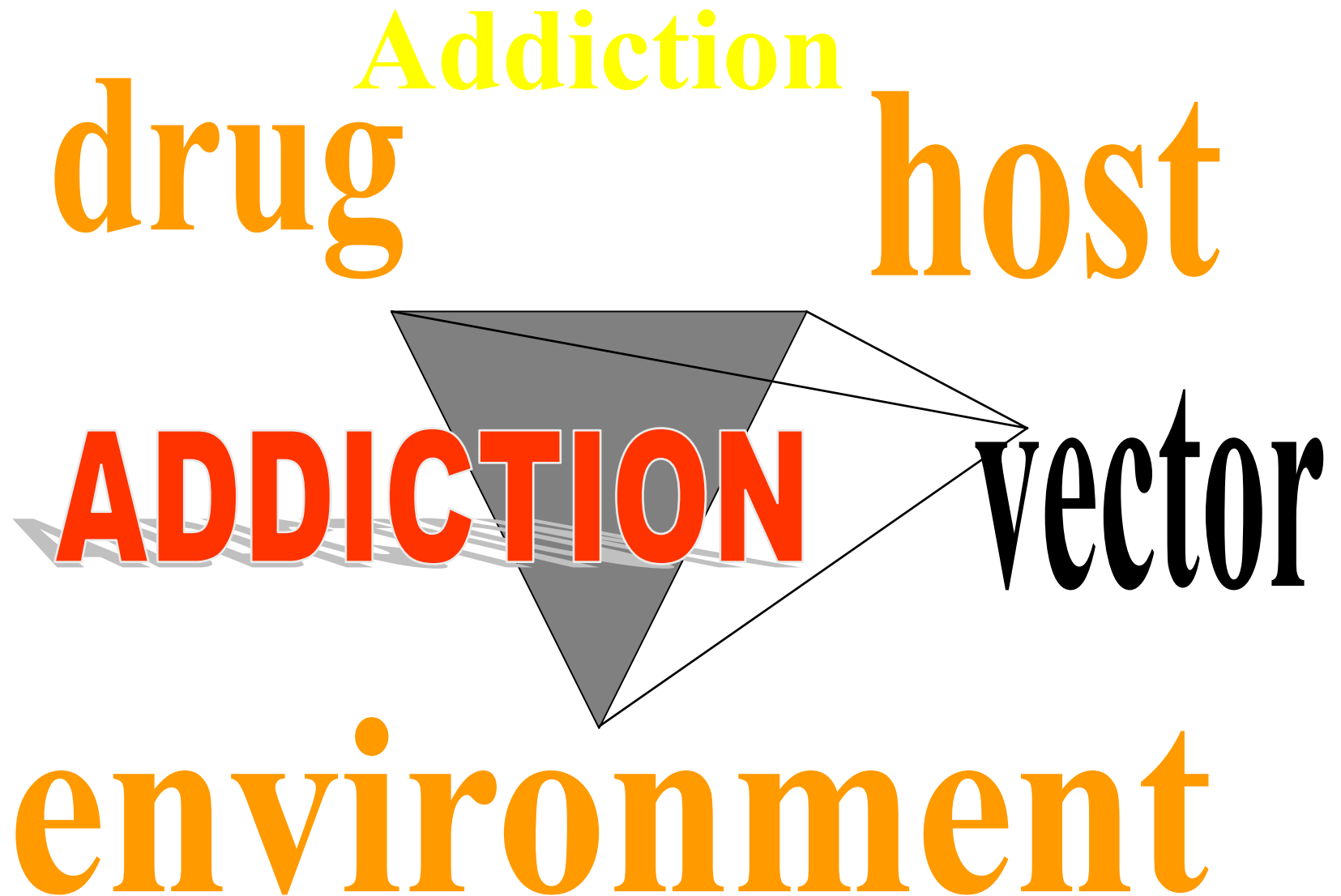


The pros and cons of existing policies on pregnant and post-partum smokers: a review

Peter Selby
University of Toronto



What is a policy?

- Miriam Webster college dictionary <http://www.m-w.com/>
- **1 a** : prudence or wisdom in the management of affairs **b** : management or procedure based primarily on material interest
- **2 a** : a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions **b** : a high-level overall plan embracing the general goals and acceptable procedures especially of a governmental body

Components of tobacco control policy

- Canada Federal Tobacco Strategy 1999
 - four goals –
 - prevention,
 - cessation,
 - protection and
 - denormalization
 - The five strategic directions are:
 - **Policy and Legislation**
 - **Public Education** (Information, Mass Media, Programs, and Services)
 - **Industry accountability and Product control**
 - Research, evaluation and Monitoring
 - Building and Supporting capacity for action

Are these strategies working?

- Yes for the general population
- But what about women esp pregnant women?
- There is no strategy specifically addressing this population
- (there isn't a woman specific strategy either although it is the number one killer of women in Canada)

