



Trends in Alcohol, Tobacco and Drug-Related Harm

December 11, 2009

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An agency of the Provincial Health Services Authority



Outline

- Background
- Results on AOD monitoring website
- Recent hospitalization data (2002-08 data)
- Adjusting BC use/consumption rates
 - Smoking
 - Alcohol



Background

- Rehm et al. estimated the Cost of Substance Abuse in Canada for 2002
 - Costs included law enforcement, loss of productivity from premature death and disability and overall social cost = \$40B
 - Tobacco \$17B (42.7%)
 - Alcohol \$14.6B (36.6%)
 - Illegal drugs \$ 8.3B (20.7%)
 - Productivity losses \$24.3B
 - Health care \$8.8B
 - Law enforcement \$5.4B



Estimating Attributable Mortality and Morbidity

- **Methods** - Rehm used attributable fractions (AF) to estimate # of deaths and hospitalizations attributable to alcohol, drugs, and tobacco (developed from English et al)
- **Data Source** (2002-present)
 - Mortality data from BC Vital Stats – using the MRD (most responsible diagnosis)
 - Hospital data (DAD) from BC Ministry of Health – using the UCOD (underlying cause of disease)



Attributable Fraction Methodology

- Definition –

To what extent is a substance responsible for causing a problem

OR

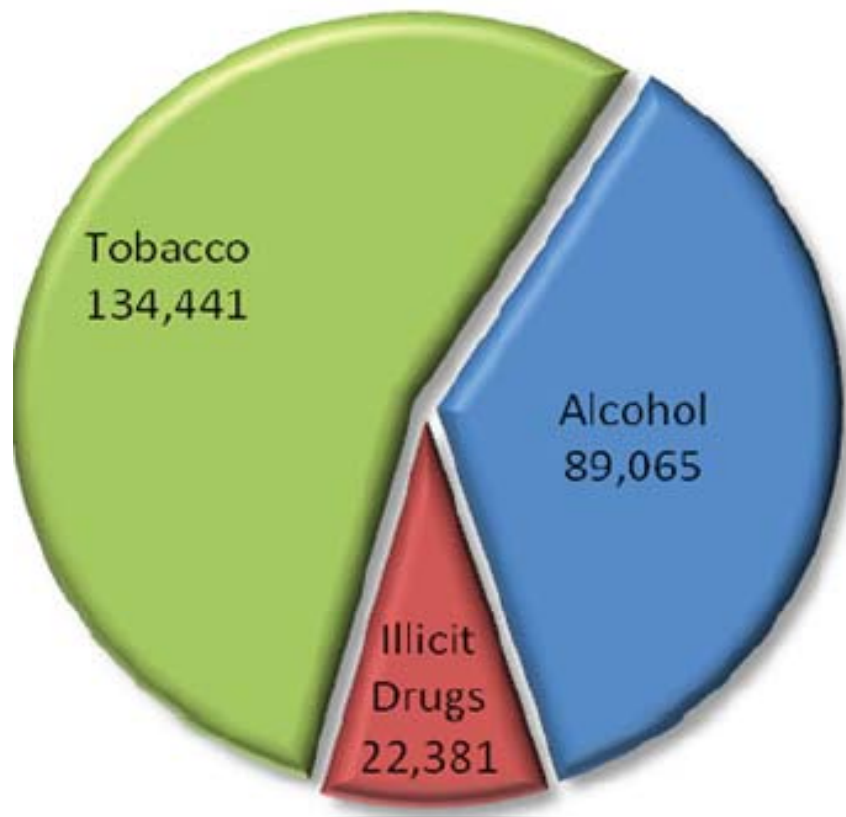
The proportion of disease that would disappear if there was no consumption (of alcohol/tobacco/illegal drug)



Attributable Fraction Methodology

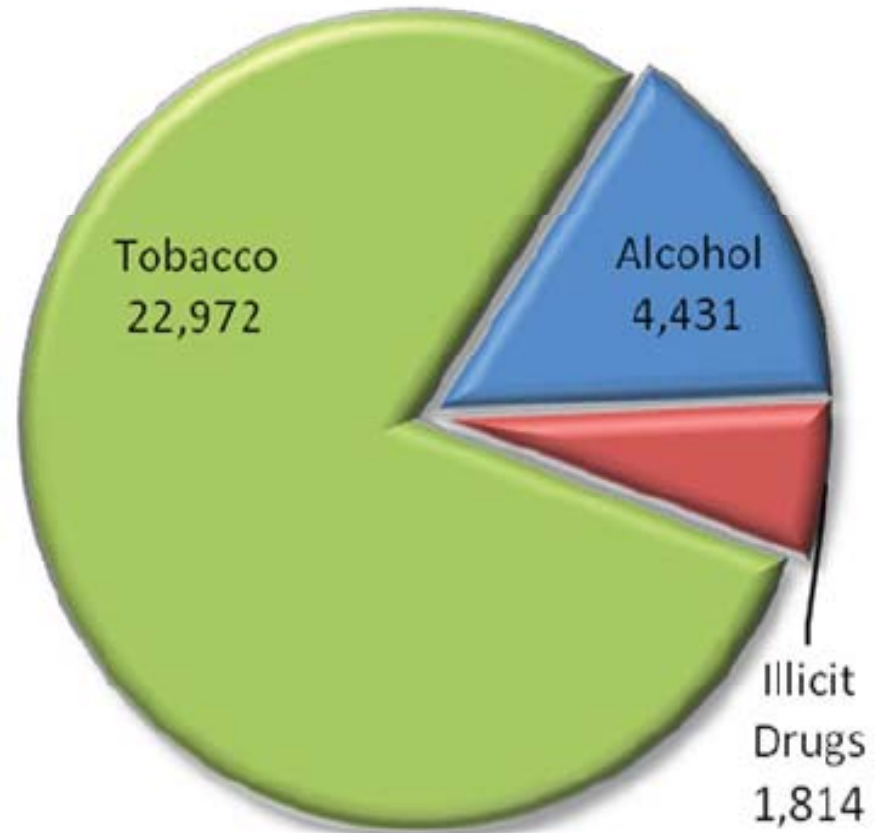
- **Step 1** – Identify diseases/conditions attributable to alcohol, drug, and tobacco (over 70 conditions – ICD-10)
- **Step 2** – Calculate AF for each condition by age and sex using prevalence of use and relative risks
- **Step 3** – Apply AFs to # deaths and hospitalization data

