

Prevention of Substance Misuse: Part 2

Presentation at Prevention of Injury and Substance
Misuse Workshop

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Session Outline

- Contribution of alcohol and drugs to injury and illness
- Prevention of alcohol and drug-related problems
- Information and program resources





Contribution of alcohol and drugs to injury and illness.

- A substantial body of evidence has accumulated on the relationships between amount of substance used and likelihood of experiencing harms
- The largest amount of this research deals with alcohol



Harms resulting from the acute effects of alcohol

- Alcohol impairs cognitive and psychomotor abilities, and in higher doses can result in death from alcohol poisoning

Harms resulting from the acute effects of alcohol

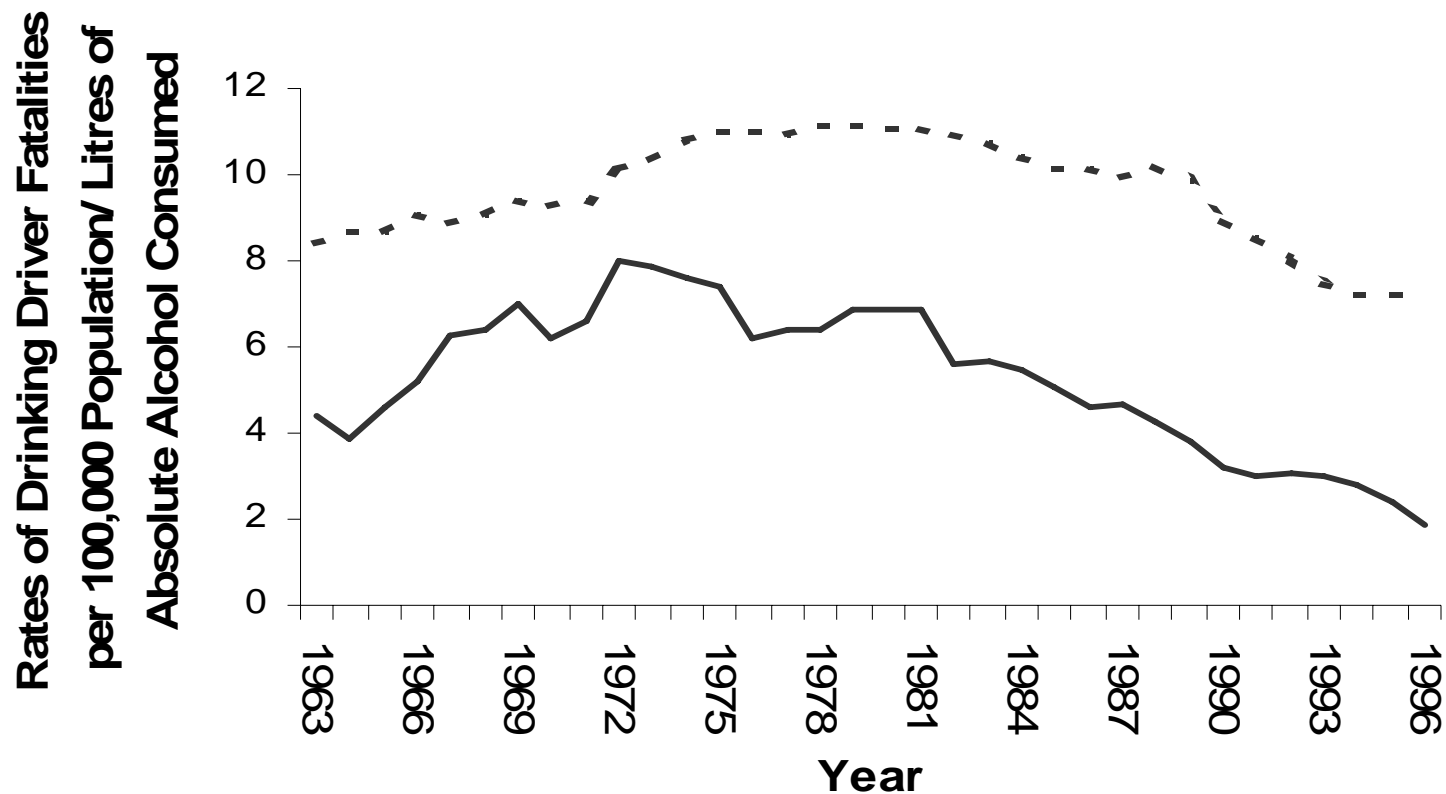
Table 1 Relative risk of fatal single vehicle crash for males at various BACs

Age	BAC (%)			
	0.020– 0.049	0.050– 0.079	0.080– 0.099	0.100– 0.149
16–20	4.64	17.32	51.87	240.89
21–34	2.75	6.53	13.43	36.89
≥35	2.57	5.79	11.38	29.30

The study used a baseline relative risk of 1.00 for drivers with 0.00% BACs of the same age and sex as the respective study groups. That is, 16–20 year old males were compared to 16–20 year old males with 0.00% BAC, whose relative risk was taken to be 1.00.