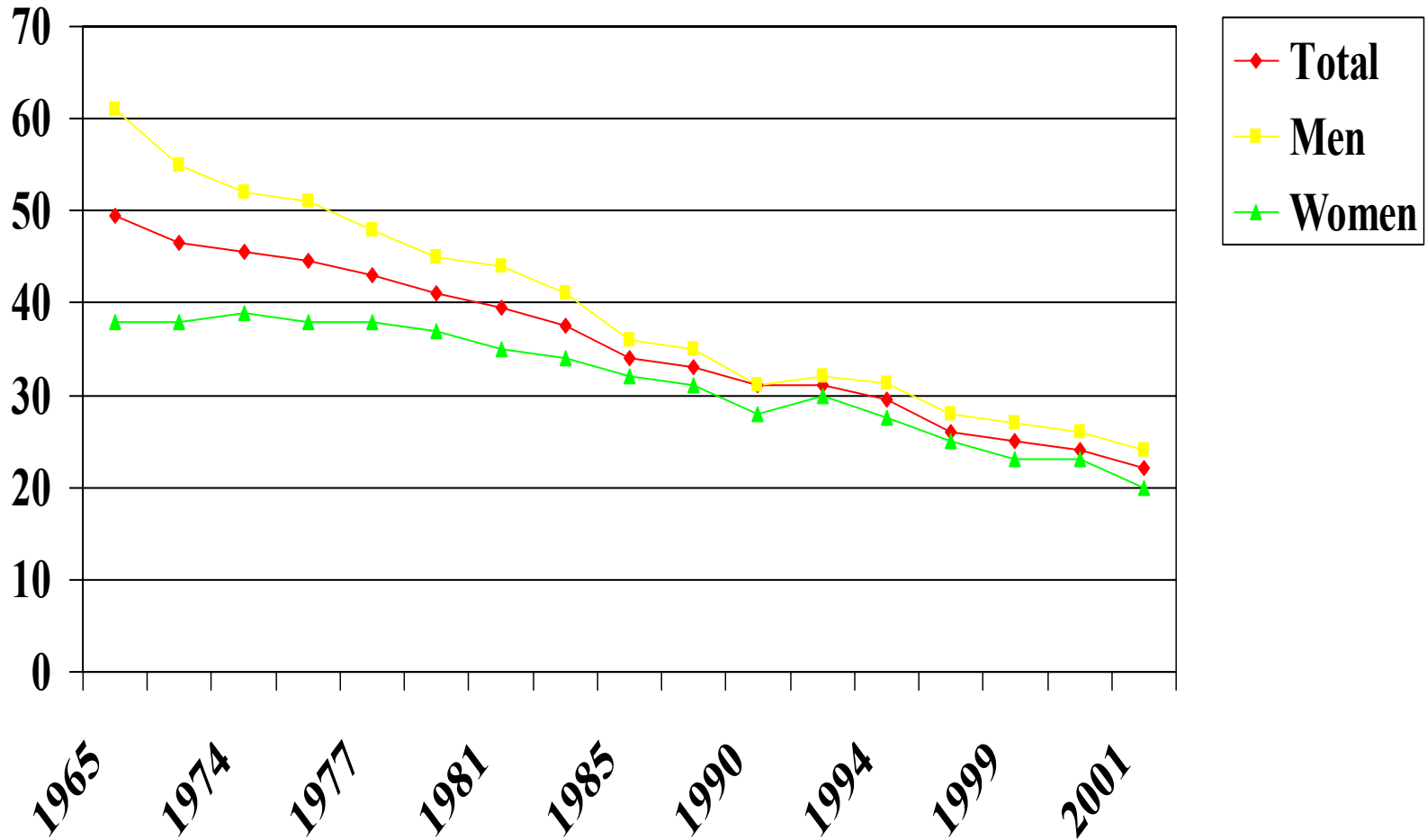
Search strategy

- Keywords: “tobacco control” combined with “pregnant OR pregnancy”
- EBM Reviews - Cochrane Database of Systematic Reviews <4th Quarter 2002> (2 records)
- EBM Reviews - ACP Journal Club <1991 to September/October 2002> (0 records) •
- EBM Reviews - Database of Abstracts of Reviews of Effectiveness <4th Quarter 2002> (0 records) •
- CANCELIT <1975 to September 2002> (1 records) •
- EMBASE <1980 to 2002 Week 46> (2 records) •
- HealthSTAR/Ovid Healthstar <1975 to October 2002> (15 records) •
- MEDLINE <1966 to October Week 5 2002> (14 records)
- N=16 articles

Sources of information

- Health Canada: Federal Tobacco Strategy, CTUMS
- CDC
- WHO
- Smoke-free Families
- Legacy Foundation
- Lorraine Greaves: Filtered Policy: Women and Tobacco in Canada , BC Centre for Excellence
- Canadian Perinatal Health Report 2000.