Estimated # substance
use hospital admissions;
2003-07



N = 245,887

Estimated # substance
use deaths; 2002-06

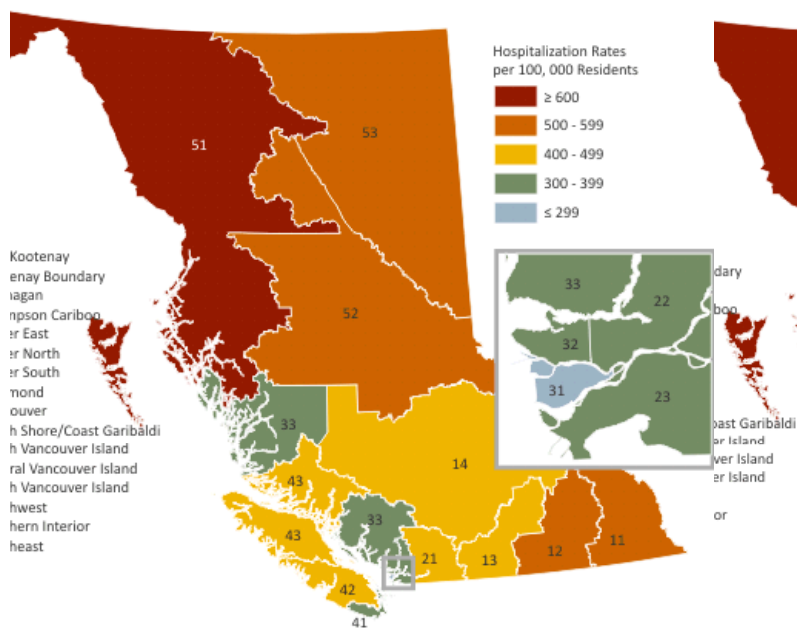


N = 29,217

Hospital rate by HSDA, 2007

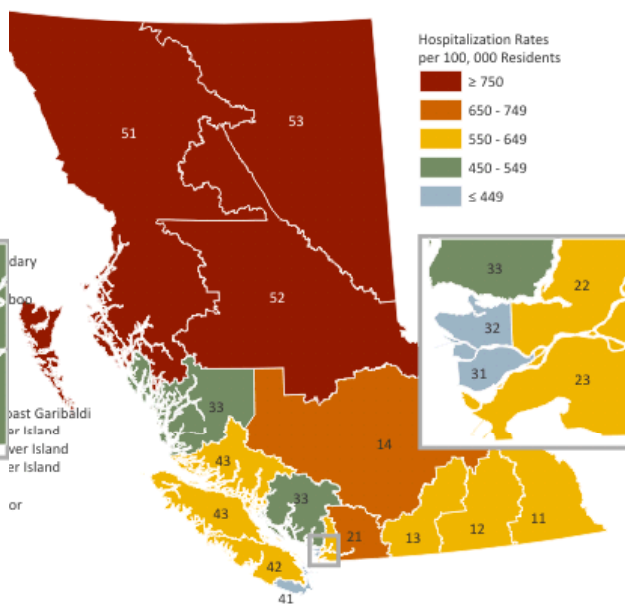
Alcohol

Hospitalization Rates Attributable to Alcohol for BC Health Service Delivery Areas, 2007



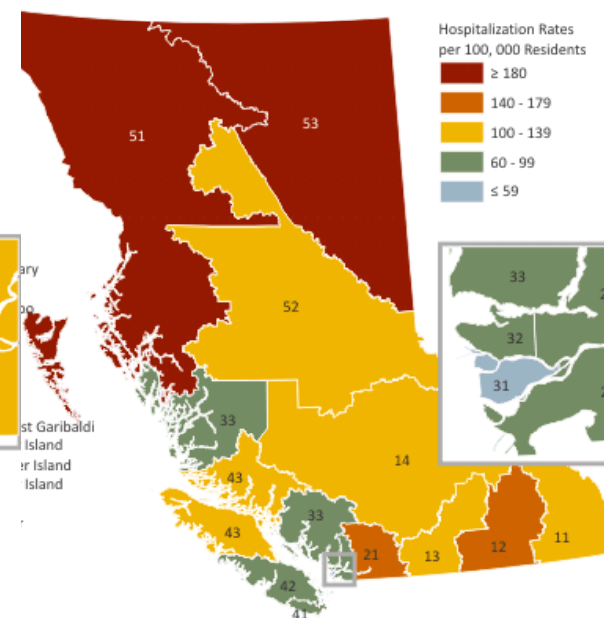
Tobacco

Hospitalization Rates Attributable to Tobacco for BC Health Service Delivery Areas, 2007



Illicit Drugs

Hospitalization Rates Attributable to Illicit Drugs for BC Health Service Delivery Areas, 2007

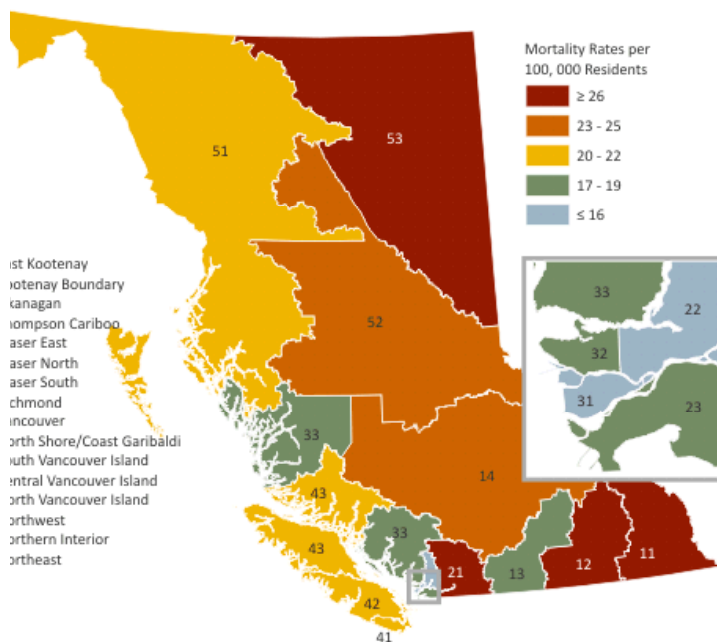


Source: www.aodmonitoring.ca

Mortality rate by HSDA, 2006

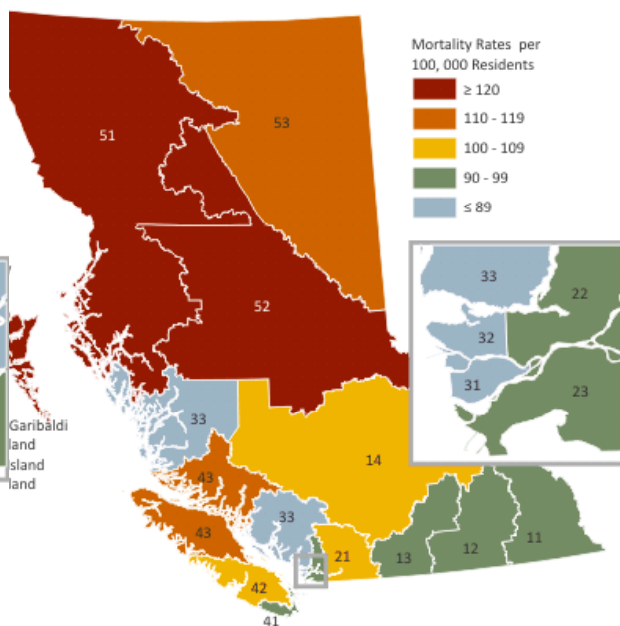
Alcohol

Mortality Rates Attributable to Alcohol for BC Health Service Delivery Areas, 2006



