

**Alcohol Consumption,
Drinking Patterns & Damage**
Moving from harm promotion to harm reduction

Norman Giesbrecht

Centre for Addiction & Mental Health &
University of Toronto, Dept of Public Health Sciences

alPHa Annual Conference
Nottawasaga Inn Resort, Alliston, Ontario
June 9, 2008

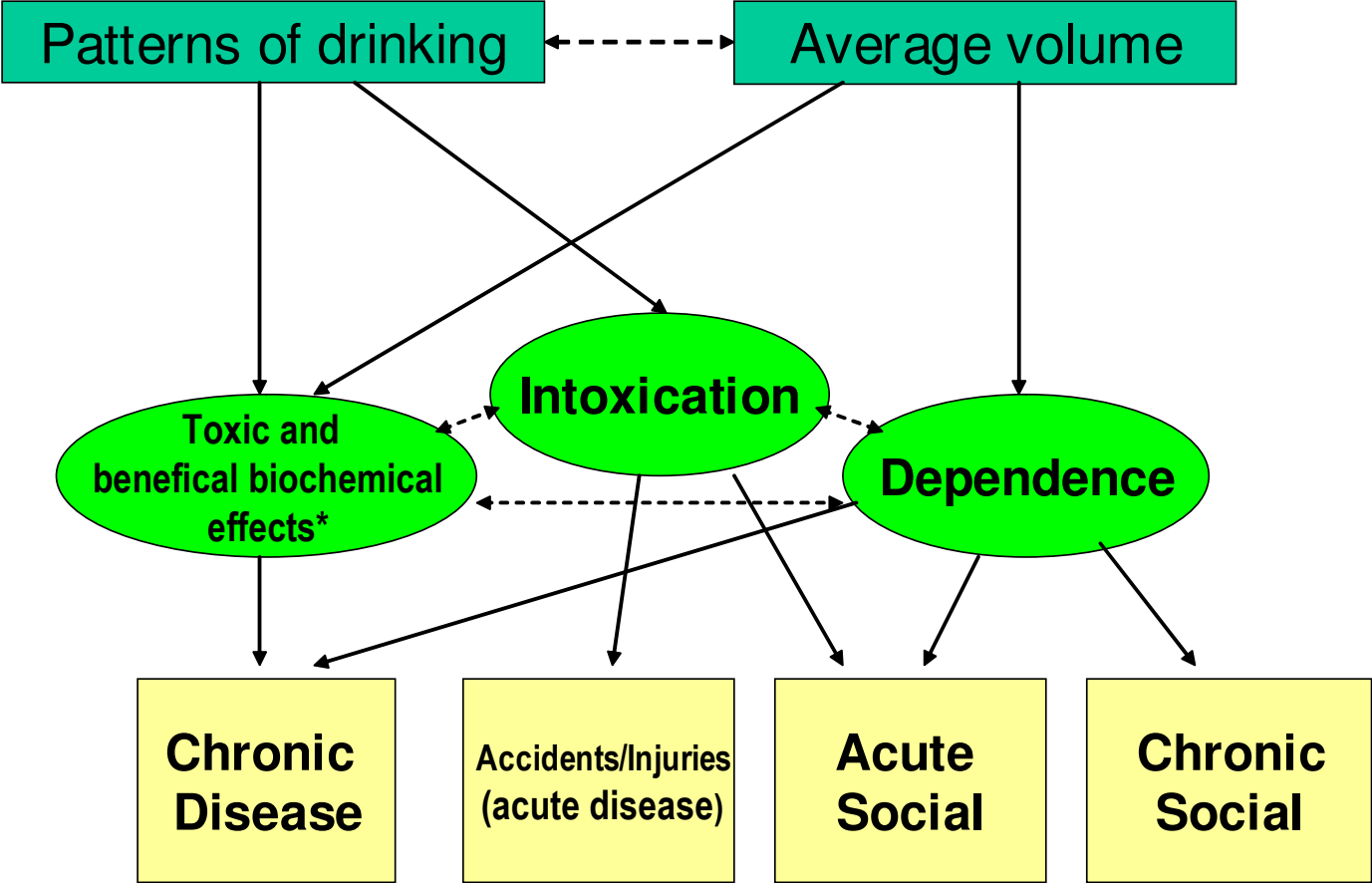
Harmful Effects of Alcohol Consumption - 3 Dimensions

The benefits connected with the production, sale, and use of this commodity come at an enormous cost to society.

Three important mechanisms explain alcohol's ability to cause medical, psychological, and social harm:

- **Average volume of consumption**
- **Patterns of drinking**
- **Drinking that occurs outside of meals**

Causal model of alcohol consumption, intermediate mechanisms, and long-term consequences



Source: T. Babor et al. 2003

* Independent of intoxication or dependence

Major alcohol-related health conditions contributing to morbidity and mortality

(Alcohol has been linked with over 60 diseases or conditions)

Cancers: head and neck cancers as well as cancers of the gastrointestinal tract, liver cancer, and female breast cancer.

Neuropsychiatric conditions: alcohol-dependence syndrom, alcohol abuse, depression, anxiety disorder, organic brain disease.

Cardiovascular conditions: ischaemic heart disease, cerebrovascular disease.

Major alcohol-related health conditions contributing to morbidity and mortality

[continued]

Gastrointestinal conditions: alcoholic liver cirrhosis, cholelithiasis, pancreatitis.

Maternal and perinatal conditions: low birth weight, intrauterine growth retardation, fetal alcohol effects.

Acute toxic effects: alcohol poisoning.

Accidents: road and other transport injuries, fall, drowning and burning injuries, occupational and machine injuries.

Self-inflicted injuries: suicide.

Violent deaths: assault injuries.

Leading risk factors for disease in emerging and established economies (% total DALYS*)

(World Health Report, 2002)

Developing countries				Developed countries	
High mortality		Low mortality			
Underweight	14.9%	Alcohol	6.2 %	Tobacco	12.2 %
Unsafe sex	10.2 %	Blood pressure	5.0 %	Blood pressure	10.9 %
Unsafe water & sanitation	5.5 %	Tobacco	4.0 %	Alcohol	9.2 %
Indoor smoke (solid fuels)	3.6 %	Underweight	3.1 %	Cholesterol	7.6 %
Zinc deficiency	3.2 %	Body mass index	2.7 %	Body mass index	7.4 %
Iron deficiency	3.1 %	Cholesterol	2.1 %	Low fruit & vegetable intake	3.9 %
Vitamin A deficiency	3.0 %	Low fruit & vegetable intake	1.9 %	Physical inactivity	3.3 %
Blood pressure	2.5 %	Indoor smoke from solid fuels	1.9 %	Illicit drugs	1.8 %
Tobacco	2.0 %	Iron deficiency	1.8 %	Unsafe sex	0.8 %
Cholesterol	1.9 %	Unsafe water & sanitation	1.8 %	Iron deficiency	0.7 %