Source: Zador PL, Krawchuk SA, Voas RB. Alcohol-related relative risk of driver fatalities and driver involvement in fatal crashes in relation to driver age and gender: an update using 1996 Data. *J Stud Alcohol* 2000;61:387–95.

Drinking Driver Fatalities and Per Capita Alcohol Consumption in Ontario, 1962-96



Asbridge et al, 2004 assessed the long-term effectiveness of Canada's Breathalyser Law introduced in 1969 in reducing drinking driver fatalities.

Factors influencing alcohol-related driver fatalities

- Alcohol consumption – 1 litre increase in per capita consumption increases drinking driver fatalities between 8 – 14%
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Harms resulting from the chronic effects of alcohol

- Alcohol also exerts chronic effects on health, which typically accumulate over several years of heavy drinking
- One example is alcohol-related liver disease, such as cirrhosis of the liver
- Recent data are identifying strong links between alcohol and cancer as well

Harms resulting from the chronic effects of alcohol

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Alcohol and risk of physical harm

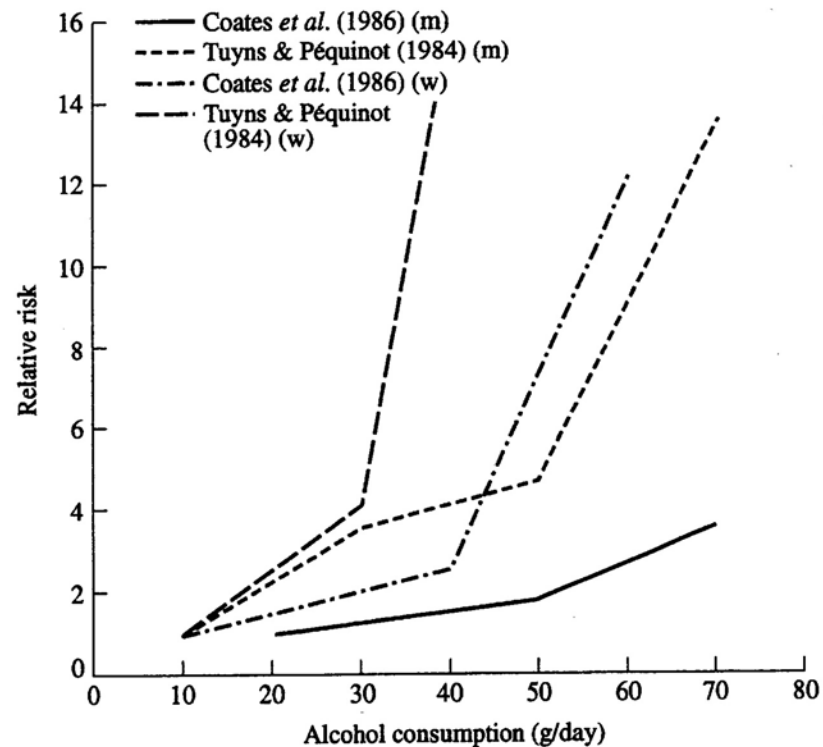


Fig. 4.2 Alcohol consumption and incidence of cirrhosis of the liver in men (m) and women (w). Data truncated at 70 g/day.

Harms resulting from the chronic effects of alcohol

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Alcohol and risk of physical harm