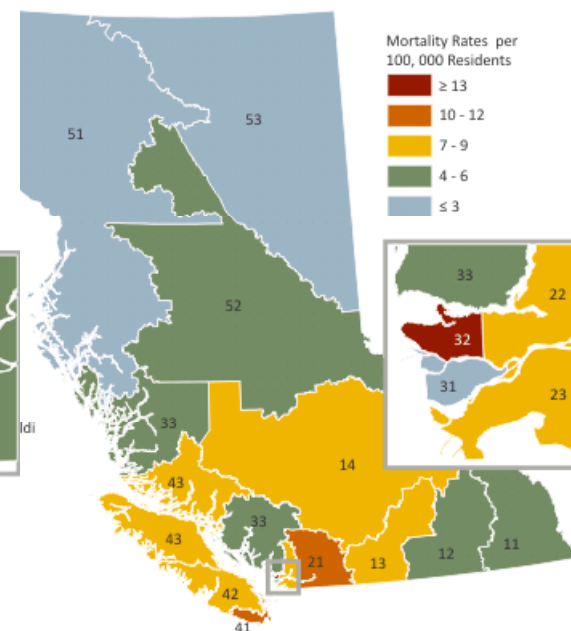
Tobacco

Mortality Rates Attributable to Tobacco for BC Health Service Delivery Areas, 2006



Illicit Drugs

Mortality Rates Attributable to Illicit Drugs for BC Health Service Delivery Areas, 2006



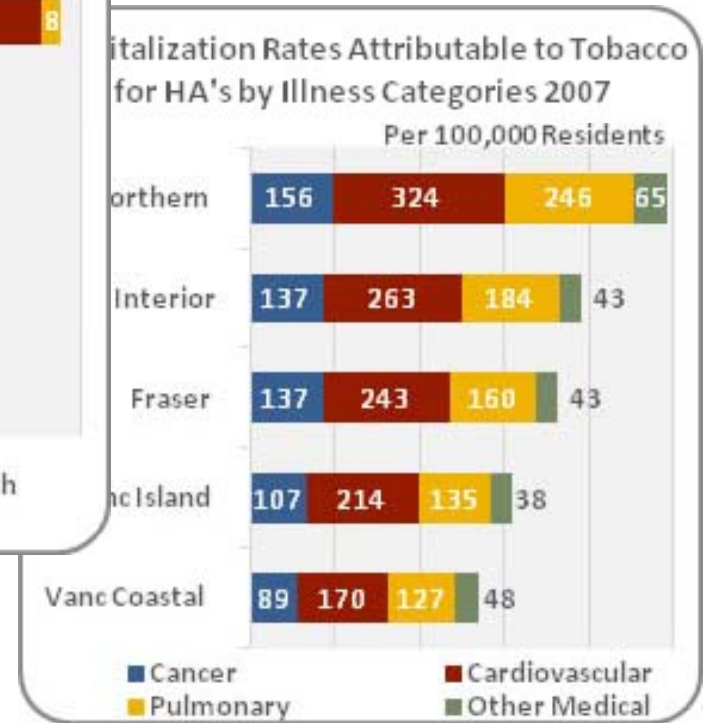
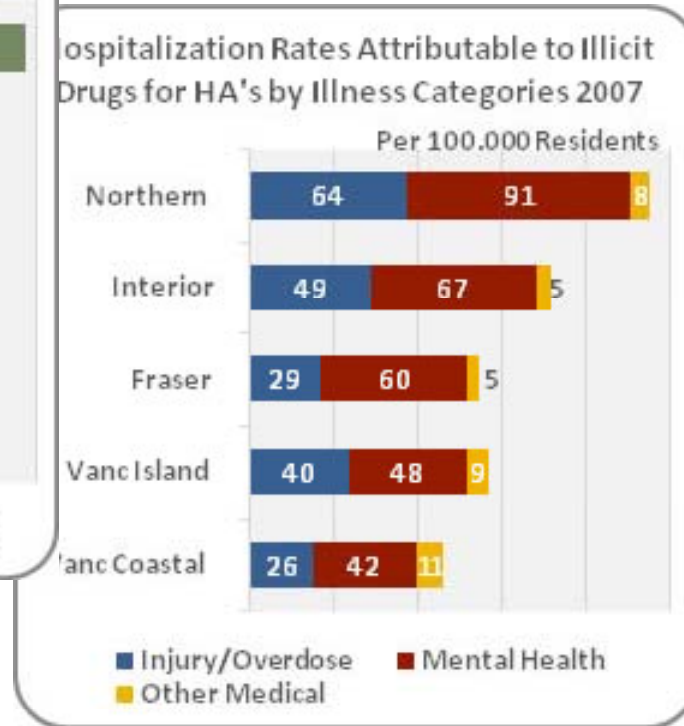
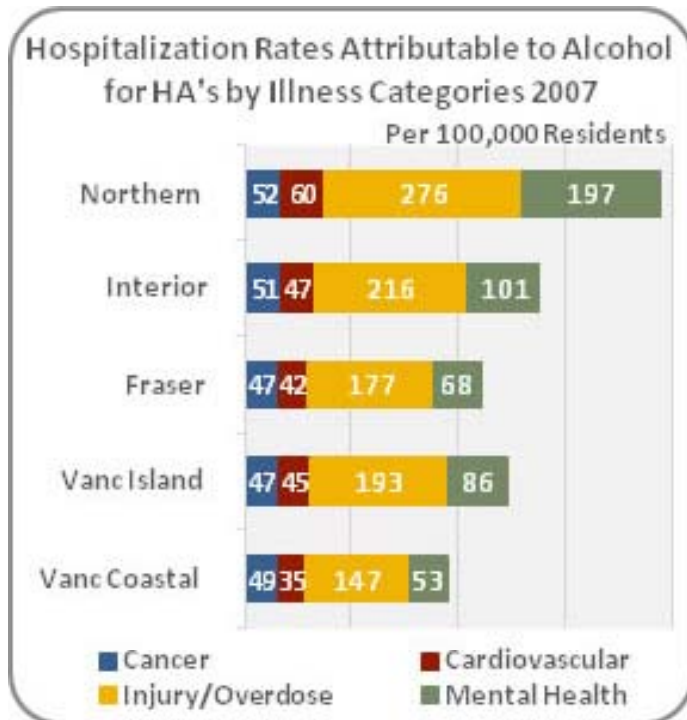
Source: www.aodmonitoring.ca