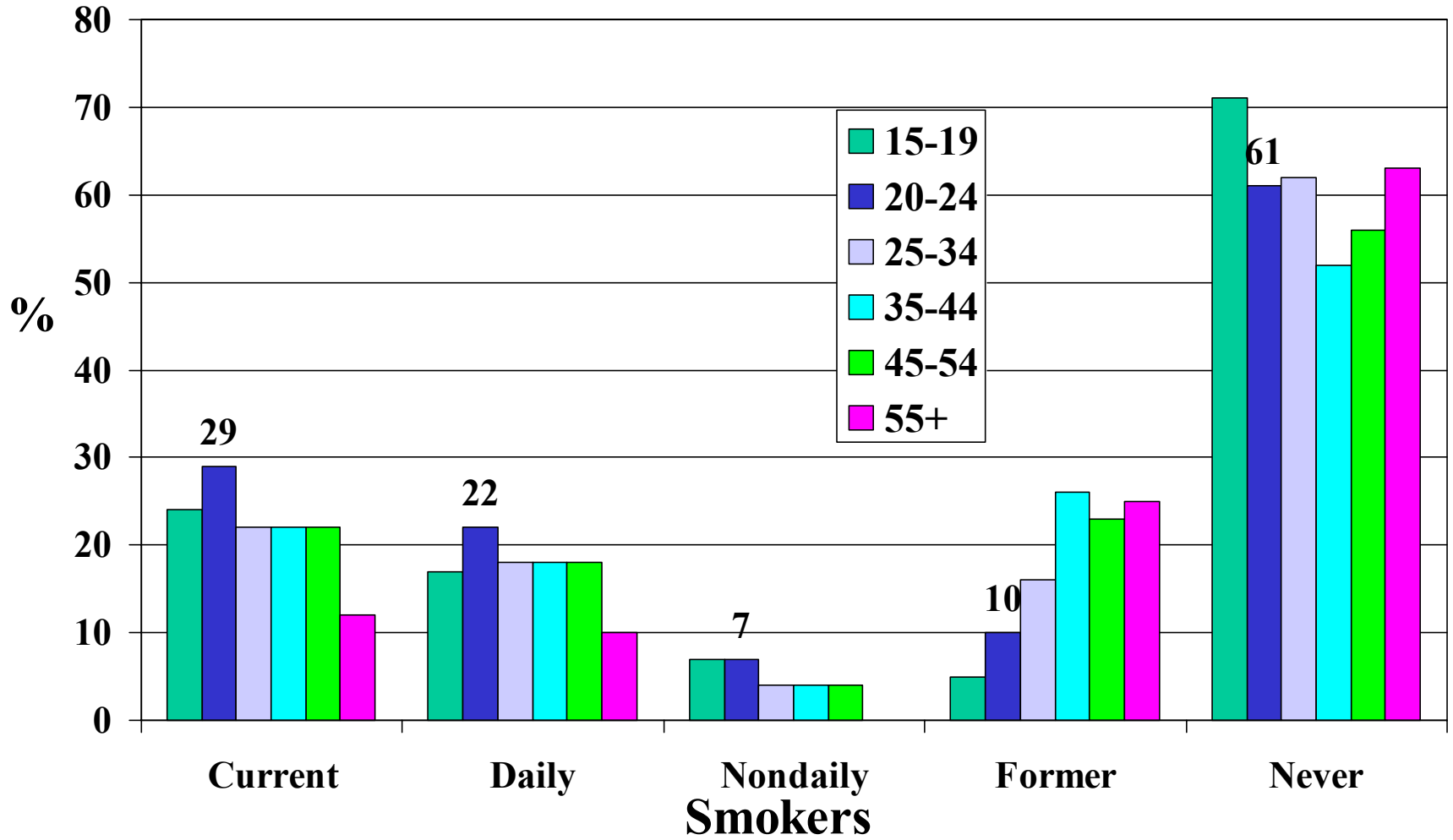
Percentage of Canadians Who Smoke (15+)



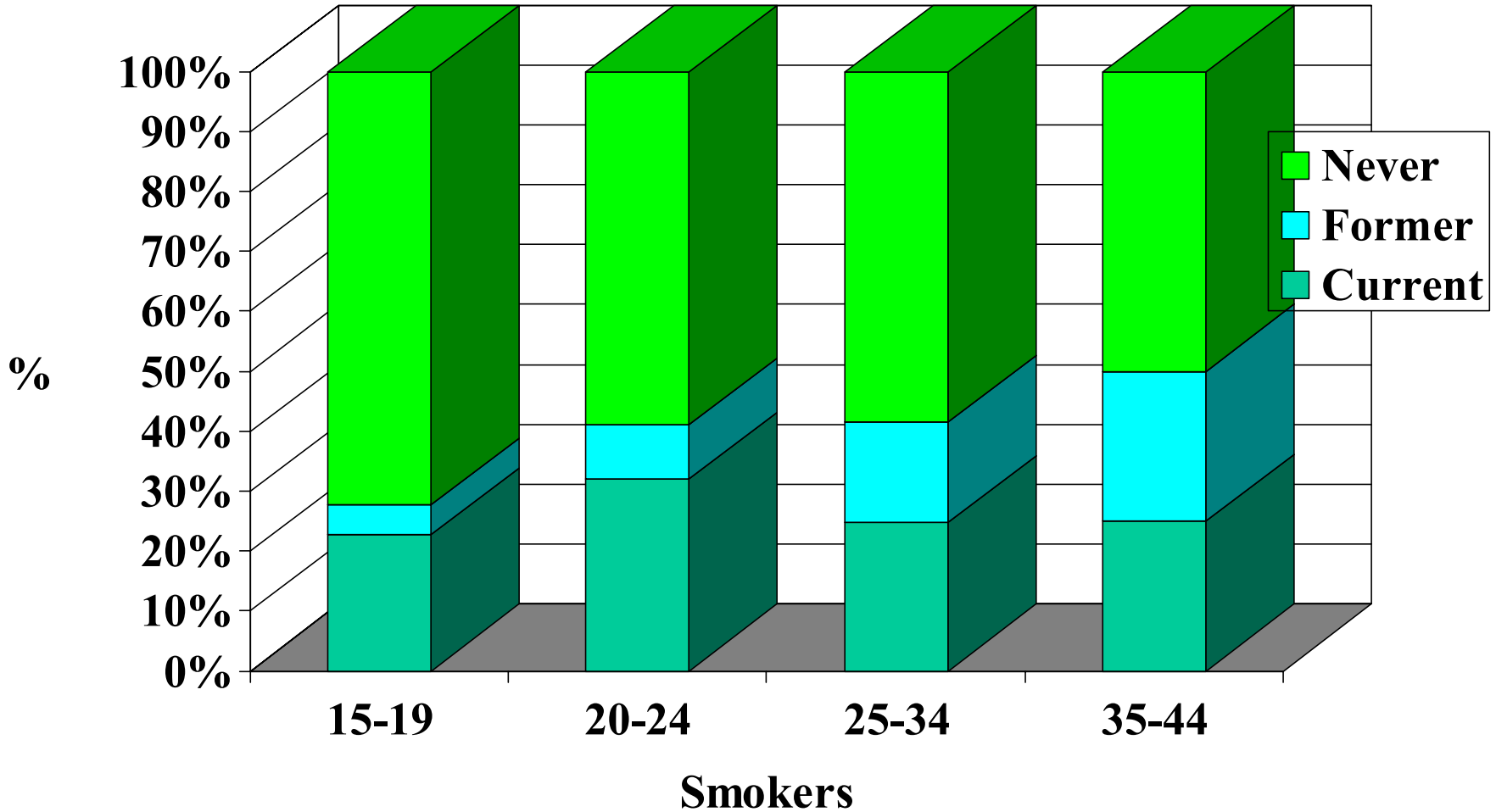
Physicians for a Smoke-free Canada, 2001