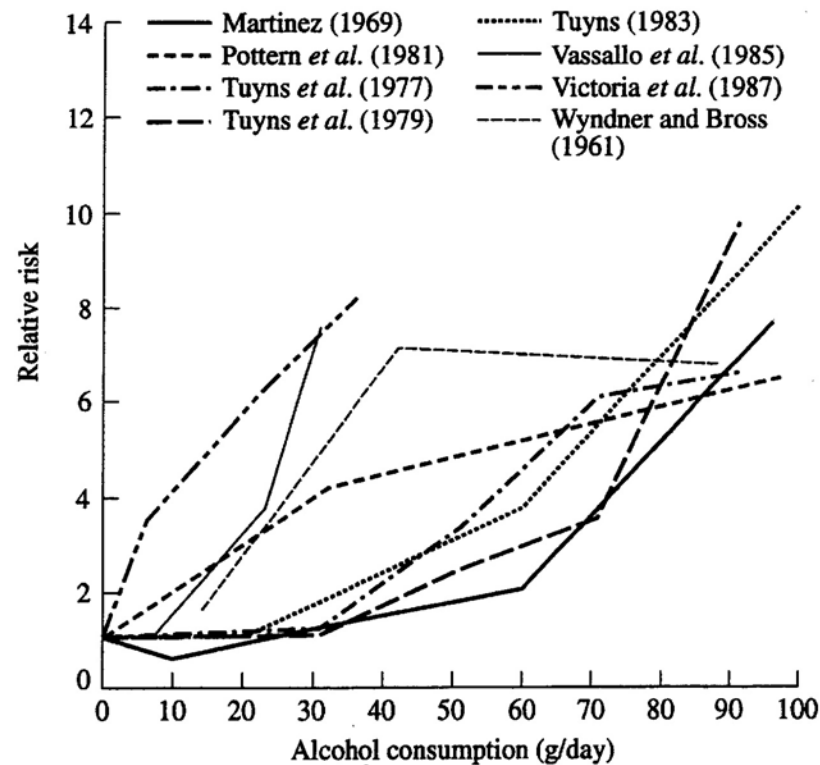


Fig. 4.3 Alcohol consumption and incidence of cancer of the oesophagus in men.
Source: Anderson et al. (1993).

What is the burden of disease resulting from alcohol and drugs? (Rehm et al, 2005)

TABLE 1. OVERVIEW OF COMPARISON OF DEATH AND ILLNESS USING TWO DIFFERENT METHODS (SINGLE ET AL., 1996 AND REHM ET AL., 2006)

	1992	2002	2002	1992 vs 2002
	Single et al. 1996	Single et al. 1996	Rehm et al. 2006	Relative Difference*
All deaths	196,968 (100%)	223,603 (100%)	223,603 (100%)	
Deaths attributed to				
Tobacco	33,498 (17.0%)	37,208 (16.6%)	37,209 (16.6%)	-2.2%
Alcohol	6,701 (3.4%)	9,100 (4.1%)	8,103 (3.6%)	19.6%
Illegal drugs	732 (0.4%)	1,455 (0.7%)	1,695 (0.8%)	75.1%
All substances combined	40,931 (20.8%)	47,763 (21.4%)	47,007 (21.0%)	2.8%
All potential years of life lost (PYLL)	3,080,423 (100%)	3,091,576 (100%)	3,091,576 (100%)	
PYLL attributable to				
Tobacco	495,640 (16.1%)	504,609 (16.3%)	515,607 (16.7%)	1.4%
Alcohol	186,257 (6.0%)	209,096 (6.8%)	191,136 (6.2%)	11.9%
Illegal drugs	31,147 (1.0%)	59,220 (1.9%)	62,110 (2.0%)	89.4%
All substances combined	713,044 (23.1%)	772,925 (25.0%)	768,853 (24.9%)	8.0%
Acute care hospital days	41,371,614 (100%)	21,441,778 (100%)	21,441,778 (100%)	
Hospital days attributable to				
Tobacco	3,024,265 (7.3%)	2,316,166 (10.8%)	2,210,155 (10.3%)	47.8%
Alcohol	1,149,106 (2.8%)	1,550,554 (7.2%)	1,587,054 (7.4%)	160.4%
Illegal drugs	58,571 (0.1%)	318,409 (1.5%)	352,121 (1.6%)	948.9%
All substances combined	4,231,942 (10.2%)	4,185,129 (19.5%)	4,149,330 (19.4%)	90.8%

Please note that the numbers for alcohol are gross numbers; that is, they only account for death and illness caused by alcohol and not death and illness prevented by alcohol.

* Relative difference is the difference between columns 1 and 2 above in which the same methodology is applied to data from 1992 and 2002; for example, tobacco-attributed deaths represented 17% of all deaths in 1992 and 16.6% in 2002. So, while overall tobacco deaths rose between 1992 and 2002, they actually fell as a percentage of all deaths in each year.