Potential Years of Life Lost (PYLL) 2006

	Illicit Drug	Tobacco	Alcohol
Female	3,943	25,889	5,448
Male	9,746	38,070	15,434
Total	13,689 (14%)	63,959 (65%)	20,882 (21%)

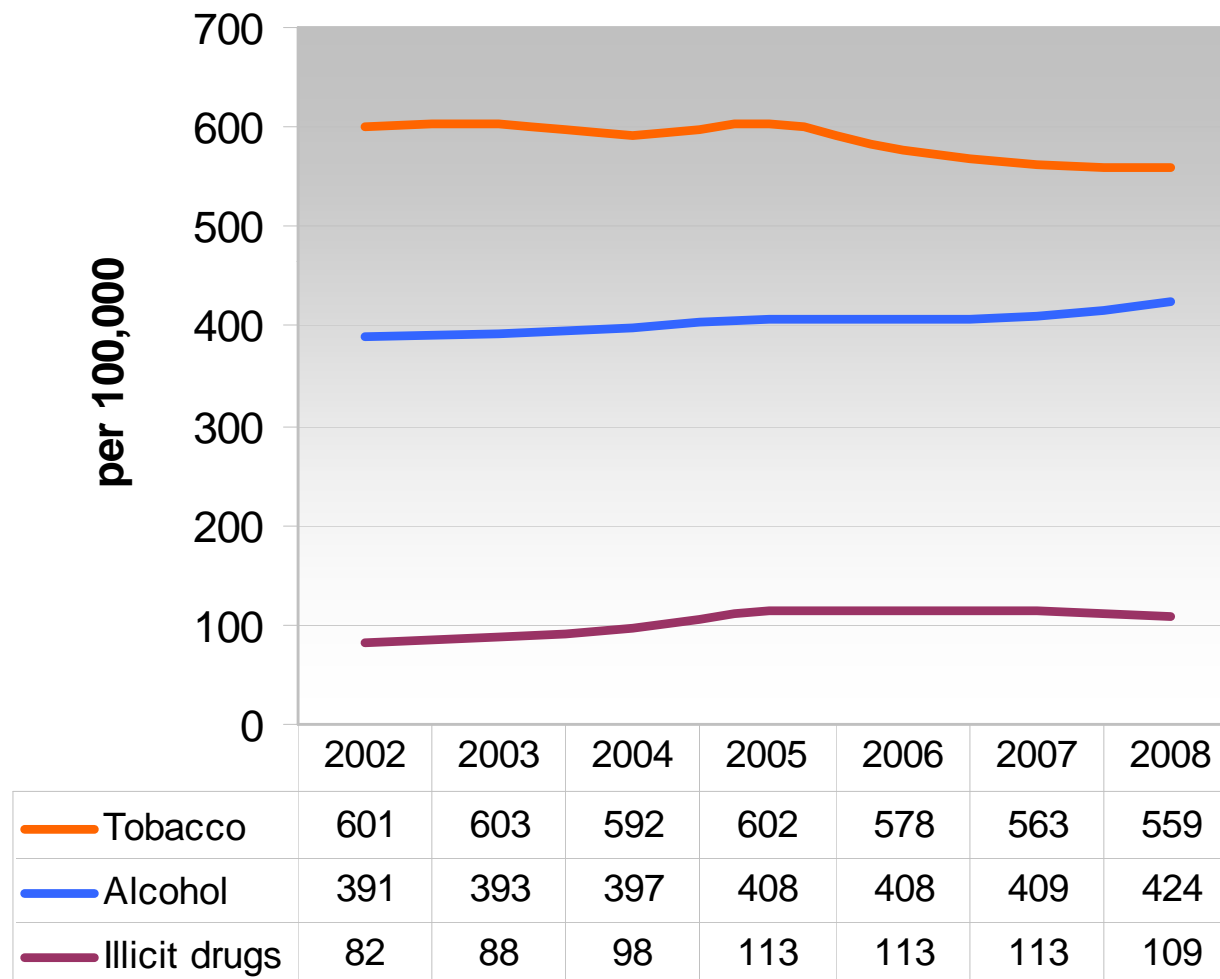
Deaths	378 (6%)	4,611 (78%)	905 (15%)