Centre of Excellence for Early
Childhood Development

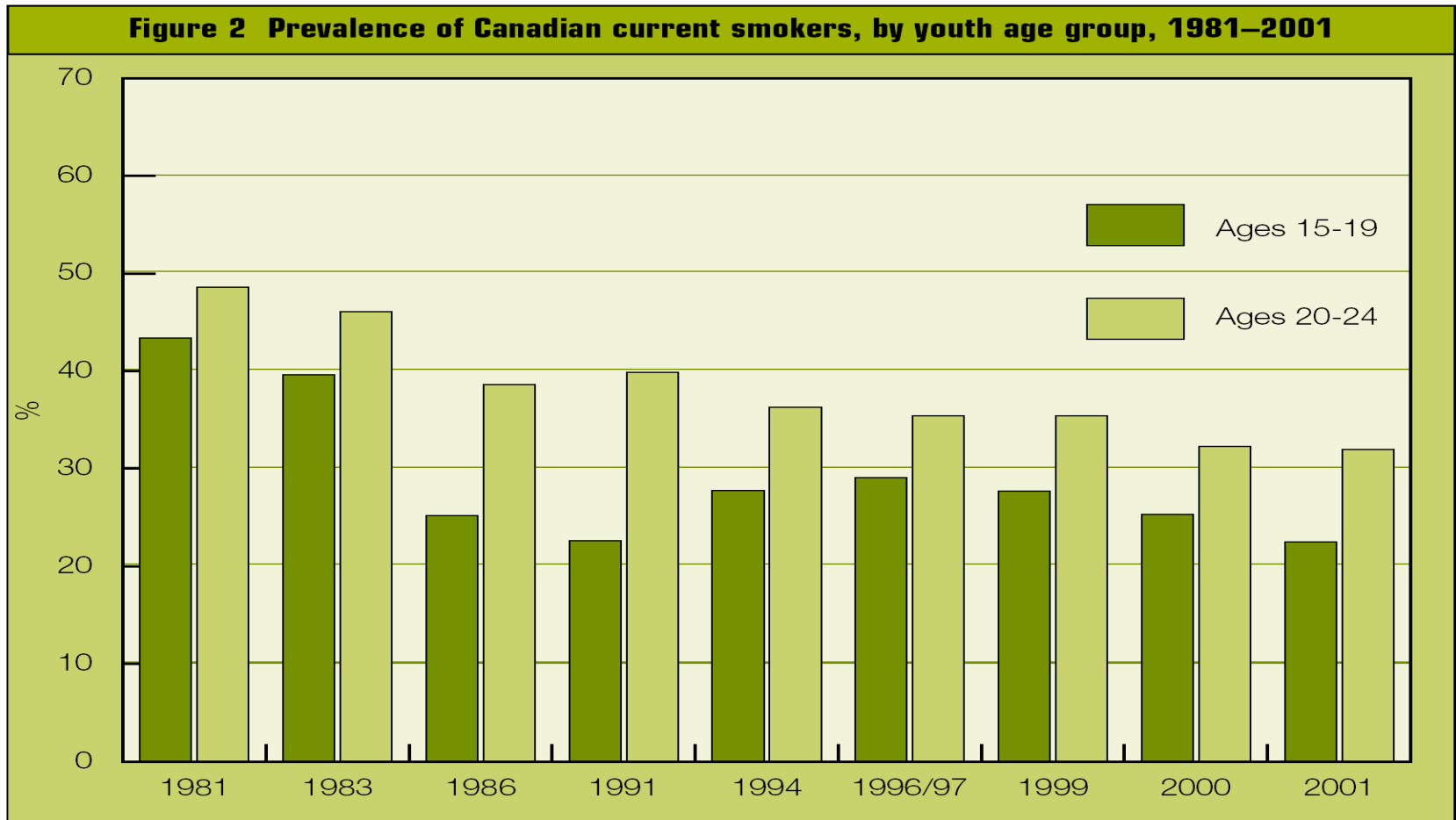
Smoking status by age group Female



Smoking status by age group



Trends in Youth Smoking



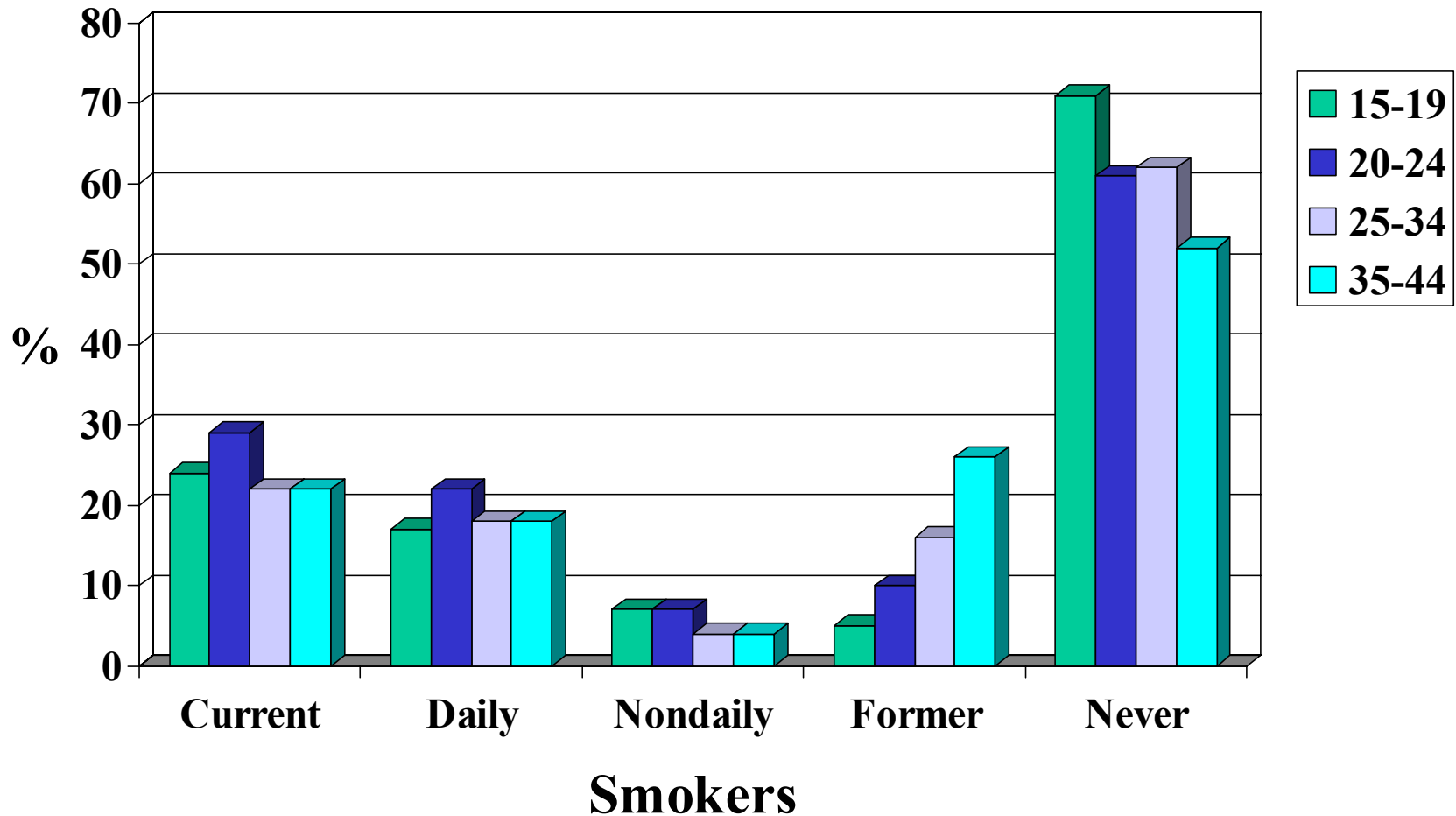
Sources: Labour Force Survey Supplement, 1981-1986; General Social Survey, 1991; Survey on Smoking in Canada, 1994; National Population Health Survey, 1996/97; Canadian Tobacco Use Monitoring Survey (Annual), 1999-2001.

Gender Differences

