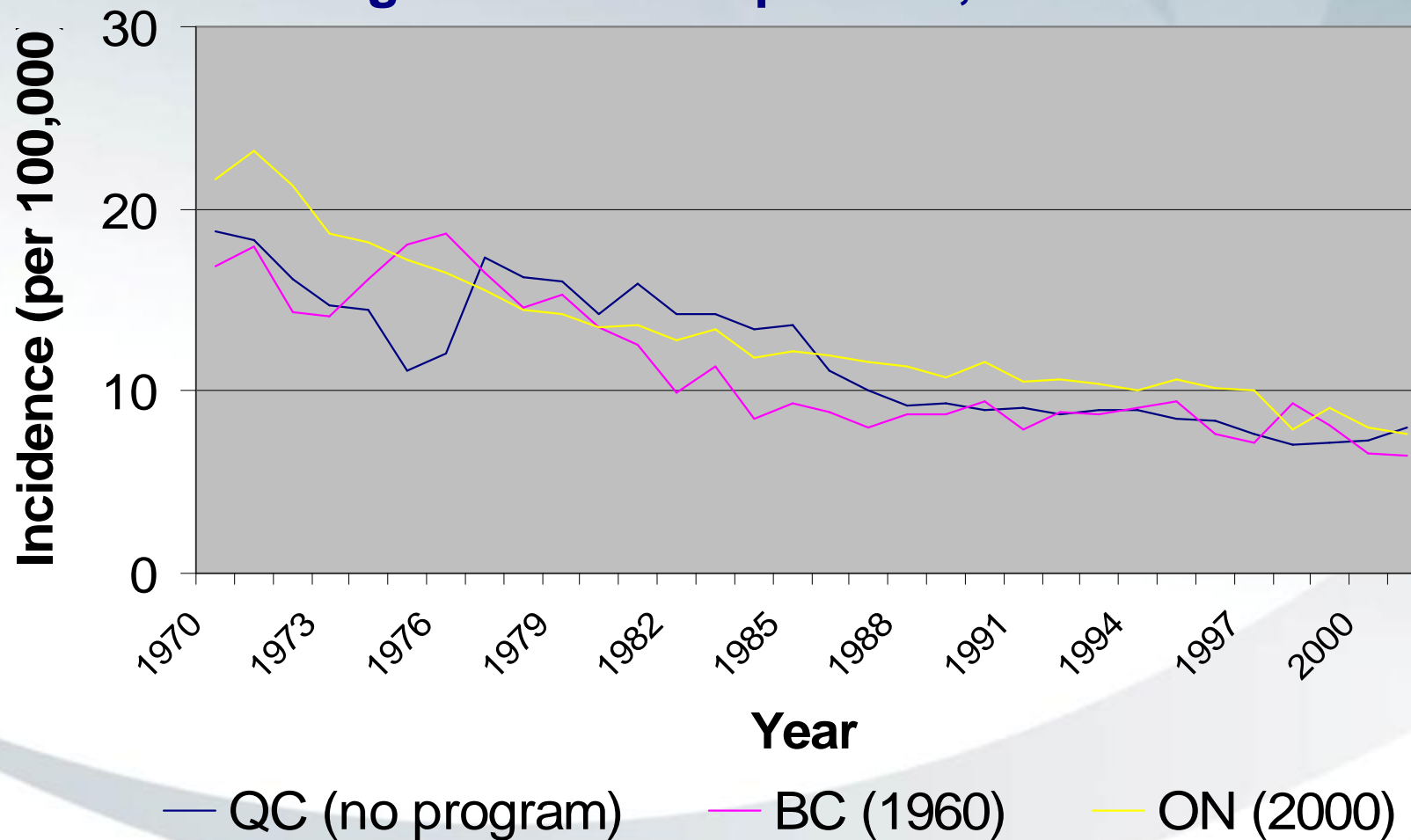
Age-standardized Cervical Cancer Mortality Rates in Ten Provinces, 1970-2002