New website data - Hospitalization rates by Illness Categories



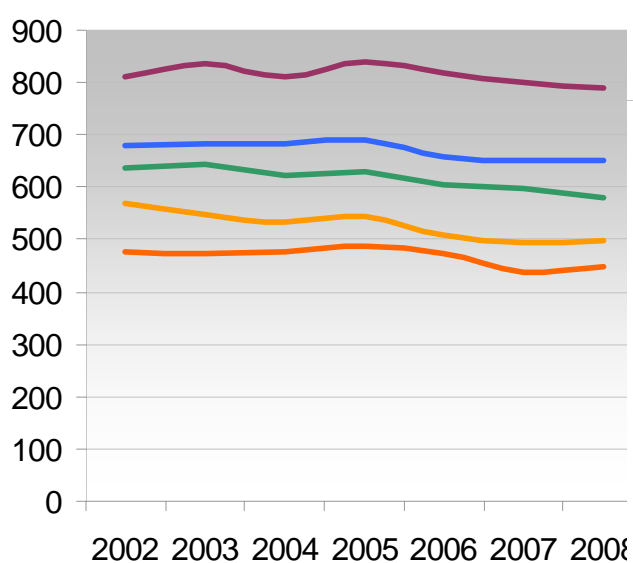
Source: www.aodmonitoring.ca

New 2009 data – BC hospitalization rates

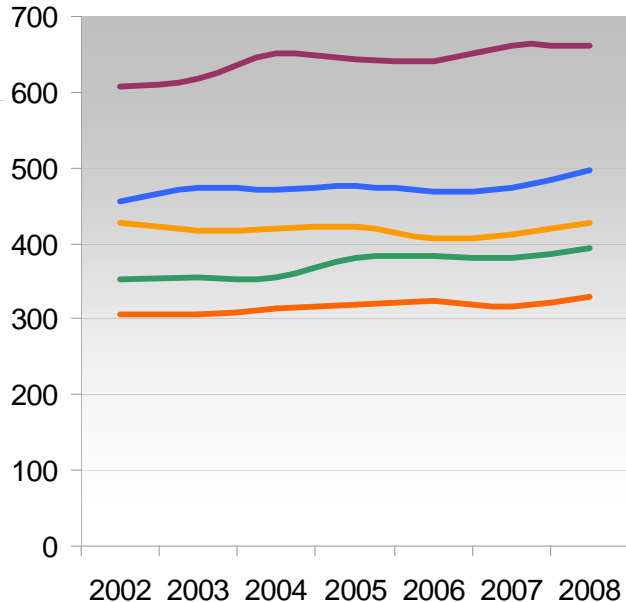


Hospitalization rates by HA

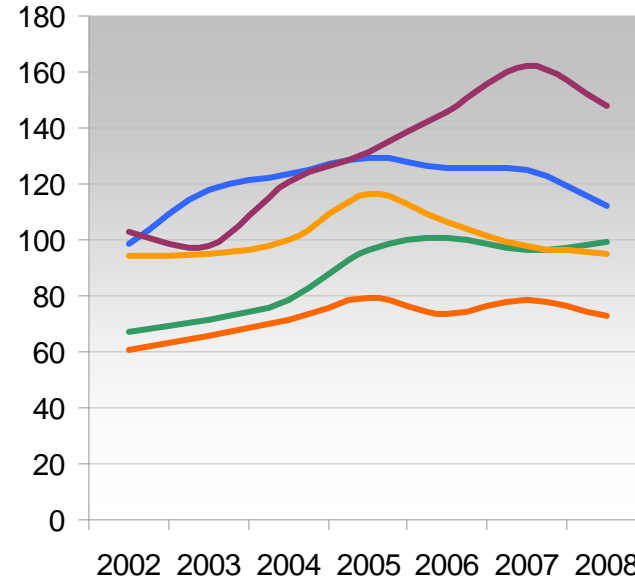
Tobacco



Alcohol

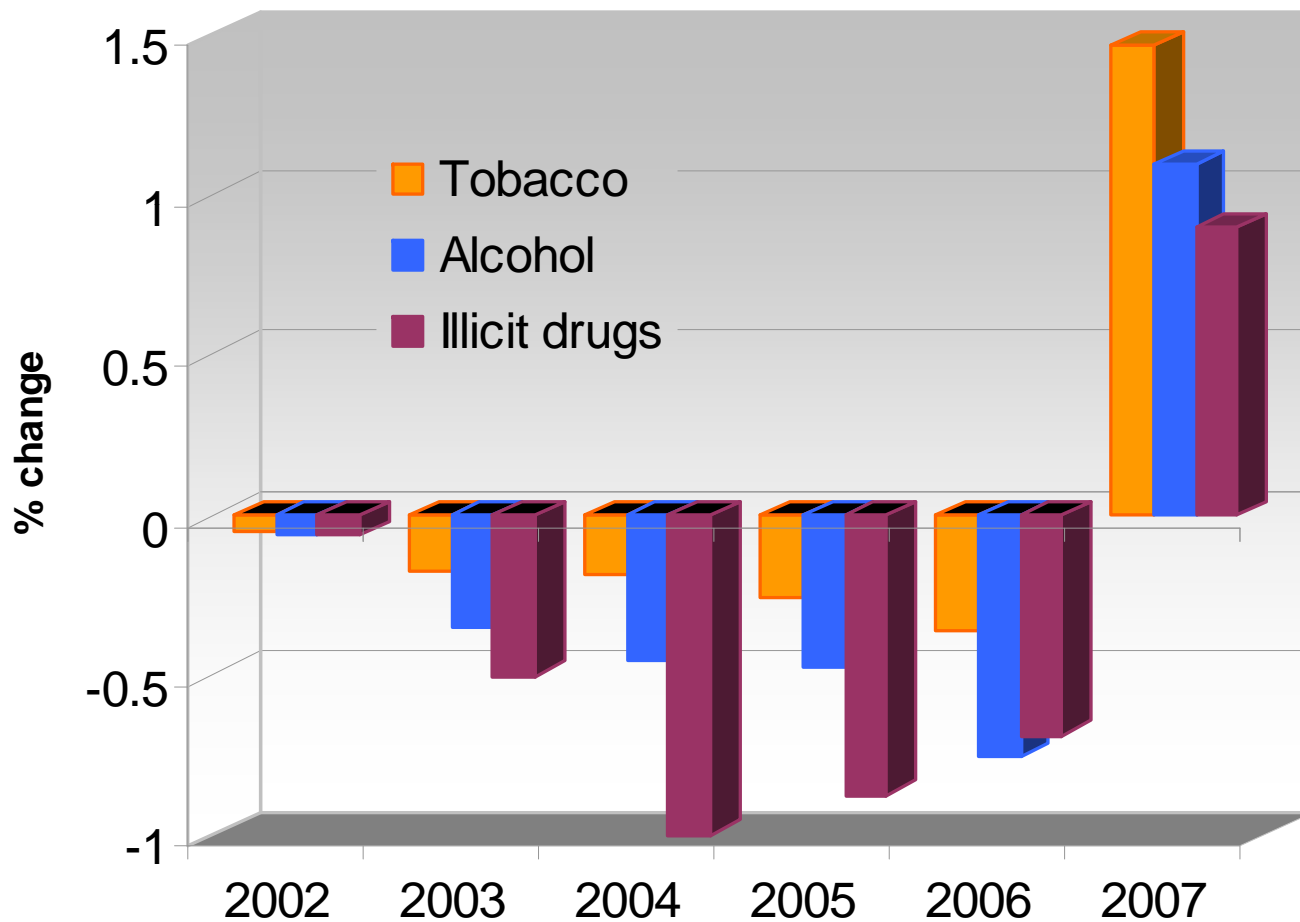


Illicit drugs



- Interior
- Fraser
- Vancouver Coastal
- Vancouver Island
- Northern