- **Males smoke more than females (27% vs 23%).**
- **Men aged 20-24 have the highest smoking rates (39%).**
- **Teen smoker male=female (28-29%)**
- **Teen females smoke as much as teen males (12.7 vs 12.9 per day)**
- **Girls start smoking at a younger age than boys**

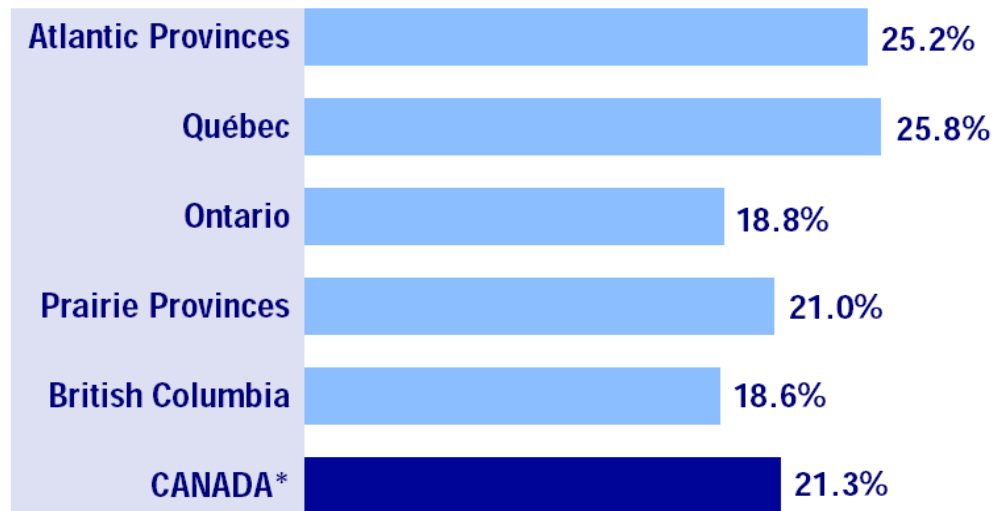
Smoking status by age group

Female (15 to 44)



Prevalence of prenatal smoking in Canada

FIGURE 1.2 Prevalence of prenatal smoking, by region/province, Canada (excluding the territories), * 1996-1997.