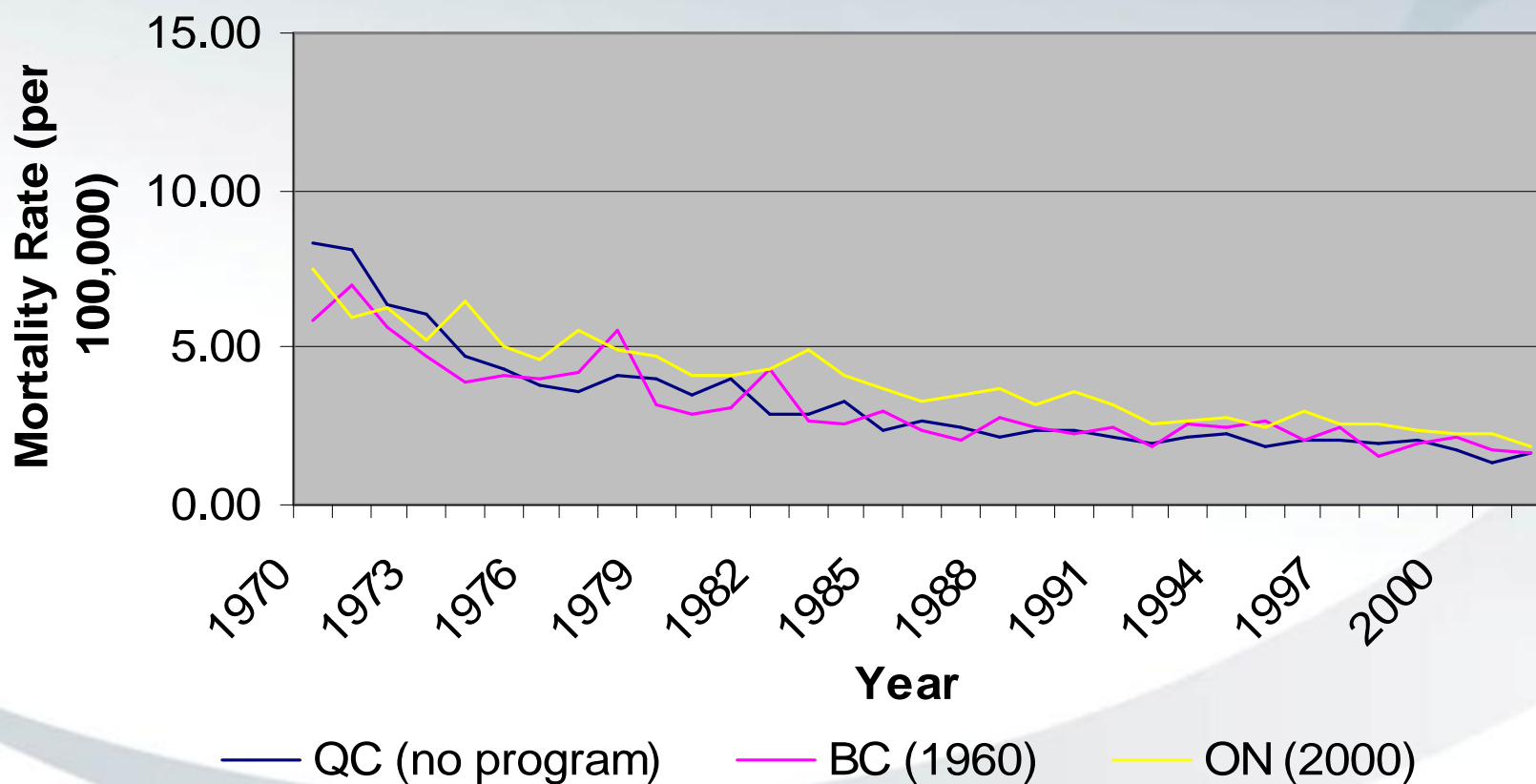
— Quebec — B.C. — Ontario — Nfld — N.S.
— Alberta — P.E.I. — N.B. — Manitoba — Sask.