Comparison of hospitalization rates from 2009 extract with 2008 extract





Adjusting Tobacco AF

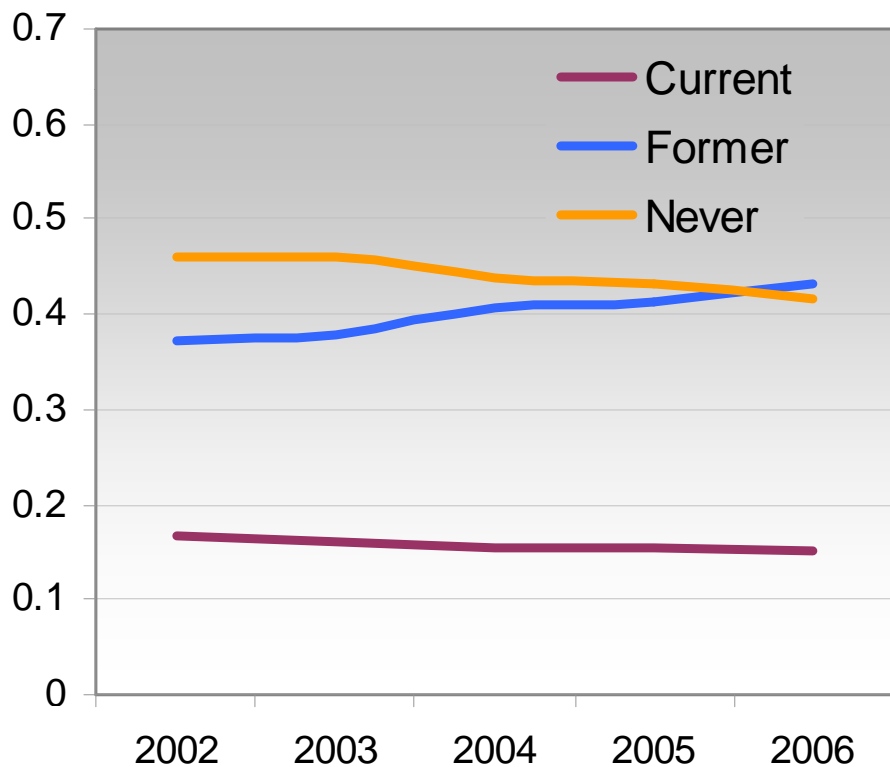
- Currently using 2002 Canadian prevalence data
- Does not take into account changes in smoking rates over time

Adjust (progressively) by:

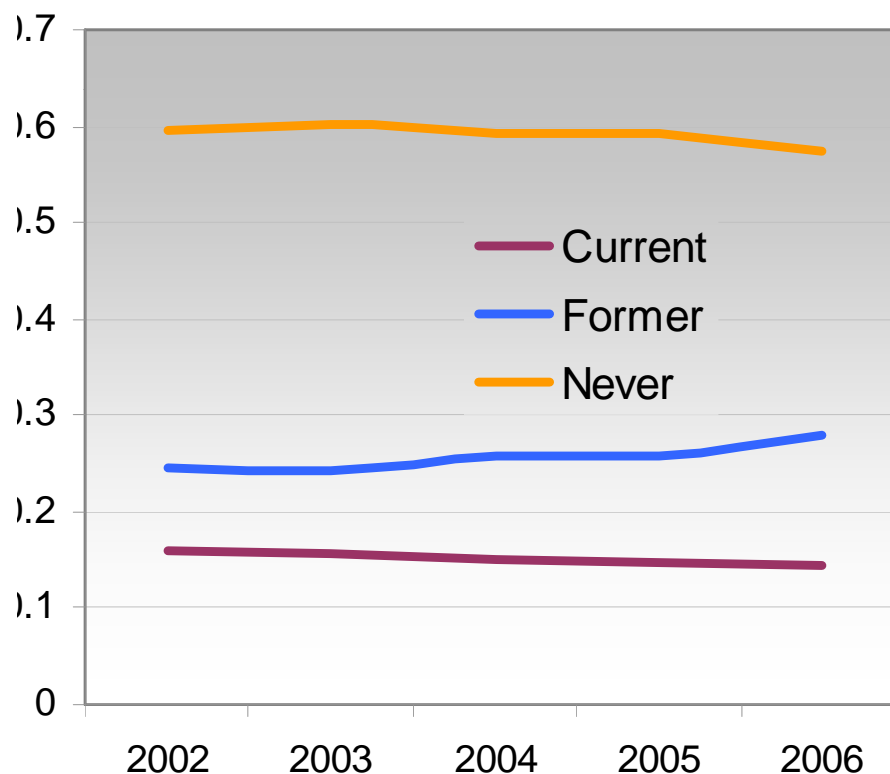
- Using 2002 BC data
- Using an annual moving BC estimate
- Redefining smoking category (Never = less than 100 cigarettes)