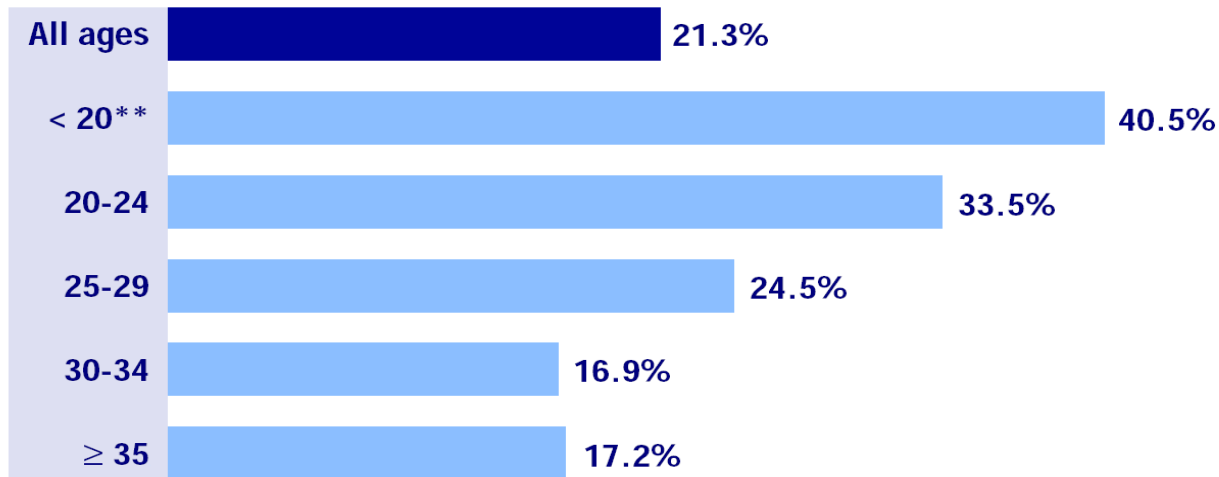
Percent of children 0-3 years old whose mothers reported smoking prenatally

Source: Statistics Canada. National Longitudinal Survey of Children and Youth (Public Use Microdata Files), 1996-1997.

* Data for the territories are not available in the Public Use Microdata Files.

Maternal Age and Prenatal Smoking

FIGURE 1.1 **Prevalence of prenatal smoking, by maternal age,**
Canada (excluding the territories), 1996-1997*



Percent of children 0-3 years old whose mothers reported smoking prenatally

Source: Statistics Canada. National Longitudinal Survey of Children and Youth (Public Use Microdata Files), 1996-1997.

* Data for the territories are not available in the Public Use Microdata Files.

** Estimate for this age group is based on a small sample size.

Natural History of Smoking in Pregnancy

- 20% to 40% quit
 - 27% when diagnosed
 - 12% later
- 50% reduce
- 65% to 80% relapse
3months post-partum
- Who quits
 - younger
 - higher education
 - lower smoking level
=non-dependent
 - non-smoking partner
 - non-drinker

Natural History of Smoking in Pregnancy

- Canadian data
- 13 to 21% of female smokers quit when planning to become pregnant or on finding out they are pregnant.
- An additional 2% to 22% may quit later in their pregnancy.

Who smokes in pregnancy?

Penn, G.; Owen, L. Drug & Alcohol Review 2002;21: 17-25

- N=7836 pregnant women 1992-1999 in England.
- 27% were smoking during pregnancy.
- women with a partner who smokes OR 2.3 (1.9-2.7) no partner OR 4.8 (3.8-6.0).
- ETS at home or at work the OR was 2.5 (2.1-3.0).
- living in rented council housing were nearly twice as likely (OR 1.93;1.63-2.29).
- The number of women who continued to smoke during pregnancy increased 10-fold from the least to the most deprived group.

Massachusetts Tobacco Control Program (MTCP)

RESULTS

- Tobacco consumption dropped 33% from 1992 to 1999 - more than triple the 10% rate drop observed for the rest of the nation.
- Smokers are smoking less – per capita cigarette purchases fell 30%
- **Smoking during pregnancy dropped from 25% to 13%**
- Workers are less exposed to environmental tobacco smoke –72% of indoor workplaces ban smoking
- Residents are better protected from environmental tobacco smoke in public places – 75% are now protected by restrictions on smoking in restaurants
- The smoking rate among high school students dropped from 36% in 1995 to 30% in 1999 while the national rate rose
- Between 1993 and 1999 the smoking rate among adult females dropped by 9% and adult males 6%
- In July 1997, cigarette taxes in Massachusetts were the 2nd highest in the nation.
- MTCP is recognized as a leader in tobacco control; nationally and internationally

Source: Independent Evaluation of Massachusetts Tobacco Control Program: January 1994 to June 1999

Some Other Comprehensive Programs

California (CTCP)

- ✓ Launched a comprehensive tobacco control program in 1989
- ✓ Invest \$5 Canadian per capita
- ✓ **Main goals are prevention, cessation and protection**
- ✓ Overall per capita cigarette consumption has fallen by more than 50% since 1989
- ✓ Adult smoking rate is 18% (1999)
- ✓ Since 1995, youth smoking in California has declined by 43% - down from 12% in 1995 to 7% ion 1999
- ✓ 40% increase in price of cigarettes in 1999
- ✓ ETS – 1995 statewide smoke free indoor workplace legislation
- ✓ Virtually all indoor workplaces including bars, restaurants and gaming clubs are now smoke free