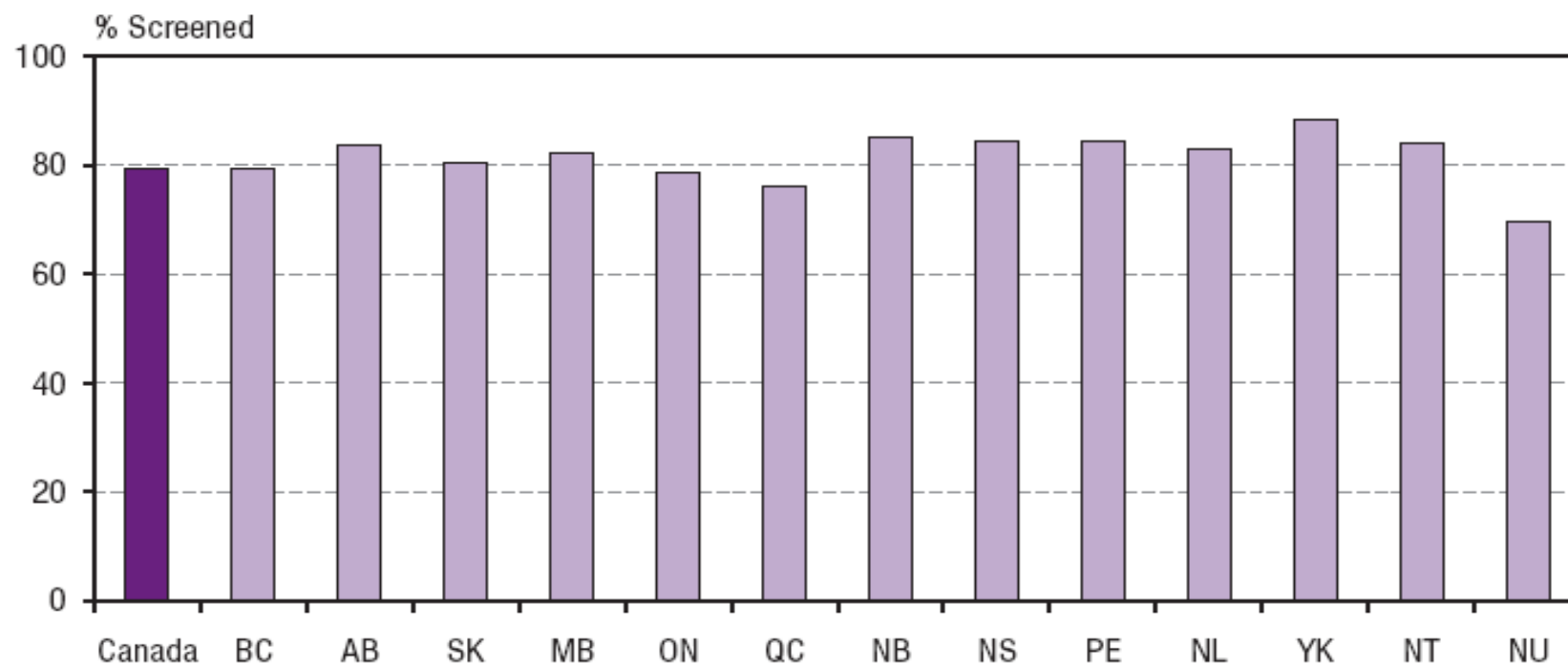
Age-Standardized Cervical Cancer Incidence Rate in Three Large Provinces, with Different Intensities of Programmatic Components, 1970-2002



Age-Standardized Cervical Cancer Mortality Rate in Three Large Provinces, with Different Intensities of Programmatic Components, 1970-2002



Cervical Cancer Screening: Percentage of Women Aged 18-69 Years Reporting a Screening Pap Test Within the Last 3 Years, by Province/Territory, 2003



Source: 2003 Canadian Community Health Survey (CCHS) cycle 2.1, Statistics Canada. Directly age-standardized to the 2003 CCHS female population aged 18-69. Respondents reporting hysterectomy were excluded.