Brief overview of damage from alcohol

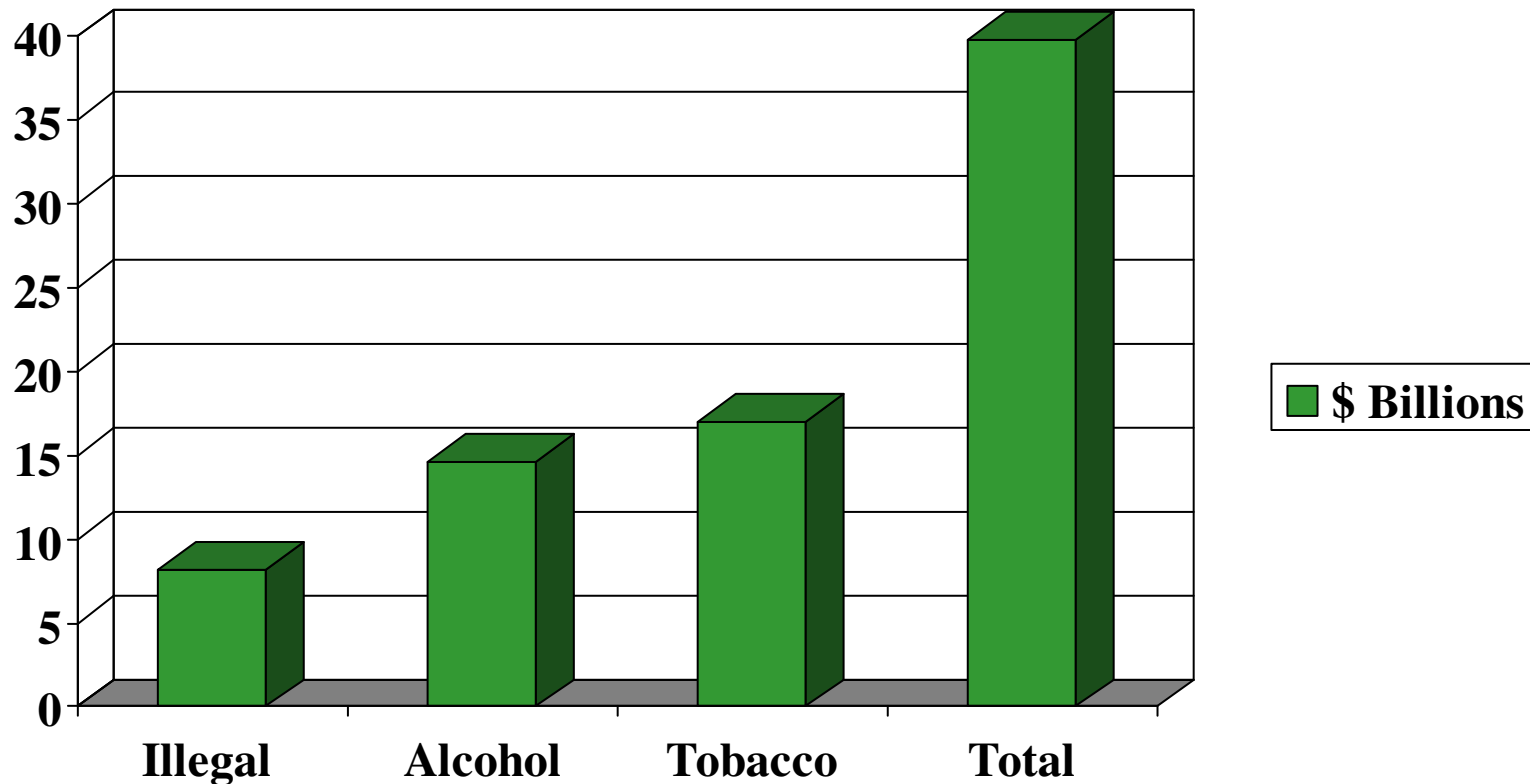
Deaths Canada, 2002	8,103
Potential years of life lost, Canada, 2002	191,136
Hospital separations, 2000/01	27,084
Acute care hospital days, 2002	1,587,054

Social Costs of Alcohol in Canada, 2002 (in millions of dollars)

Direct health care costs, total	3,306.2
Law enforcement costs	3,072.2
Direct costs for prevention & research	53.0
Other direct costs	996.1
Indirect costs: productivity losses	7,126.4
TOTAL	14,554.0

Costs attributable to substance abuse in Canada, 2002

Total cost \$39.8 billion



Source: CCSA J. Rehm, D. Baliunas, S. Brochu et al. 2006

Overview of patterns of alcohol use, Canada, 2004

N of 13,909 respondents aged 15 and older

Prevalence – current users	79.3%*
Abstainer – never in life	7.3%*
Former drinker – not in the past year	13.7%*
Light infrequent – past yr	38.7%
Light frequent – past yr	27.7%
Heavy infrequent – past yr	5.6%
Heavy frequent – past yr	7.1%
Monthly heavy drinking	20.2%
Exceeded drinking guidelines	17.8%
Exceeded drinking guidelines among past year drinkers	22.6%
AUDIT hazardous drinking	13.6%
Reported harm to themselves	24.2%
Reported harm in past yr due to drinking by others	32.7%