BC Smoking Prevalence

Never defined as never smoked a cigarette

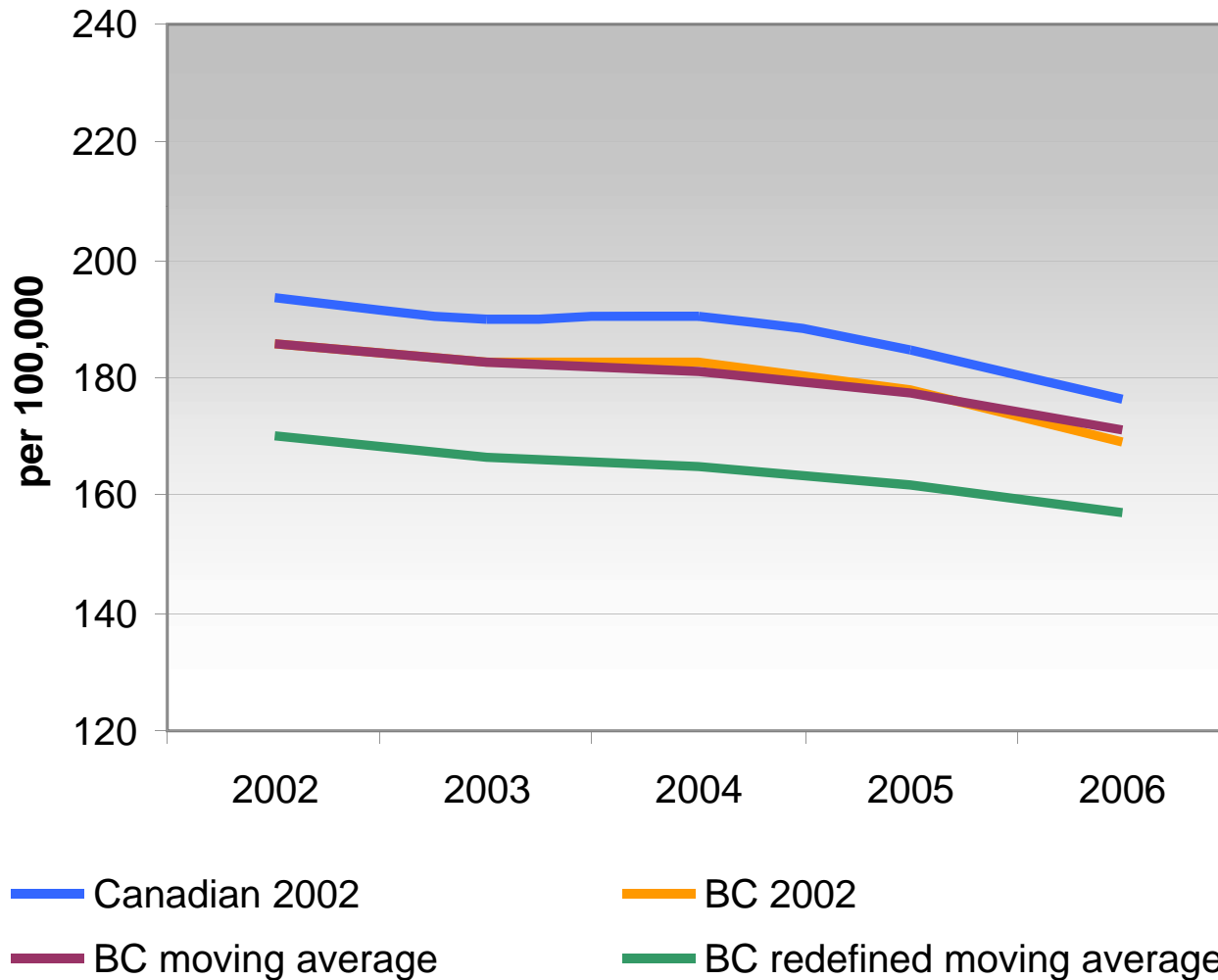


Never defined as smoked <100 cigarettes

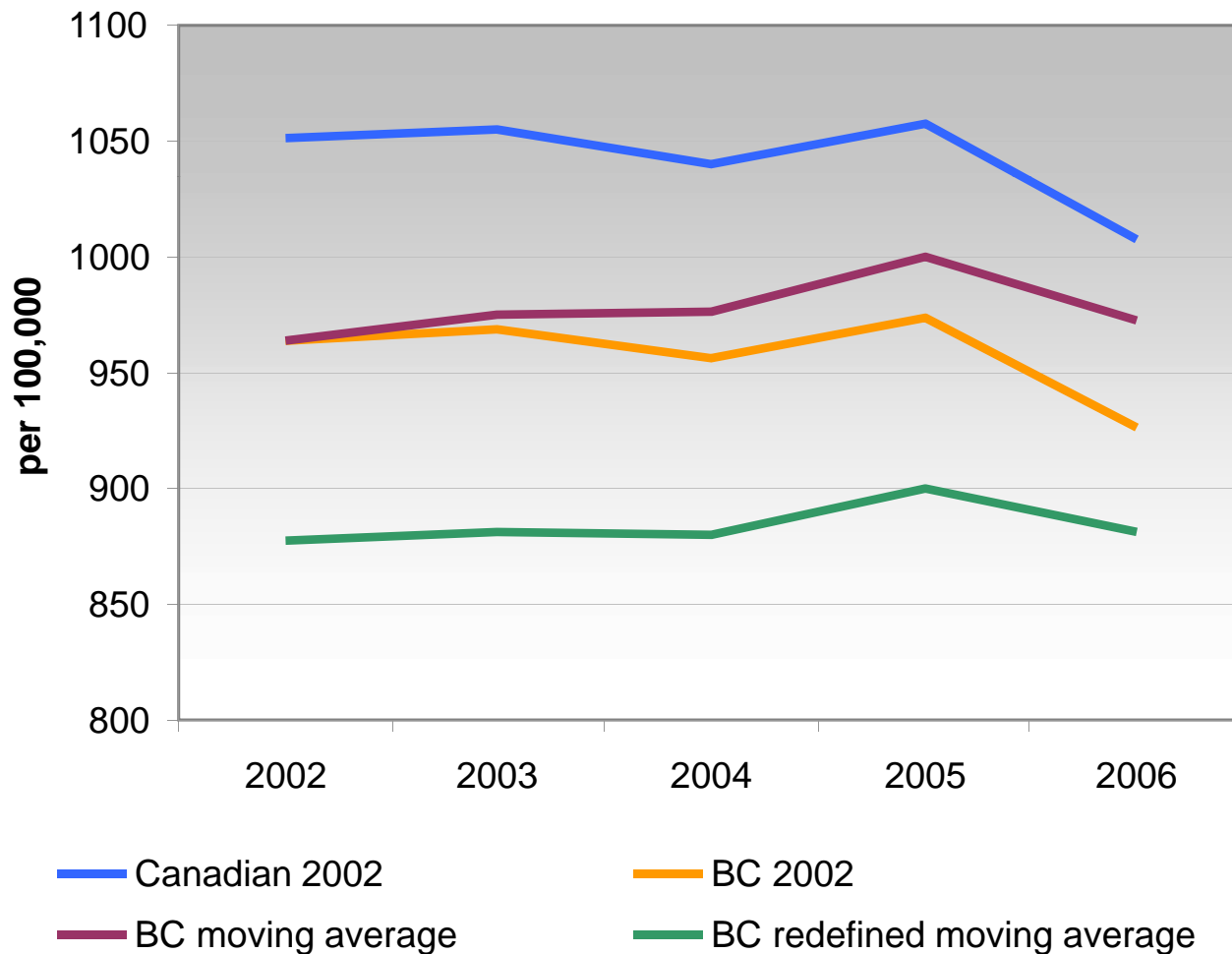


Source: CTUMS – 3 year moving average

Age standardized tobacco mortality rates of adults 35+



Age standardized tobacco hospitalization rates of adults 35+





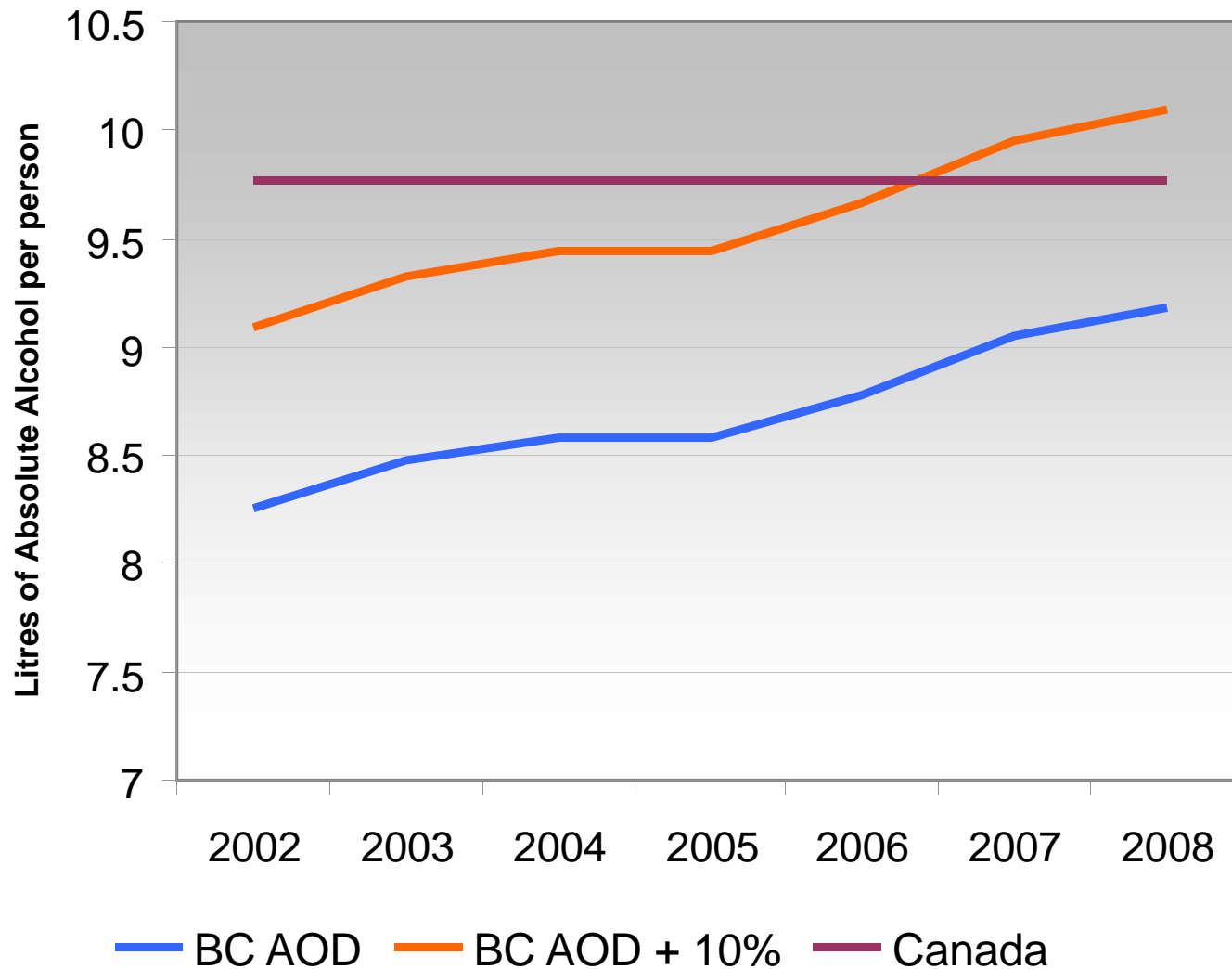
Adjusting Alcohol AF

- Adjust for annual per capita consumption