Outline

- Background, Extent of the problem
- Program Planning Framework
- Decision Making Process for Introduction of Vaccines
- Reaction and Response
- Impact on Cervical Screening



Public Health Network
A Forum for multilateral
intergovernmental
collaboration on public
health issues

NGOs

P/T
Immunization
Committees

NACI (Expert
reporting to
PHAC)

Expert Groups
(permanent expertise)

Communicable Disease Control

Emergency Preparedness & Response

Canadian Public Health Laboratory

Public Health Surveillance & Information

Chronic Disease & Injury Prevention & Control

Population Health Promotion

CIC (FPT)

PIC (FPT)

Issue Groups

Reporting
through
respective
Expert
Groups on
key issues

Conference
of
F/P/T Deputy
Ministers of
Health

Council
F/P/T
members

CCMOH



National Advisory Committee on Immunization (NACI) Mandate

- Provide PHAC with ongoing, timely, medical, scientific and public health advice relating to vaccines and certain prophylactic agents, related to use of vaccines in humans
- Optimal use of the vaccines in Canada



TERMS OF REFERENCE

Canadian Immunization Committee (CIC)

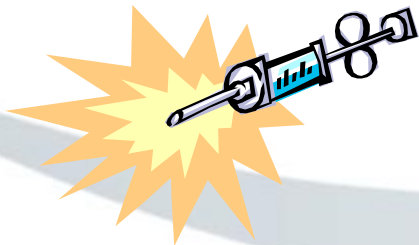
- Leadership in immunization by providing advice and recommendations on the National Immunization Strategy (NIS) implementation and issues impacting immunization in order to:
 - Prevent and control vaccine preventable diseases;
 - Promote the harmonization of immunization programs in Canada; and
 - Meet the goals of the National Immunization Strategy as presented in the Final Report: National Immunization Strategy, 2003



Role of NACI vs CIC

NACI:

- Expert Committee that interprets science and makes recommendations for optimal use of existing and new vaccines
- Addresses: Who should receive vaccine?
- Standard of Care
- Approved by PHAC



CIC:

- F/P/T committee that makes programmatic recommendations including cost benefit considerations
- Considers vaccine supply, coverage, schedule harmonization, equitable access, special populations, public and professional education
- Addresses: Should the vaccine be publicly funded?



Analytic Framework for Vaccine Decision Making: NACI vs CIC

Disease Characteristics and Burden	<ul style="list-style-type: none"> • Disease (infectious agent, mode of transmission etc.) • Epidemiology (in Canada, risk groups) 	<ul style="list-style-type: none"> • NACI
Vaccine Characteristics	<ul style="list-style-type: none"> • Efficacy, effectiveness (short and long-term) • Safety: short-term, long-term 	<ul style="list-style-type: none"> • NACI
Alternative Immunization Strategies	<ul style="list-style-type: none"> • Schedules • Age group / Risk group • Modes of delivery (physician, public health, school-based) 	<ul style="list-style-type: none"> • NACI/CIC
Social and Economic Costs and Benefits	<ul style="list-style-type: none"> • Vaccine related • Disease related • Perspective (societal /individual) 	<ul style="list-style-type: none"> • CIC
Feasibility and Acceptability	<ul style="list-style-type: none"> • Public • Professionals • Political 	<ul style="list-style-type: none"> • CIC
Ability to Evaluate Programs	<ul style="list-style-type: none"> • Vaccine effectiveness • Adverse events • Vaccine coverage • Disease • Screening programs 	<ul style="list-style-type: none"> • CIC
Research Questions	<ul style="list-style-type: none"> • Fundamental • Intervention • Program Delivery 	<ul style="list-style-type: none"> • NACI/CIC
Other Considerations	<ul style="list-style-type: none"> • Equity • Ethical • Legal • Political 	<ul style="list-style-type: none"> • CIC
Overall Recommendation	<ul style="list-style-type: none"> • Who should receive vaccine? • Should this vaccine be publicly funded? 	<ul style="list-style-type: none"> • NACI • CIC