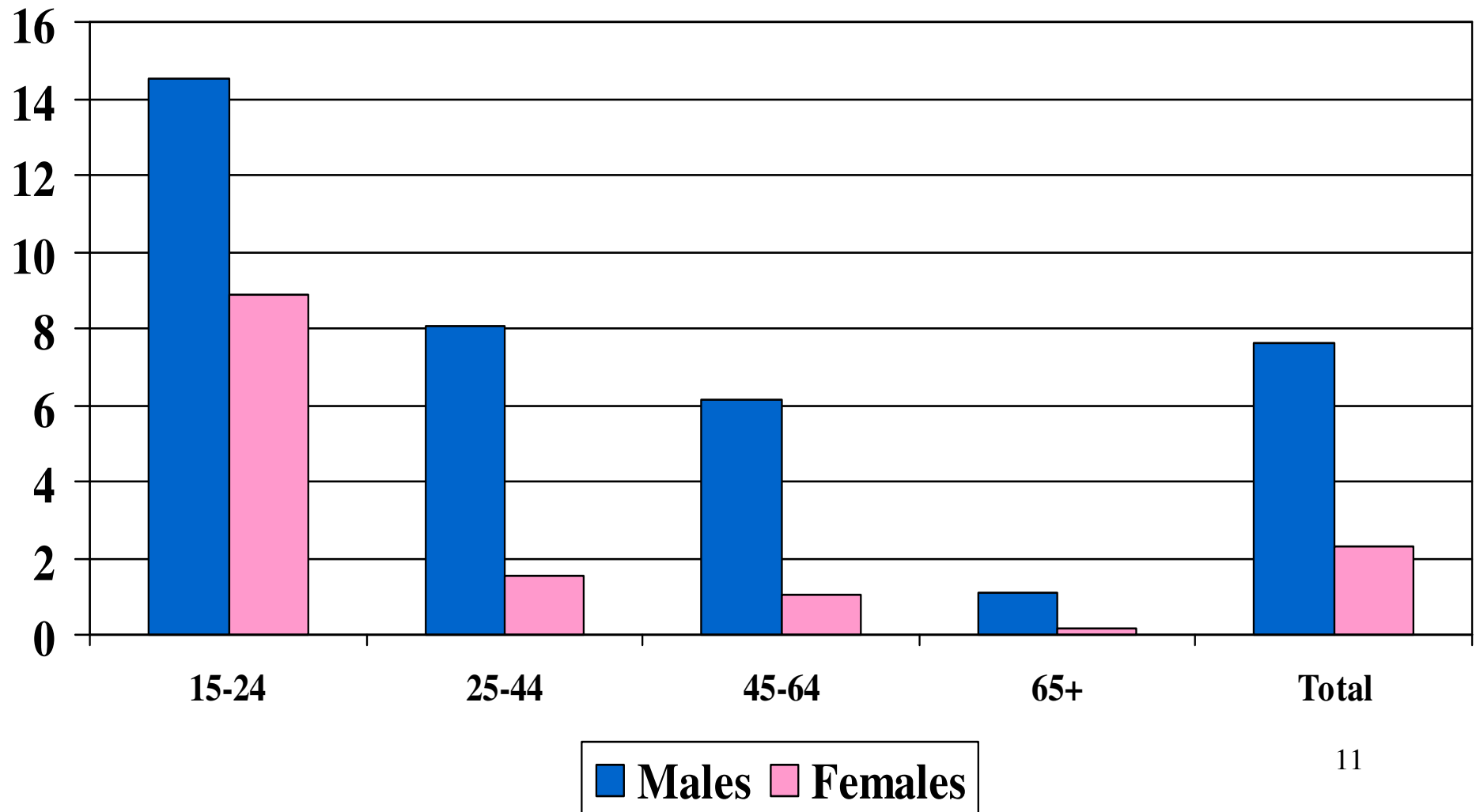
10

Sources: CCSA, 2004; Adlaf, Begin & Sawka, 2005; Demers & Poulin, 2005

Consumed 5+ drinks on an Occasion Weekly % of respondents, Canada 2004

N: men = 5,592, women = 7,949

(Source: CAS & Giesbrecht, Rehm, Adlaf, Patra, Ialomiteanu & Flynn, 2007)



Exceeded Low Risk Drinking Guidelines in Past Yr

14/wk men, 9/wk women, max 2/day

% of respondents, Canada 2004

N: men = 5,522, women = 7,902

(Source: CAS & Giesbrecht, Rehm, Adlaf, Patra, Ialomiteanu & Flynn, 2007)

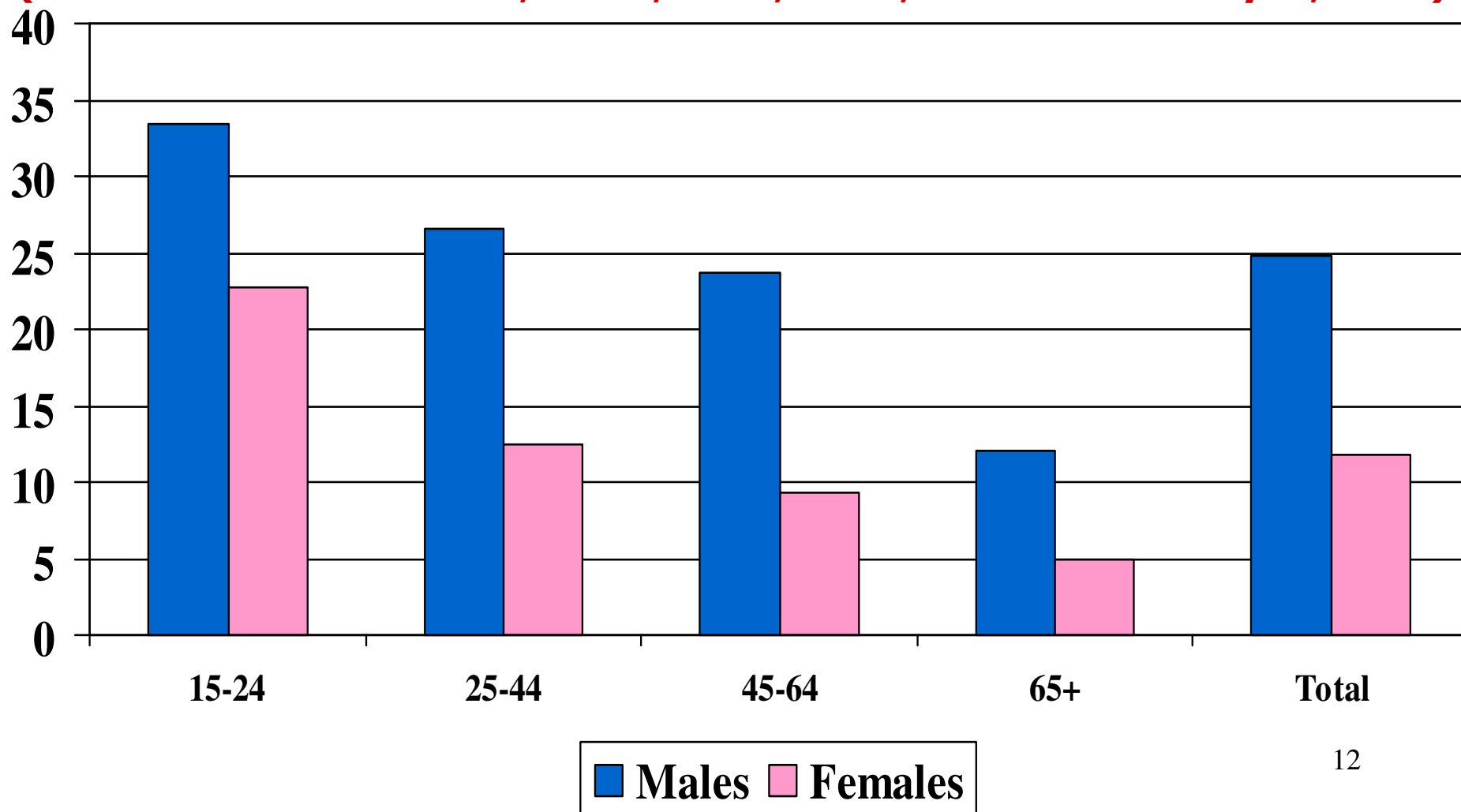
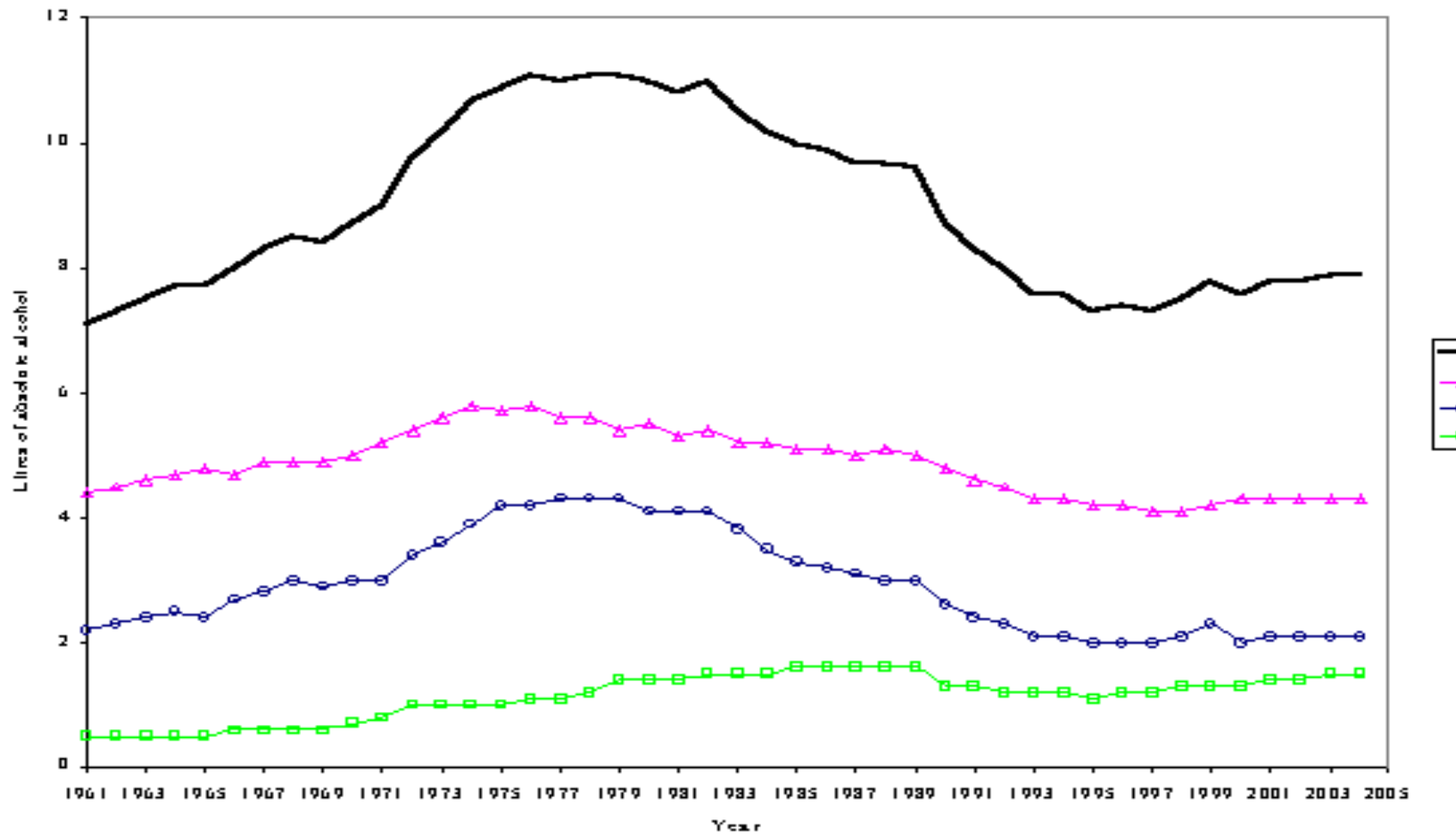