Potential years of life lost (PYLL) due to mortality attributable to alcohol, illegal drugs and tobacco by age and sex, Canada 2002

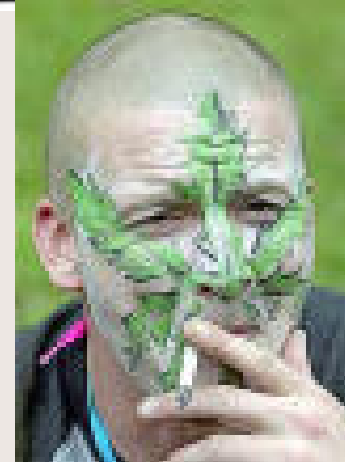
	Alcohol	Illegal Drugs*	Cannabis	Tobacco [§]	Passive smoking
Males					
0 - 14	3,413	1,675	86	3,978	0
15 - 29	37,071	12,927	481	2,151	37
30 - 44	33,664	15,154	241	20,888	344
45 - 59	27,325	10,677	128	96,954	2,372
60+	11,907	1,873	54	192,445	4,215
Total Males	113,380	42,306	989	316,417	6,967
Male as % of all cause total	7.01%	2.61%	0.06%	19.56%	0.43%
Females					
0 - 14	1,933	703	64	2,459	0
15 - 29	7,416	5,679	199	1,750	16
30 - 44	9,787	7,312	102	13,163	156
45 - 59	11,840	4,681	76	54,633	1,109
60+	3,215	1,429	46	127,184	2,996
Total Females	34,191	19,805	488	199,191	4,277
Female as % of all cause total	2.32%	1.34%	0.03%	13.52%	0.29%
Total All	147,571	62,110	1,478	515,607	11,244
Total as % of all cause	4.77%	2.01%	0.05%	16.68%	0.36%


* Including cannabis (traffic accidents only)

[§]Including active and passive smoking



Prevention of alcohol and drug-related problems.





Prevention of alcohol and drug-related problems.

- Many studies have identified effective ways to prevent alcohol-related problems
- A smaller body of research identifies effective ways to prevent drug-related problems



Prevention Strategies

- Treatment
 - Pharmacological
 - Psychological
- Prevention
 - Primary and secondary
- Specific Public Policy on Substances
 - Availability, cost, delivery form, prohibition
- General Social Policy
 - Education, housing, social capital (Level of use)
 - Health care, enforcement (Consequences)



Treatment for Substance Abuse

- Natural Recovery
- Mutual Help Groups
- Outpatient Counseling
 - Guided self change
 - Structured relapse prevention
 - After care or continuing care
- Residential Treatment
 - Minnesota model (28 or 21 day)
 - Therapeutic community (months to years) Natural Recovery
- Pharmacological Treatment

Psychological Treatment

-Effects of treatment on mortality rates in drinking drivers

Cause of death	Observed/Expected	Probability
Total Mortality	.69	.034
Mortality from cirrhosis and ADS	.91	.500
Mortality from accidental and violent causes	.26	.001

Prevention

– Effective Primary and Secondary Prevention Programs Build:

- optimism
- empathy
- insight
- intellectual competence
- self-esteem
- determination
- direction or purpose in life

» Kumpfer KL, Goplerud E, and Alvarado, R (1998) *Assessing Individual Risks and Resiliencies in: Principles of Addiction Medicine 2nd ed.*, Graham AW, Schultz, TK and Wilford, BB, American Society of Addiction Medicine, Chevy Chase, Maryland. pp. 207-213.

Public Policy

- Supply Reduction
 - Often involve law enforcement techniques
 - Destruction of crops
 - Border patrols, Customs searches
 - Criminal penalties and Police action
- Demand Reduction
 - Pricing and distribution controls
 - Primary and secondary prevention
 - Restrictions on tobacco or alcohol advertising
 - Warning labels on cigarette packs
 - Smoke-free regulations on public buildings
 - Educational efforts in schools
 - General health, education and social welfare

Harm Reduction

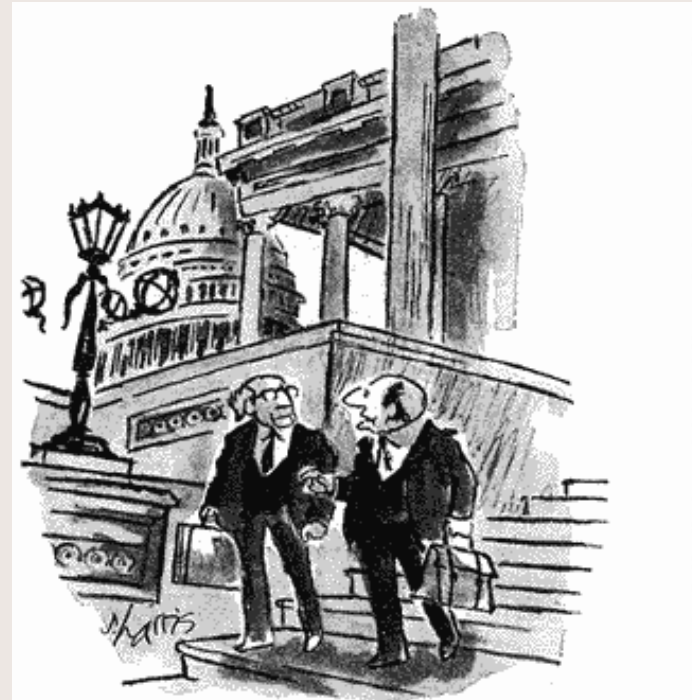
- “Harm reduction concepts and measures share two underlying assumptions:
 1. It is better (for both society and the individual) to concentrate on reducing the risks and harms of drug use rather than to focus solely on the goal of making people (or the world) “drug-free”.
 2. Drug control policies based on the criminalization of use must be replaced with pragmatic policies that produce demonstrable reductions in the adverse consequences of continued drug use in the world.”
- Drucker et al, Harm Reduction: Pragmatic Drug Policies for Public health and Safety. In Lowinson et al (Eds), Substance Abuse: A comprehensive Textbook, 4th ed, 2005.