- Currently using 2002 Canada per capita consumption (9.77)
- Does not take into account changes in alcohol consumption over time

Adjust by:

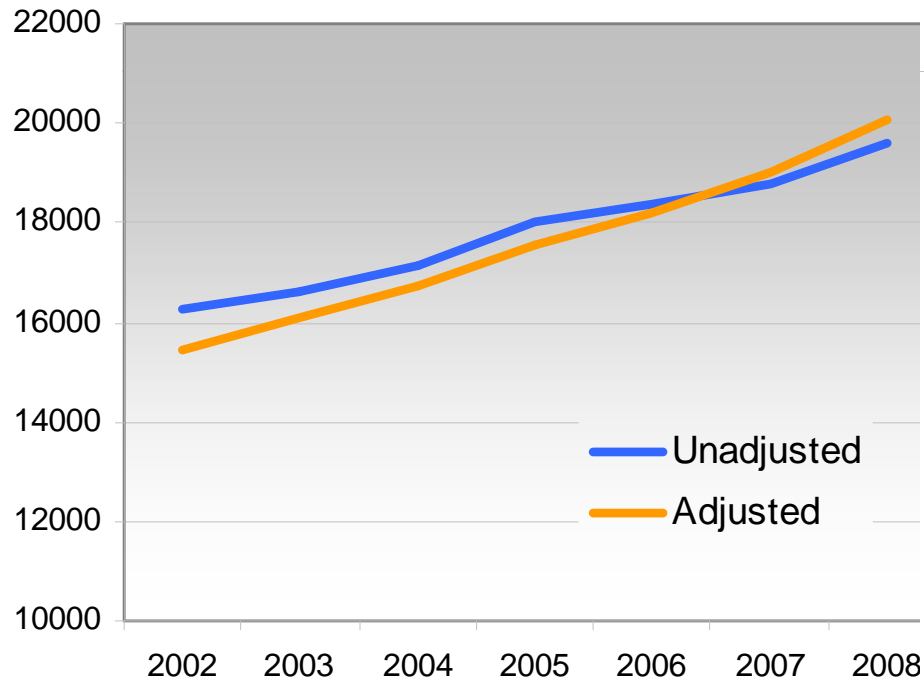
- BC per capita consumption

BC per capita consumption

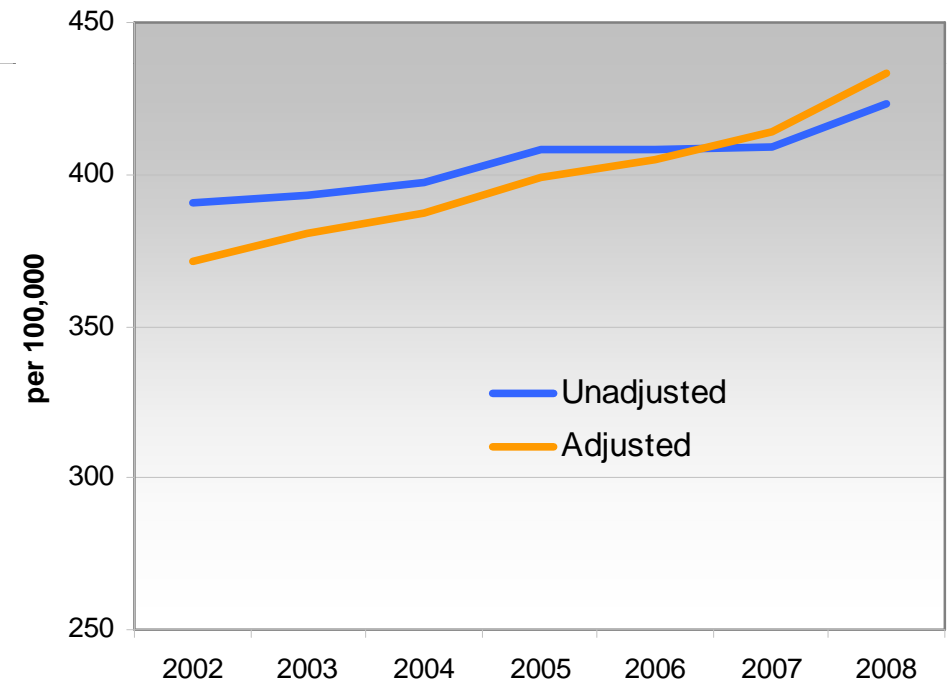


Adjusting Alcohol AF

Alcohol caused hospitalizations



Alcohol caused hospitalization rate





What's next

- Mortality data up to end of 2008 shortly
- Breakdowns by LHA
- Further alcohol adjustments by PCC