Figure 2 – Per capita alcohol consumption, in litres of absolute alcohol, Canada, aged 15+ (1961-2004)



Source: Statistics Canada (2004). *The control and sale of alcoholic beverages in Canada.*

Key: Top line is total consumption, 2nd is beer, 3rd is spirits, 4th is wine

Canada: Long-term trends between alcohol consumption and damage

Period studied was 1950 to up to 2000

Positive associations found between overall consumption and:

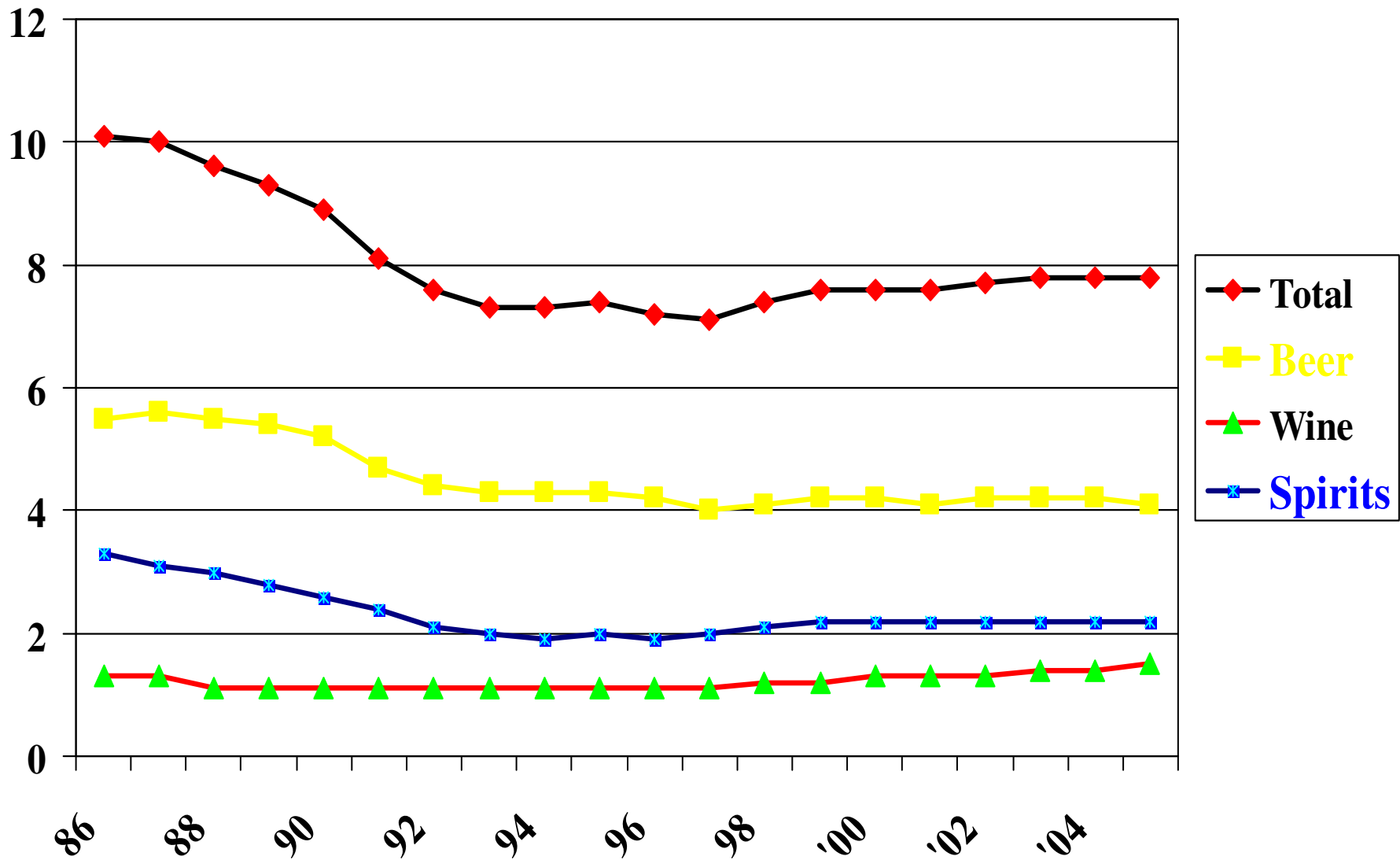
- Alcohol specific mortality (M. Ramstedt, 2003)**
- Liver cirrhosis mortality (M. Ramstedt, 2004)**
- Fatal accidents (O-J. Skog, 2003)**
- Suicides (M. Ramstedt, 2005)**
- Homicides (I. Rossow, 2004)**
- Total mortality (T. Norström, 2004)**