Effectiveness of Interventions to Prevent or Reduce Drug Problems

BifSniff.com



Much to the rest of the groups horror Bob had completely misunderstood the concept of Alcoholics Anonymous.



"BUT IF WE DECRIMINALIZE MARIJUANA, WON'T WE HAVE TO CRIMINALIZE SOMETHING ELSE?"

Studies of alcohol consumption and cirrhosis in Canada

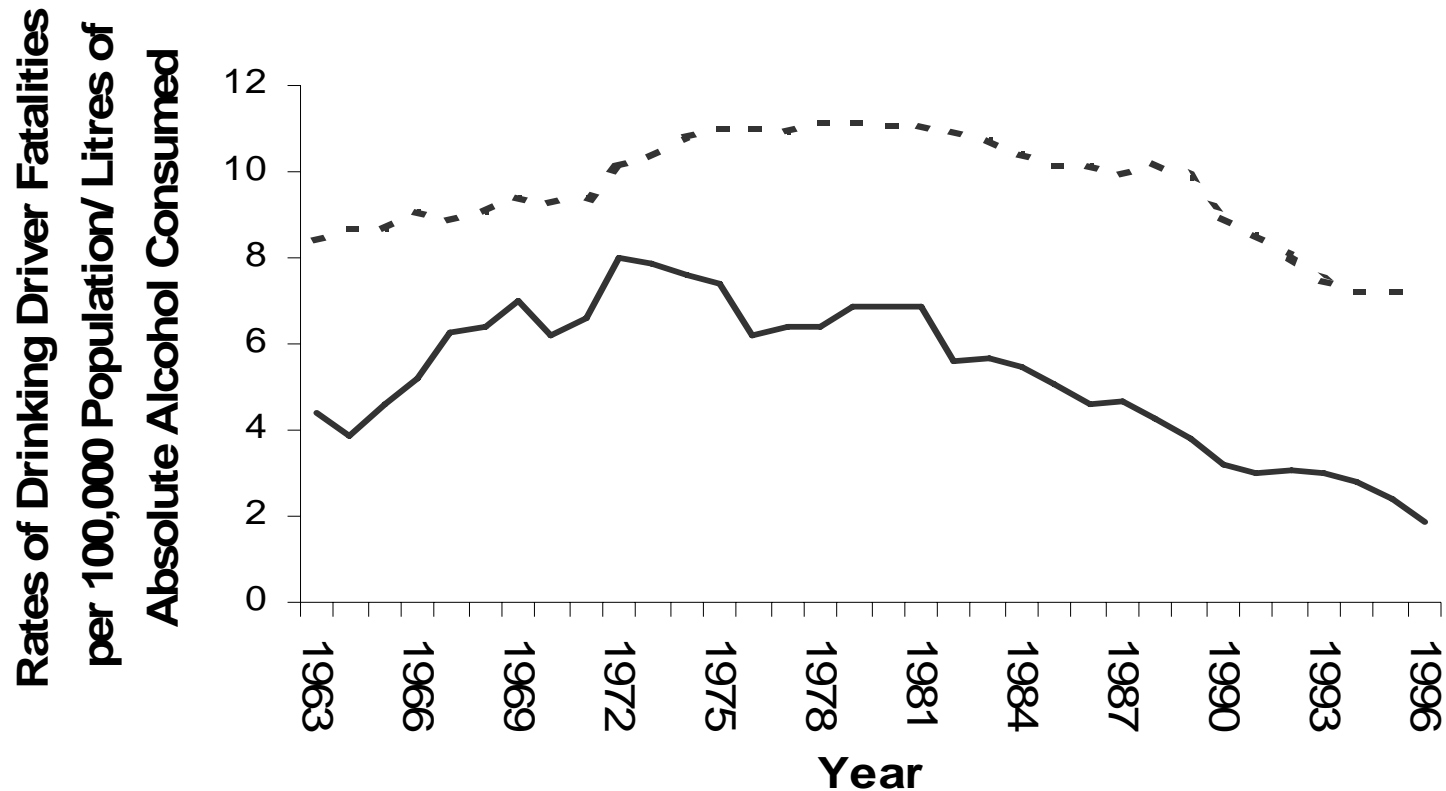
Xie et al, 2000:

- A 10% increase in price reduced consumption levels by 1%
- A 10% increase in rate of alcohol outlets tended to increase consumption levels by 1.9%
- A 1% increase in per capita consumption tended to increase the average person's chances of dying from alcohol-related cirrhosis by 3.4%

The effect of change in average or per capita consumption rates

- A one liter increase in average alcohol consumption would increase the drinking driver death rate by 8-14%
- A one liter increase in average alcohol consumption would increase the suicide mortality rate by about 4%
- A one liter increase in average alcohol consumption would increase the male cirrhosis mortality rate by about 17%

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Best Practices for Prevention

- Minimum legal purchase age
- Government monopoly of retail sales
- Restriction on hours or days of sale
- Outlet density restrictions
- Alcohol taxes
- Sobriety check points
- Lowered BAC limits
- Administrative license suspension
- Graduated licensing for novice drivers
- Brief interventions for hazardous drinkers

From 'Alcohol: No Ordinary Commodity.' Babor et al, Oxford University Press, 2003

A fundamental challenge to prevention...

- The production and sale of alcohol are very profitable industries
- These industries continually compete for sales
- To increase sales, they are continually looking to increase alcohol consumption levels



The industry also lobbies for deregulation

- After prohibition, governments maintained very close control over the sale and service of alcohol
- The past 40 years have seen a continued process of deregulation of alcohol, e.g., increase hours of sale, lowered drinking age, etc.
- As well, provinces have been pressured to get out of the alcohol business, or privatize alcohol sales

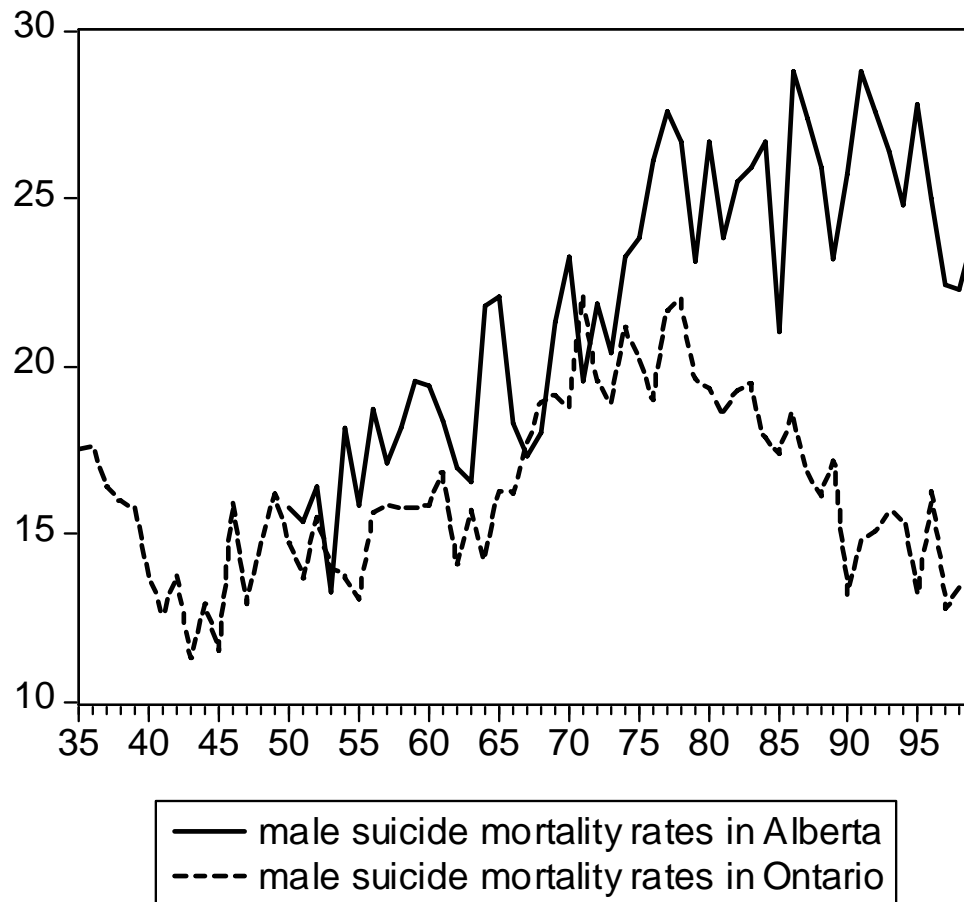
Policies can have negative effects!