NACI HPV Vaccine Recommendations



1. Females between 9 and 13 years of age
2. Females between the ages of 14 and 26 years
3. Females between the ages of 14 and 26 years who have had previous Pap abnormalities, including cervical cancer, or have had genital warts or known HPV infection



Outline

- **Background, Extent of the problem**
- **Program Planning Framework**
- **Decision Making Process for Introduction of Vaccines**
- **Reaction and Response**
- **Impact on Cervical Screening**

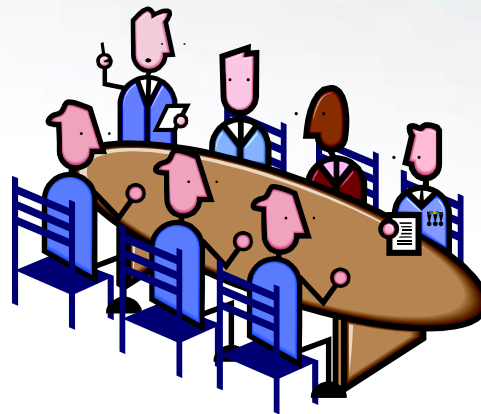


Vaccine Decision Making in Canada

- Vaccine recommendations made at the national level
- Provinces and Territories responsible for program planning and implementation.
- Results in duplication of decision making and variation in vaccine program delivery across the country



CIC-NACI HPV Work Group



Joint CIC-NACI HPV Work Group – Why?

- Joint group composed of both NACI and CIC members, with additional disease experts and NGO representation
- Task: complete the analytic framework for HPV Vaccines
- Work Group established to minimize duplication and to facilitate harmonized program implementation



HPV Immunization Program Goal



- To decrease the morbidity and mortality of cervical cancer, its precursors and other HPV related cancers in women in Canada through combined primary prevention (immunization) and secondary prevention (screening) programs.



HPV Immunization Program, Options Considered

- One female cohort from grades 4 to 7 (aged 9-14)
- Two female cohorts from grades 4 to 12 (aged 9-18)
- School based program multiple female cohorts (minimum one cohort from each elementary, junior and high school group)



Important Considerations

- Vaccine recommendations
- Sexual debut and school leaving data
- School based programs / coverage
- Potential population impact
- Costs: vaccine and implementation
- Ability to identify high risk females
- Equity issues (single sex programs)
- Education needs



Important Considerations

- Complexity of schedule
- Ability to evaluate program
- Acceptability of STI/Cancer vaccines
- Need for collaboration between diverse stakeholders



Contextual Considerations: HPV Related

- Average age of sexual debut:
 - Among 15- 19 years old, 16 years, with 0.9% < 12 yr and 13.7% < 14 yr females
 - Among 15-24 yr female street youth, the average age of first sexual experience is 13.8 years
- Canadian Street Youth Study:
 - 60% of female street youth aged 15-24 yrs had dropped out of school, with 20% and 10% leaving before grade 8 and 7, respectively
- Canada has successful cervical cancer screening;
- As a result of cervical screening, the incidence and mortality of cervical cancer have declined over the past 30 years; plateau
- HPV vaccination can not come at the expense of these programs



Contextual Consideration

- Knowledge, Attitude and belief survey of parents
- Canadian economic analysis and modeling based on different options
- Feasibility and Acceptability Studies



Recommended HPV Routine Immunization Program

- To immunize one cohort of school aged girls in grade 4, 5, 6, 7, or 8 with three doses of vaccine.
- A catch up program, for one or two cohort based on resources.



Outline

- Background, Extent of the problem
- Program Planning Framework
- Decision Making Process for Introduction of Vaccines
- Reaction and Response
- Impact on Cervical Screening



Reaction and Response

- A rocky start?