In other words an increase in consumption is associated with an increase in damage & harm

Drinking Patterns & Rates in Canada

- **Results from the Canadian Community Health Surveys suggest that high-risk drinking has increased from 10% to 14% between 1993 and 2004.**
- **The 2004 Canadian Addiction Survey found that 23% of past-year drinkers exceeded the low-risk drinking guidelines.**
- **Also, 17% of past-year drinkers were considered to drink hazardously (Alcohol Use Disorders Identification Test).**
- **Both high risk drinking patterns and overall consumption levels have been shown to impact chronic disease and trauma related harm from alcohol.**

Source: Statistics Canada, Canadian Community Health Surveys; Adlaf, Begin & Sawka, 2005



**Litres of Absolute Alcohol, per capita aged 15+.
Ontario, 1986-2005**

Trends in Average No. of Drinks/ Week

- **1992-1996:** the average no. of drinks decreased from 4.7 in 1992 to 3.3 in 1996, but started increasing in 1997.
- **1997 – 2005:** the average no. of drinks consumed increased from 3.4 to 3.8, but the overall difference was not significant.

There was however a **significant increase**

- **among women** (from 1.9 in 1996 to 2.6 in 2005)
- **among 40 to 49 year olds** (from 2.8 in 1995 to 4.3 in 2005) and
- **among those with less than high school education** (from 3.4 in 1996 to 6.1 in 2005).

Low Risk Drinking Guidelines

Centre for Addiction & Mental Health & Partners

- **No more than 2 standard drinks per day**
- **Up to 14 standard drinks per week – men**
- **Up to 9 standard drinks per week – women**

Please note that these guidelines were developed about 10 years ago, based on available epidemiological and other relevant research at that time. Health Canada is currently drafting national drinking guidelines, and when they are released, the specific numbers might be slightly different than those in the LRDG.

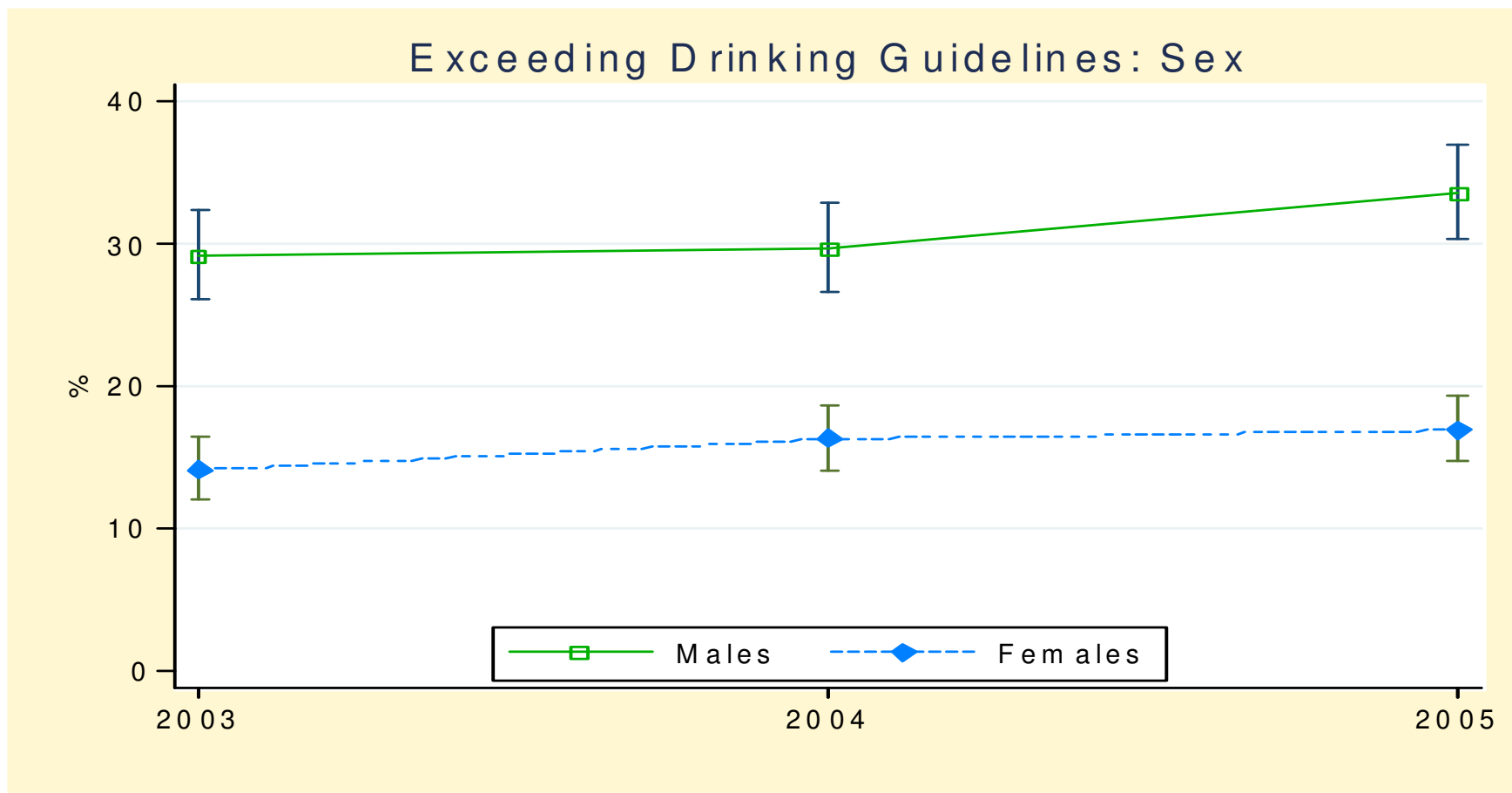
Exceeding the Low Risk Drinking Guidelines (LRDG)

- In 2005, **25%** of Ontarians (**32%** of drinkers) reported exceeding the LRDG.
- **Men** were **2.3 times** more likely than **women** to drink at this level (33.6% vs. 16.9%)
- Rate was highest among those **aged 18 to 29** (38%) and **lowest among those 65 years** and older (12%).