- We saw that alcohol policies can affect drinking driving rates, and they also can affect rates of other alcohol-related problems too
- Suicide is very strongly related to alcohol consumption at the individual and the population level

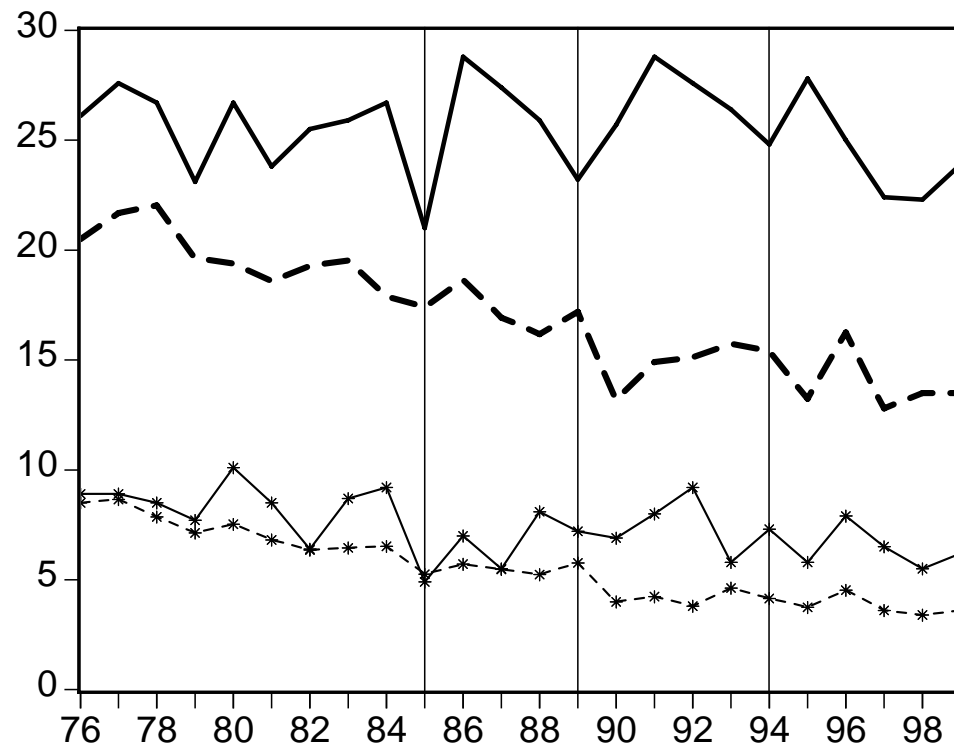
Policies can have negative effects!

- There has been a lot of pressure on governments by the private sector to deregulate alcohol retailing over the past several decades
- The Province of Alberta, in a series of events, turned the retail sale of alcohol over to the private sector in the 1970's-80s
- We evaluated the effects of this deregulation on male and female suicide mortality rates in the province with time series analyses

The effects of privatization in Alberta



The effects of privatization of alcohol sales in Alberta



— — — Male suicide mortality rates in Ontario
- - * - - Female suicide mortality rates in Ontario
— — — Male suicide mortality rates in Alberta
— * — Female suicide mortality rates in Alberta



Information and program resources.

- There are several valuable resources available to public health for addressing substance misuse issues



The Alcohol Policy Network

- The Alcohol Policy Network is a project of the Ontario Public Health Association
- Mission – ‘To facilitate the development of policies that prevent problems associated with alcohol use and enhance the health, safety and well-being of individuals and communities across Ontario’

Information and program resources.

Some recent and ongoing activities of the Alcohol Policy Network:

- Maintains a website containing information, resources and discussion of current issues
- Maintains a listserve to promote informed discussion about alcohol-related policy and programming issues in Ontario and Canada
- Holds an annual conference (Alcohol: No Ordinary Commodity) on alcohol-related issues in Ontario

Information and program resources.

Some recent and ongoing activities of the Alcohol Policy Network:

- This year's ANOC conference is titled '*Alcohol Across the Lifespan: Current Research and Practical Applications for Alcohol-Related Harm*'
- The conference is being scheduled for the first week of March

Information and program resources.