Or

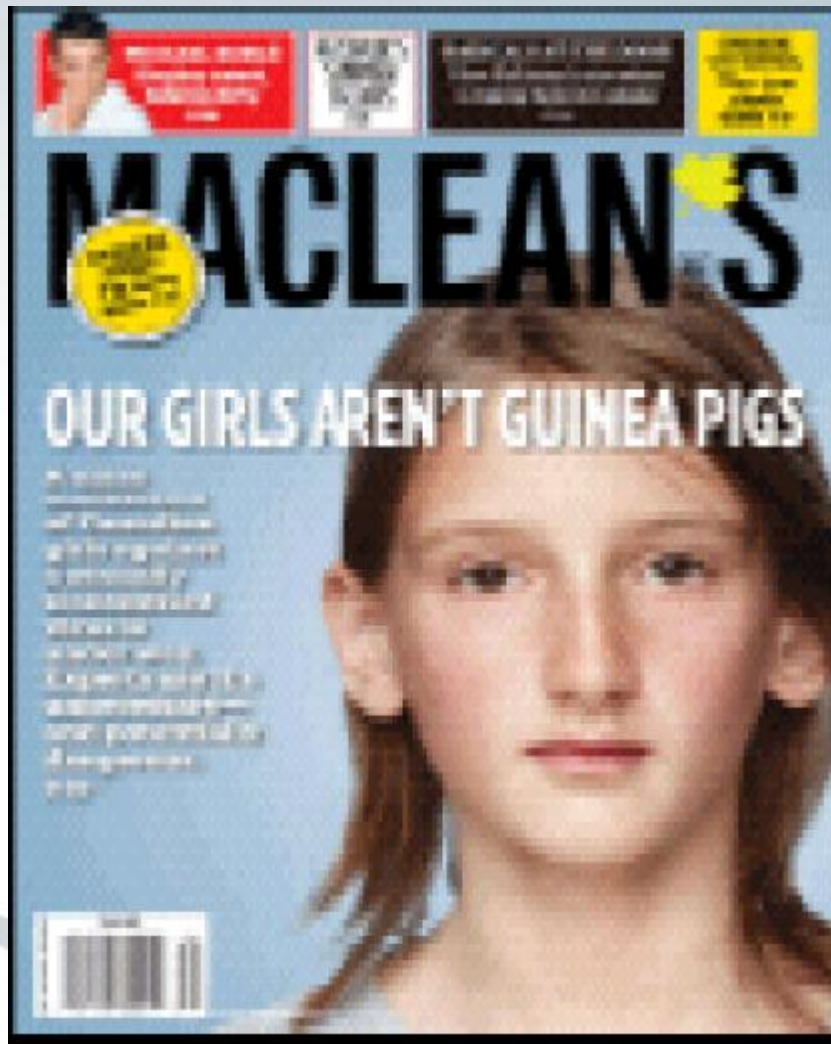
“There is no such thing as bad publicity except your own obituary” Brendan Behan



Reaction and Response

- One woman group negative response
- Professional Associations such as medical community, Cancer care very supportive
- High political interest
- Most provinces and Territories will implement the program
- Immunization coverage rate for the first 2 dose range from 50 to 80%
- High media interest, partly misinformed, sensational and bad journalism





Maclean's Magazine
CATHY GULLI
27 August 2007

“Our girls aren’t guinea pigs”

“A mass inoculation of Canadian girls against a sexually transmitted virus is under way. Experts say it’s unnecessary – and potentially dangerous.”



Outline

- Background, Extent of the problem
- Program Planning Framework
- Decision Making Process for Introduction of Vaccines
- Reaction and Response
- Impact on Cervical Screening



Measures Taken to Change/Strengthen Cervical Screening and Treatment:

- Current screening recommendations remain the same
- Organized screening programs distributing information regarding HPV infection and the importance of continued screening
- Programs beginning to offer Liquid-based cytology and HPV testing
 - Research concerning broader implementation continues
- Immunization programs recommend continued screening
- Plan underway to strengthen surveillance programs.



Questions