Trends in Exceeding the LRD Guidelines in the Past 12 Months, Ontario Adults

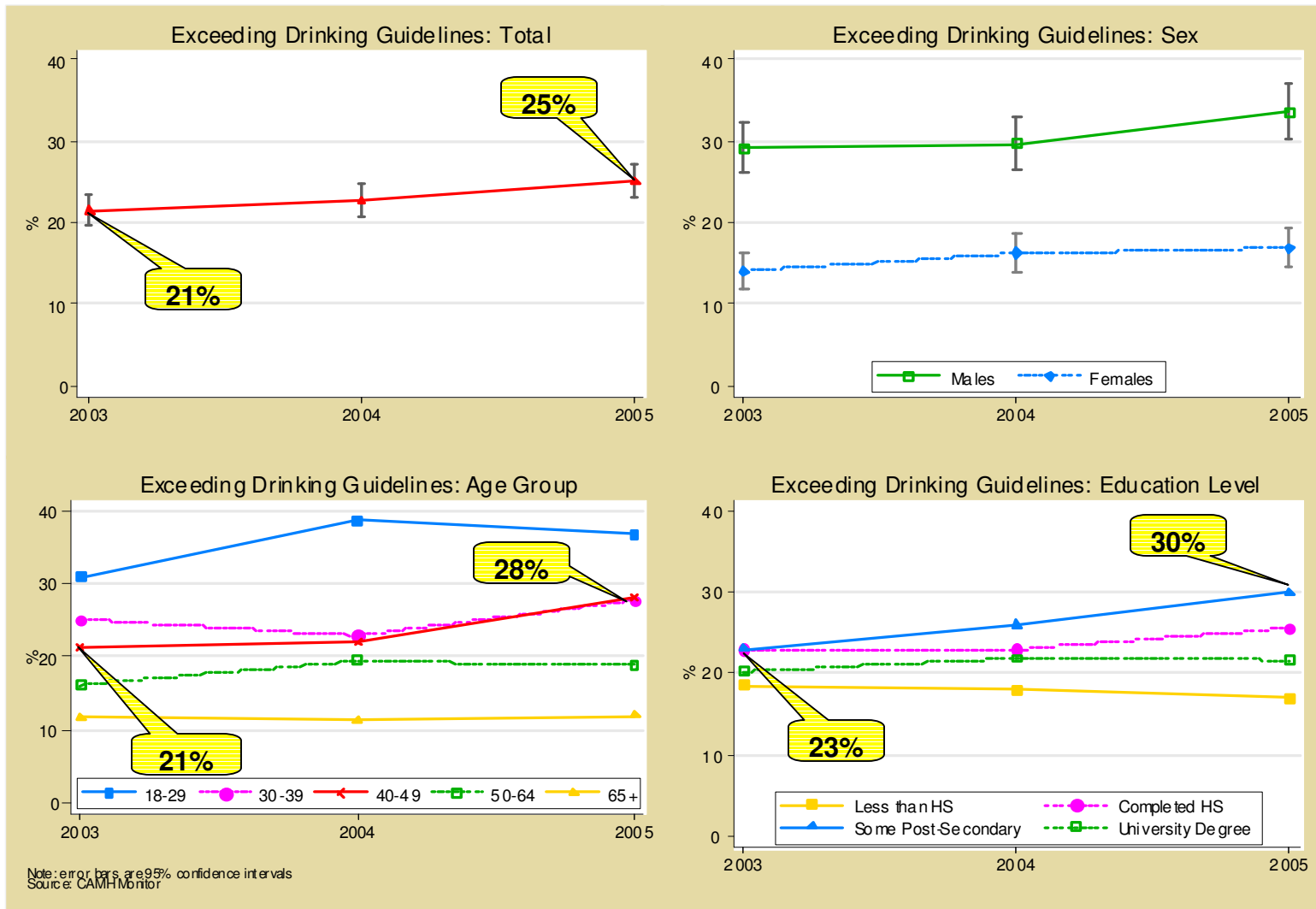
- Short term trends: Between **2003** and **2005**, the percent of Ontarians exceeding the LRDG has **increased significantly** from 21.4% to 25%. This increase was especially evident for 40-49 years olds, and those with some post secondary education.

Percent Exceeding the Low Risk Drinking Guidelines in the Past 12 Months by Gender, Ontario Adults, 2003-2005



Source: CAMH Monitor

Percent Exceeding the Low Risk Drinking Guidelines in the Past 12 Months, Ontario Adults, 2003-2005



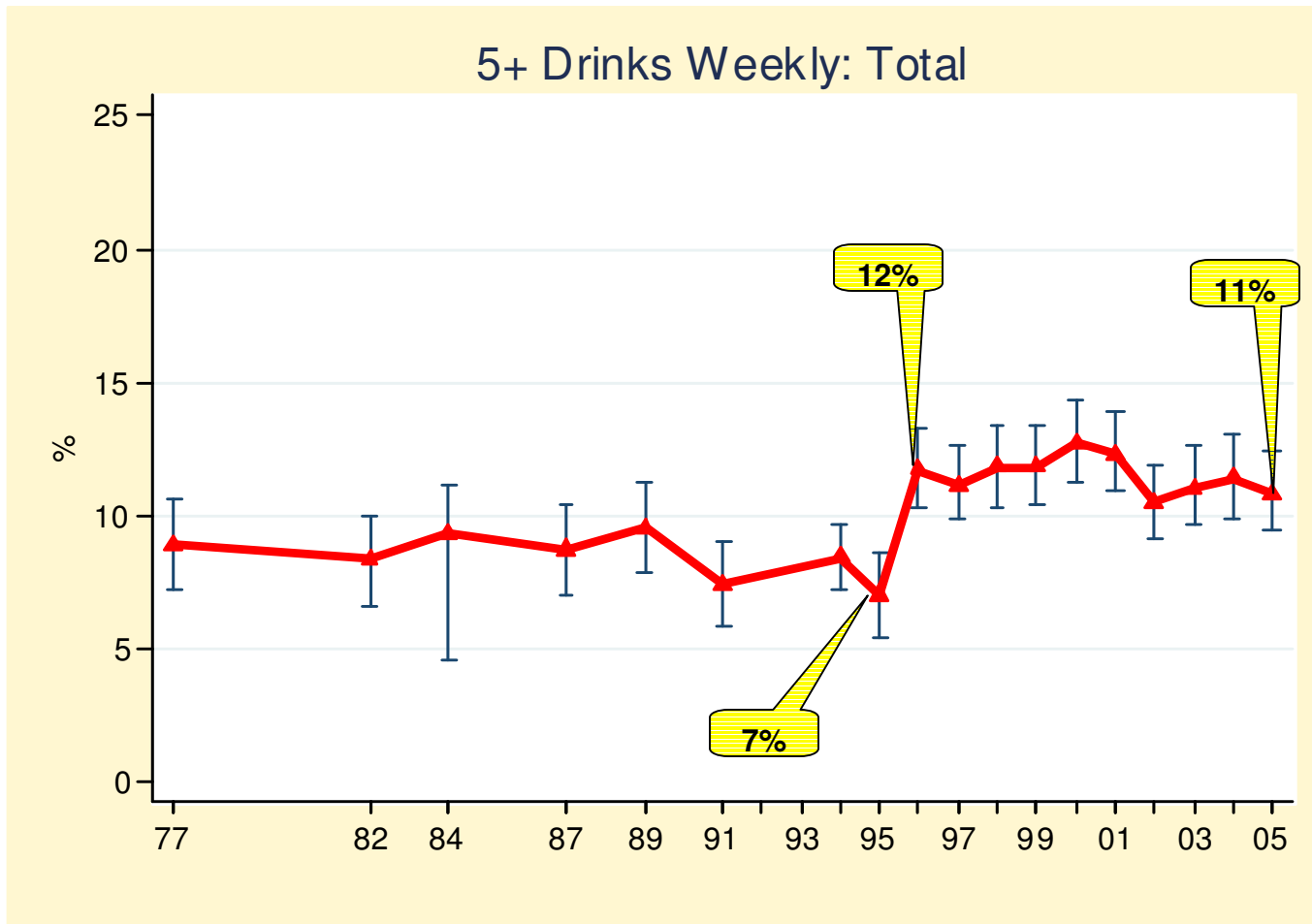
Prevalence of Heavy Drinking Episodes

- **Monthly heavy** drinking - consuming 5 or more drinks on a single occasion once a month or more often.
- **Weekly heavy** drinking- consuming 5 or more drinks on a single occasion on a weekly basis - an indicator of **regular heavy** intake of alcohol.