Source: California Tobacco Control Update: August 2000

Prevalence of Smoking in Pregnancy US 1993-99 MMWR

TABLE 8. Prevalence of smoking during the last 3 months of pregnancy — 17 states, Pregnancy Risk Assessment Monitoring System (PRAMS), 1993–1999

State	1993 %	1994 %	1995 %	1996 %	1997 %	1998 %	1999 %	P value for trend
Alabama	13.7	15.2	16.2	15.2	14.5	14.4	14.1	0.73
Alaska	20.9	20.8	18.1	21.6	17.6	18.7	16.6	0.00*
Arkansas	†	†	†	†	19.7	20.0	19.3	0.81
Colorado	†	†	†	†	§	13.3	12.6	0.64
Florida	13.6	14.3	13.3	12.8	13.9	13.4	9.8	0.04*
Illinois	†	†	†	†	13.6	13.8	12.8	0.58
Louisiana	†	†	†	†	§	14.1	12.3	0.13
Maine	22.0	17.9	21.9	19.7	20.4	19.1	18.3	0.17
New Mexico	†	†	†	†	¶	11.5§	11.1	0.79
New York**	19.5	22.5	19.7	15.6	18.6	13.8	15.9	0.00*
North Carolina	†	†	†	†	13.4††	15.7	13.7	0.86
Oklahoma	22.0	22.7	22.9	19.4	19.8	18.6	18.2	0.01*
South Carolina	15.7	14.3	13.8	15.4	12.5	15.1	12.1	0.12
Washington	§	18.4	14.7	12.0	12.9	13.0	11.7	0.00*
West Virginia	27.0	23.5	27.5	28.0	23.9	27.7	27.2	0.49

* P value is statistically significant when $p < .05$; values of 0.00 represent $p < .005$.

† State did not participate in PRAMS in this year.

§ Data were not available for this year.

¶ Data for 1998 represent live births that occurred from July 1997 through December 1998.

** Data do not include New York City.

†† Data for 1997 represent live births that occurred only from July through December.

Components of the Policy and Their Effects

- Policy and legislation
 - Tobacco act 1997
 - Smoke free places
 - Taxation
 - Labelling

"Comprehensive tobacco control policies and the smoking behaviour of Canadian adults." Stephens, T., L. L. Pederson, et al. (2001). Tob Control **10**(4): 317-22.

- **OBJECTIVE:** associations of prices, restrictions on public smoking, health education with the odds of smoking and amount smoked daily.
- **DESIGN:** Multi-level analysis of adult (age 25+) (n = 14 355). Smoking patterns in Canada's National Population Health Survey, after adding administrative data on prices, bylaws, and health education according to the survey respondent's place of residence.

contd

- RESULTS:
- Price.
 - positively associated with the odds of being a non-smoker.
 - negatively with amount smoked, for adults of both sexes.
- Per capita health education expenditures.
 - positively associated with the odds of being a non-smoker.
 - negatively with amount smoked--for men but not women.
- Municipal bylaws limiting public smoking.
 - positively associated with the odds of being a non-smoker
 - negatively with amount smoked--for women but not men.
- These results are independent of age, education, and marital status.

Public Education (Information, Mass Media, Programs, and Services)

- *Health Canada's* tobacco control [Web site](#), "www.GoSmokefree.ca", has been extensively redesigned. Its interactive "[On the Road to Quitting](#)" program allows smokers to register for one month of [daily e-mail quit messages](#). As of spring 2002, nearly 1800 Canadians had subscribed to the service and 75 per cent of the program's 260 graduates reported that they were able to quit.
- Youth prevention/cessation
 - 44 studies, limited efficacy in prevention- Cochrane database, 2002
- HCP training
- Some efficacy

Efficacy of Counselling Intervention With Pregnant Smokers

Level of contact	Number of arms	Estimated odds ratio (95 C.I.)	Estimated cessation rate (95C.I.)
No contact/usual care (reference group)	11	1.0	7.9
Counselling	8	2.0 (1.3-2.9)	14.7 (9.8-19.5)

Industry accountability and Product control

- Graphic labelling: important source of information

A graphic warning label for cigarettes. On the left, a pregnant woman in a grey dress is shown in profile, holding a lit cigarette. The background is black. To the right of the image, the word "WARNING" is written in red, followed by "CIGARETTES HURT BABIES" in large white letters. Below this, a paragraph of white text explains the health risks. At the bottom right, "Health Canada" is written in white.