Some recent and ongoing activities of the Alcohol Policy Network:

- Mapped Alcohol Policy Network Programs onto the 2008 Ontario Public Health Standards

Information and program resources.

Alcohol Policy Network Programs Mapped to the 2008 Ontario Public Health Standards

Program Standard	Program Requirement	Program/ Resources	Explanation
Injury Prevention and Substance Misuse	<p>Health Promotion and Policy Development Requirement 2:</p> <p>The board of health shall work with community partners, using a comprehensive health promotion approach, to influence the development and implementation of healthy policies and programs, and the creation or enhancement of safe and supportive environments that address the following:</p> <ul style="list-style-type: none"> Alcohol and other substances 	<ul style="list-style-type: none"> Consultation and Referral http://www.apolnet.ca/aboutus/contactus.html 	<ul style="list-style-type: none"> APN offers consultations and referrals to help other organizations or communities work on projects and programs associated with addressing alcohol policy and alcohol use in Ontario.
		<ul style="list-style-type: none"> APOLNET Listserv http://www.apolnet.ca/news/ListservHome.html 	<ul style="list-style-type: none"> Through the APOLNET Listserv, APN distributes current information and data regarding alcohol use and policy in Ontario as well as providing a forum for Listserv members to ask questions and seek information from other professionals in the field
		<ul style="list-style-type: none"> APN Teleconferences http://www.apolnet.ca/resources/education/teleconferences.html - Alcohol Sales and Risk of Serious Assault - Drinking and driving in Canada: Results of the Road Safety Monitor 2007 - Alcohol and Injury Prevention - Impaired Driving 101 - Impaired Driving 101: An Introduction to Alcohol-related DUI Legislation and Enforcement in Ontario 	<ul style="list-style-type: none"> APN offers various learning series teleconferences on a wide range of alcohol policy issues that are offered free of charge. These learning teleconferences help build understanding of the issues and increase skills for working within the alcohol field.
		<ul style="list-style-type: none"> ARAPO and APN research papers http://www.apolnet.ca/resources/pubs/ResearchHome.html 	<ul style="list-style-type: none"> The APN and ARAPO Research papers have focused on various issues surrounding alcohol use in Ontario with primary themes of chronic disease, policy development, and youth. The papers work to show population specific emerging trends that may be of concern to health professionals and to society as a whole.

Information and program resources.

Contacting the Alcohol Policy Network:

- Website -

<http://www.apolnet.ca/Index.html>



- Call Ben Rempel – Manager, Alcohol Education and Injury Prevention, at 416-367-3313 Ext. 233



The Centre for Addiction and Mental Health

- The Centre for Addiction and Mental Health (CAMH) is Canada's leading Addiction and Mental Health teaching and research hospital, recognized internationally as a Pan American Health Organisation and World Health Organisation Collaborating Centre
- In addition to its clinical mandate, CAMH also has a provincial mandate to influence public policy and promote positive system change, and to discover, share and apply new knowledge



The Centre for Addiction and Mental Health

- CAMH conducts the Ontario Student Drug Use and Health Survey (OSDUHS) biennially
- CAMH also conducts the CAMH Monitor Survey of the Ontario Adult population
- Both surveys include information on alcohol and other drug use, and problems related to that use (e.g., drinking and driving)

The Centre for Addiction and Mental Health

- CAMH's website – www.camh.net
- OSDUHS website - www.camh.net/Research/osdus.html
- CAMH Monitor website - www.camh.net/Research/camh_monitor.html

Ontario Injury Prevention Resource Centre

- www.oninjuryresources.ca/home/
- Offers information, consultations, learning opportunities and much more

Canadian Centre on Substance Abuse

- www.ccsa.ca/Eng/Pages/Home.aspx
- National coordinating centre on substance abuse
- Website has good information, statistics
- Searchable library of online information


National Alcohol Strategy

- [//www.ccsa.ca/2007%20CCSA%20Documents/ccsa-023876-2007.pdf](http://www.ccsa.ca/2007%20CCSA%20Documents/ccsa-023876-2007.pdf)
- The National Alcohol Strategy has been developed to guide prevention, health promotion and treatment efforts by a multisectoral group
- Efforts are now underway to find champions for the recommendations to have them implemented
- Stay tuned!!

In Conclusion:

Friends Don't Let Friends Drive Drunk





Addiction and substance misuse problems are challenging

- Nevertheless, we know a great deal about the nature of substance use and associated problems, and how those problems can be prevented
- However, there are very important challenges to implementing measures known to be effective

Thank you!