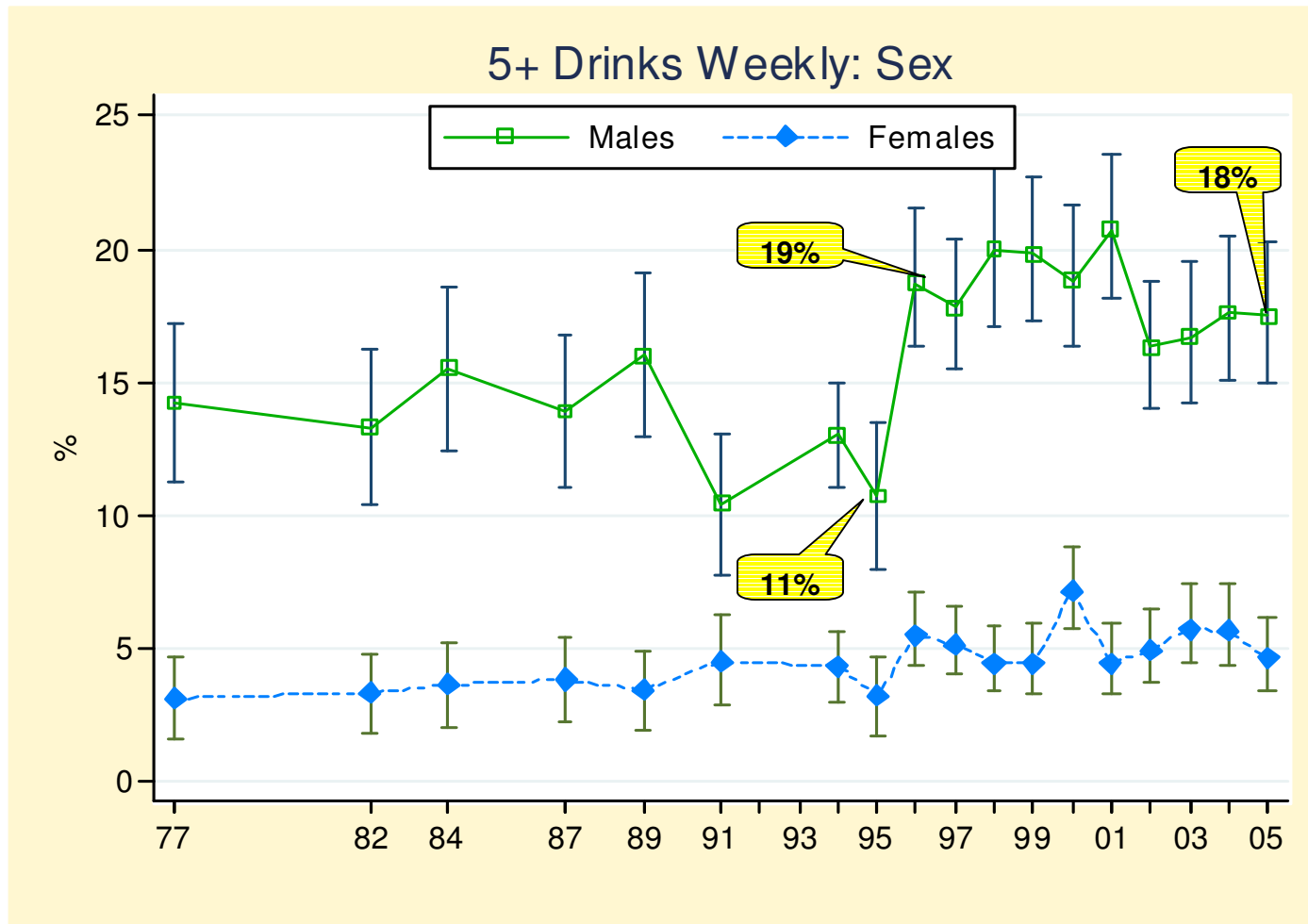
In 2005

- **30%** of Ontarians reported **monthly** heavy drinking
- **11%** reported heavy drinking on a **weekly** basis.
- Rates were higher among **men**, 18 to 29 year olds and lowest among those with university degree.

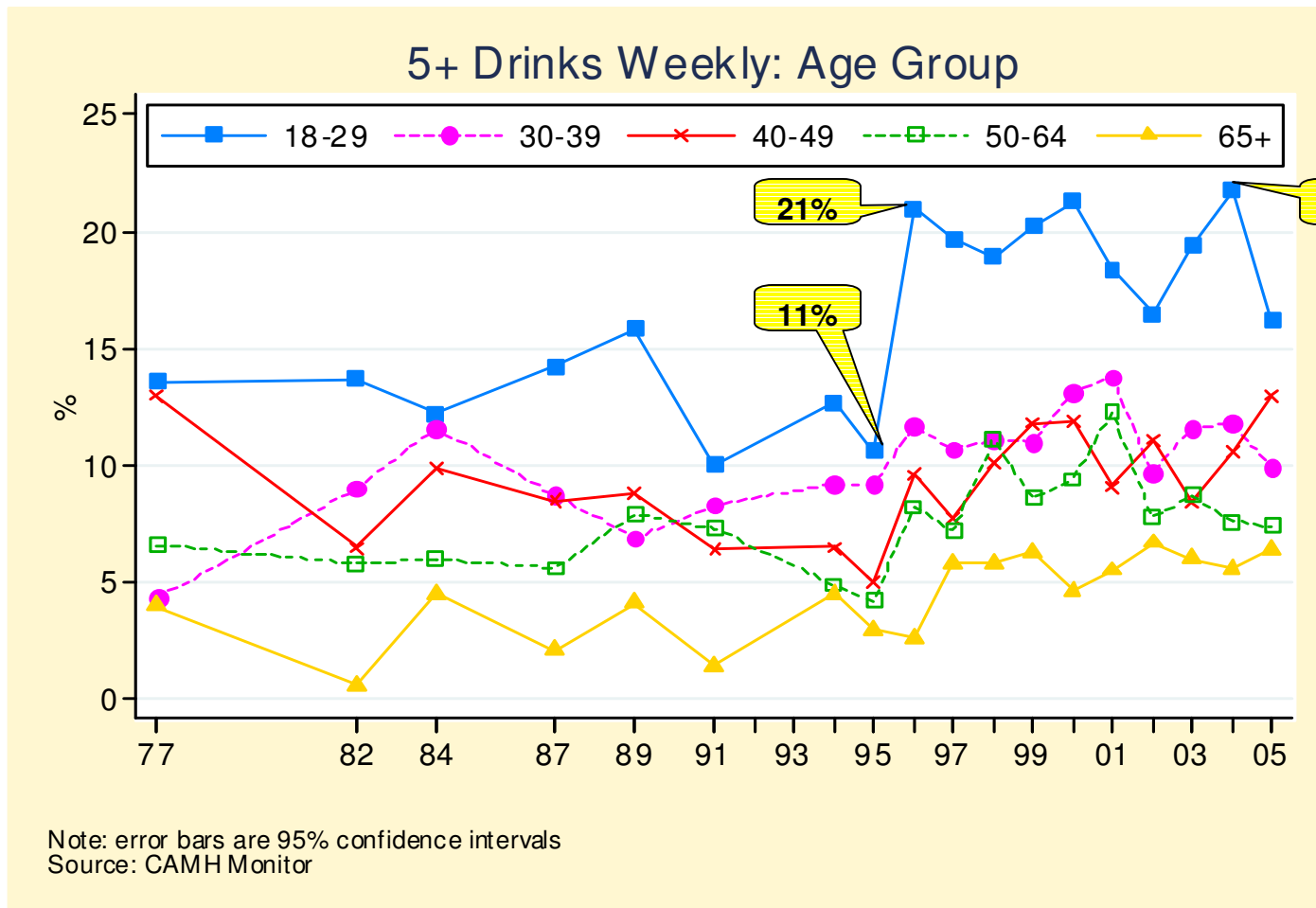
Weekly Heavy Drinking in the Past 12 Months, Ontario Adults, 1977-2005