WARNING
CIGARETTES HURT BABIES

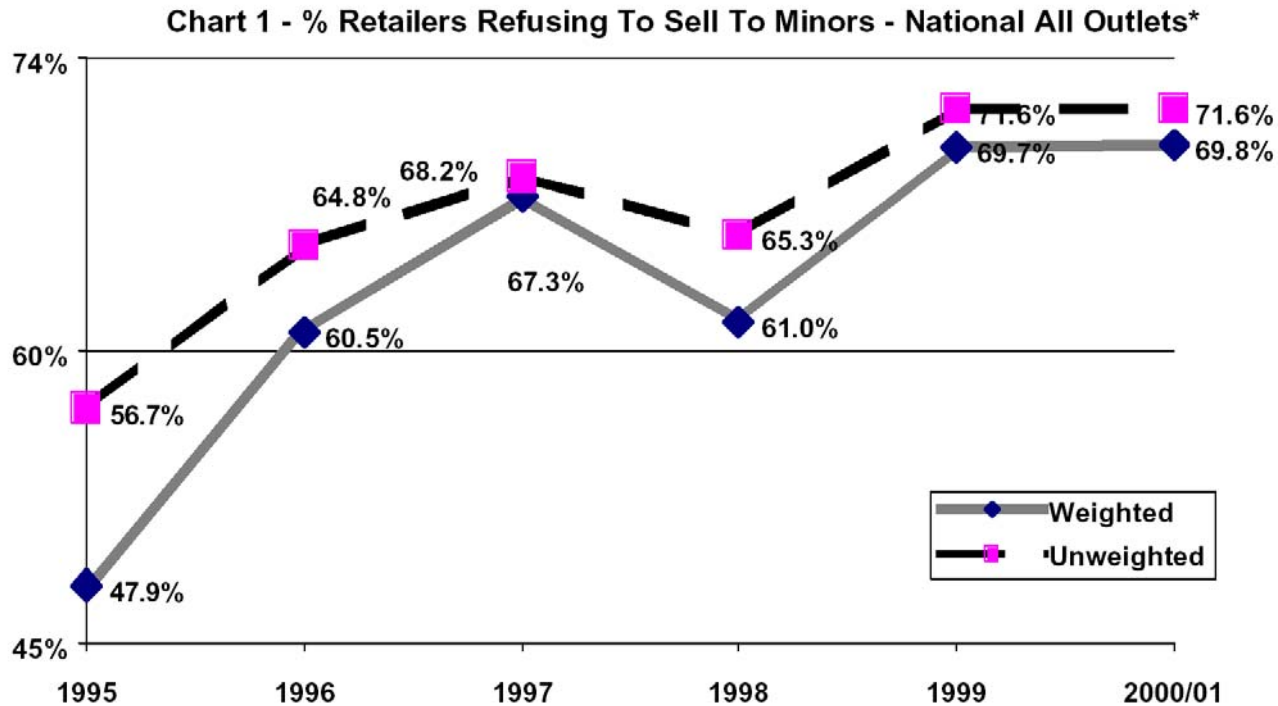
Tobacco use during pregnancy reduces the growth of babies during pregnancy. These smaller babies may not catch up in growth after birth and the risks of infant illness, disability and death are increased.

Health Canada

Retailer compliance

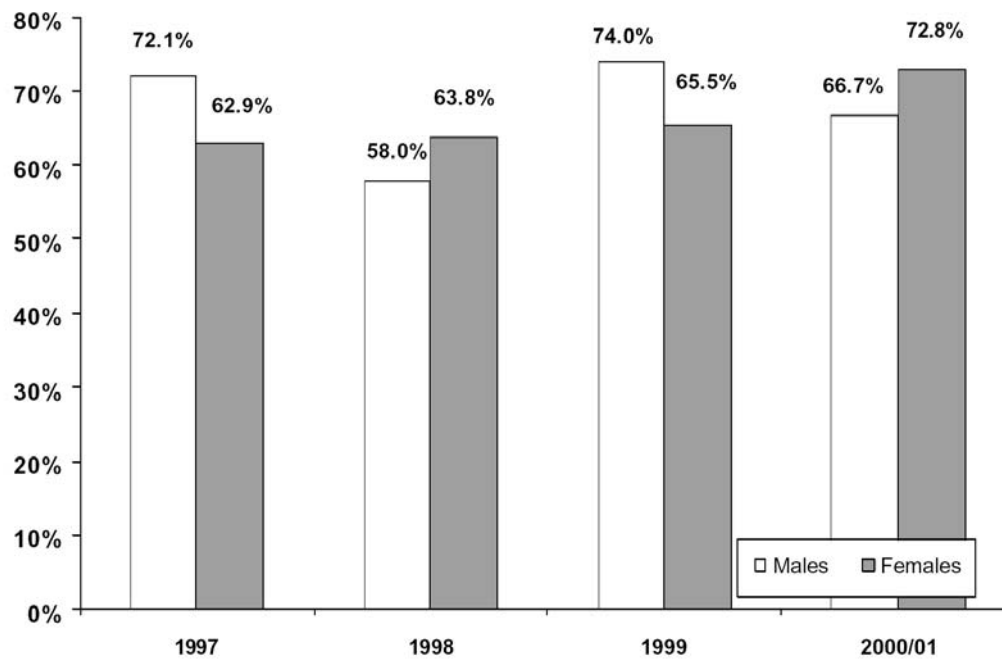
- Tobacco Act- 1997
- (> age 18, identification, fines to retailers)
- (**Measurement of Retailer Compliance With Respect to the Tobacco Act & Provincial Tobacco Sales-To-Minors Legislation-2000-01**)
- Sting operation 5024 stores, 25 Canadian cities,
- November 2000 to January 2001
- minors from 15,16,17 and one adult
- National compliance 69.8%

Sale to minors legislation



*Note: 1995/1996 data are from surveys using similar, but not identical methodology to that used in 1997-2001. Caution should be exercised when analyzing results for comparative purposes.

**Chart 5 – Weighted
Indicated Refusal of Retailers To Sell
Results By Gender of Minor - Trended**



Tobacco control strategy for pregnant women

- Reduce the prevalence of smoking in women (15-44yrs)
 - Prevention
 - Cessation
- Address the sociodemographic variables
 - Education
 - Housing
 - employment

Tobacco control strategy for pregnant women (contd)

- Improve community interventions
 - Social support and partner smoking
 - Training of HCPs to adopt CPGs with endorsement by all stakeholders
 - SOGC, CPA, CFPC, Midwives, CMA.
 - Screening
 - MCI
 - Referral
 - Resources especial for low SES women
 - Prevent post partum relapse
- Research
 - Improved treatment for women
 - Improved treatment for pregnant/post-partum smokers.