Weekly Heavy Drinking in the Past 12 Months by Gender, Ontario Adults, 1977-2005



Weekly Heavy Drinking in the Past 12 Months by Age Groups, Ontario Adults, 1977-2005



Ratings of policy-relevant strategies and interventions

Policy - strategy	Effectiveness	Breadth of research support	Cross-cultural Testing	Cost to implement
Retail monopoly	+++	+++	++	Low
Restrict outlet density	++	+++	++	Low
Increase alcohol taxes	+++	+++	+++	Low
No service to intoxicated	+	+++	++	Moderate
Server liability	+++	+	+	Low
School programs	0	+++	++	High
Warning labels	0	+	+	Low
Min. legal purchase age	+++	+++	++	Low
Drivers <21 'zero tolerance'	+++	+++	++	Low
Brief intervention-at risk	++	+++	+++	Moderate

Source: Adapted from T. Babor et al, *Alcohol: No ordinary commodity* (Table 16.1), 2003, by T. Greenfield, et al. 2007

Best Practices & Practices with Good Support & Feasibility

- Alcohol taxes
- Minimum legal purchase age
- Government monopoly of retail sales
- Sobriety check points
- Lowered BAC limits
- Administrative license suspension
- Graduated licensing for novice drivers
- Restrictions on hours and days of sale
- Restrictions on outlet density
- Enforcement of on-premise regulations
- Brief interventions for high risk drinkers

Current Situation: Alcohol Policies & Interventions(1/3)

Policy framework

- National alcohol strategy has been introduced but not yet endorsed by fed. gov't [+]
- Goals do not include controlling overall consumption, some interest in controlling high risk drinking [+]
- Participants include public health and safety experts, but relative influence not known [+]

Current Situation: Alcohol Policies & Interventions (2/3)

Controls on availability and sales

- Currently no policies to keep 'real price' high – some proposals [+]
- Floor price, but no general policies on preventing discount pricing and sales [+]
- No ceiling on density of outlets [0]
- Advertising and promotion has increased dramatically in recent years [0]
- Advocacy communities not a strong record of impact, except drinking and driving [+]
- Server intervention, sales interventions & bar policies are receiving attention [++]

Current Situation: Alcohol Policies & Interventions (3/3)

Special populations

- Special interventions targeted on drinking and driving [+++]
- No special initiatives re chronic disease prevention and many other problems [0].

Priority, funding & service delivery

- Much lower priority for alcohol than other risk factors, even though rated 3rd of 26 risk factors [0]
- Advocacy communities re alcohol do not have the resources of other groups [+]
- Rx and prevention efforts dramatically under-funded [0]
- Brief interventions of interest but currently not yet widely available in a wide range of settings [+]

Overview (1/2)

- **Between 1996 and 2005 there appears to be combination of:**
 - rising consumption,
 - increasing % drinking in a high risk manner
 - increase in average drinks,
 - increase in alcohol marketing and promotion
- **This combination will**
 - likely strengthen the demand for access to alcohol
 - not provide a strong basis for public health advocacy for effective alcohol policies, and facilitate that
 - Facilitate that alcohol marketing and trade perspectives continue to dominate the policy arena

Overview (2/2)

On balance, alcohol promotion & management in Ontario -- and in Canada, generally -- is more likely to result in 'harm promotion' than 'harm reduction'

If this tendency is not reversed soon, then we can very likely expect:

- an increase in chronic disease, trauma and social problems related to alcohol
- Increase in costs related to health care, social services, work place disruption, and law enforcement

A Short List

In addition to effective measures already in place, and currently being proposed, an alcohol control strategy should include at a minimum the following:

- **Special efforts to control the rise in overall consumption & high risk drinking**
- An increase in the real price of alcoholic beverages and a discontinuation of discount pricing and sale pricing.
- A ceiling and status quo on other types of availability – hours and day of sale, density of on-premise and off-premise outlets.
- Reduction in alcohol marketing and promotion, and including marketing that is especially attractive to youth.
- Increased access to brief interventions so that all high risk drinkers potentially can benefit.
- The resources required to effectively implement these measures and other effective interventions.

Acknowledgements

This presentation draws, in part, from other presentations, papers and reports. We wish to thank: Lise Anglin, Thomas Babor, Angela Boak, Thomas Greenfield, Emma Haydon, William Kerr, Marianne Kobus-Matthews, Robert Mann, Jayadeep Patra, Svetlana Popova, Jürgen Rehm, John Rogers, Robin Room and Michael Roerecke.

Special thanks are extended to Edward Adlaf, the Principal Investigator of the CAMH Monitor survey of Ontario Adults and Anca Ialomiteanu, Research Coordinator, CAMH.

Some of these slides were presented at the annual forum *Alcohol, No Ordinary Commodity # 5*, Ottawa, Ontario, March 27, 2008 and *64th Alcohol Problems Research Symposium*, Stonecross Manor Hotel, Kendal, UK April 3-4, 2008

The views and opinions expressed in these slides and in this presentation are those of the presenter and do not necessarily reflect those of the persons acknowledged.

Contact Information

Norman Giesbrecht

Centre for Addiction & Mental Health

33 Russell St.

Toronto, Ontario, Canada M5S 2S1

Fax: 416 595-6899

email: norman_giesbrecht@camh.net