

The Alberta GPI Accounts: Substance Abuse – Alcohol, Drugs and Tobacco

Report # 11

by

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About this Report

This is one of 28 reports that provide the background for the Genuine Progress Indicators (GPI) System of Sustainable Well-being Accounts. It explains how we derived the index that was earlier published in "*Sustainability Trends 2000: The Genuine Progress Statement for Alberta, 1961 to 1999.*" The research for this report was completed near the end of 2000. The appendices provide further background and explanation of our methodology; additional details can be obtained by contacting the authors. Appendix A includes a list of all GPI background reports.

The report examines the trends in substance abuse—tobacco, alcohol and illicit drugs—by Albertans during the period 1961 to 1999. Substance abuse is considered in the GPI accounting system as a measure of the human health and wellness of individuals and is one of 22 societal and human health indicators contained in the Alberta GPI accounts. This report also examines the full costs associated with substance abuse including the direct health costs, the cost of law enforcement, corrections and the loss to labour productivity. The GPI accounting system treats increasing rates of substance abuse as a regrettable trend and a real cost to genuine well-being. The incidence of substance abuse serves as a proxy for the social health of communities and households. While these first GPI Accounts for Alberta did not explicitly include the total costs of substance abuse as a regrettable social and human health costs in GDP accounting, preliminary estimates and methodological guidelines for including these in subsequent estimates are provided for future research. Incorporating the full costs associated with smoking, alcohol and illicit drug use by Albertans into a provincial and national well-being accounting system is desirable.

About the Author

Mark Anielski is Director of the Green Economics team, and has considerable experience in public policy analysis including natural resource, energy, royalty and fiscal policy issues in both the public (Alberta Government) and private (GPC – Government Policy Consultants) sector. He also serves as Senior Fellow to the U.S. economic policy think-tank Redefining Progress in Oakland, California and authored the 1999 U.S. GPI report with journalist Jonathan Rowe. He currently advises the National Round Table on Economy and the Environment's Sustainable Development Indicator Steering Committee on the development of indicators for measuring sustainability in Canada. Mark teaches business and the environment in the University of Alberta's School of Business. His expertise is varied and broad including accounting for sustainable development, natural resource accounting, public policy analysis, business planning and performance measurement. Mark pioneered the development of natural capital accounts for Alberta's timber, oil, gas, coal and other natural capital as well as having experience in the development of performance measurement systems, land use planning and non-market resource valuation, royalty policy analysis (forestry, oil and gas), and analysis of subsidies for both government and private forestry, energy and financial service industries. He holds a Masters degree in forest economics, plus bachelor degrees in economics and forestry.

Acknowledgements and Disclaimer

The author would like to thank Art Dyer of Alberta Alcohol and Drug Abuse Commission for his invaluable input, insights and research into the area of substance abuse. His work in compiling the *Alberta Profile: Social and Health Indicators of Addiction* for AADAC was instrumental in completing this report and constructing the Alberta GPI substance abuse account. We also acknowledge the input from the Alberta Tobacco Reduction Alliance (Alan Shaw, Communications Director) with respect to tobacco use. The GPI accounting for substance abuse represents a preliminary step towards a more complete and holistic treatment of this subject. Because GPI accounting is an iterative, inclusive and transparent well-being accounting system, we welcome the input and comments of others more knowledgeable to continually improve the information and knowledge contained in a GPI accounting of genuine well-being.

The author would like to thank Kim Sanderson for her editing assistance. Finally, the Pembina Institute appreciates the vision of Western Economic Diversification in supporting this project—the first of its kind for Alberta, if not internationally.

The contents of this report are the responsibility of the Pembina Institute and do not necessarily reflect the views and opinions of those who are acknowledged above or the opinions or positions of Western Economic Diversification who helped fund the research.

We have made every effort to ensure the accuracy of the information contained in this document at the time of writing. However, the authors advise that they cannot guarantee that the information provided is complete or accurate and that any person relying on this publication does so at their own risk. Given the broad scope of the project and time constraints, it has not been possible to submit the entire report for peer review. The material should thus be viewed as preliminary and we welcome suggestions for improvements that can be incorporated in any later edition of the work.

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1. Executive Summary

The GPI Accounts for Alberta consider substance abuse of alcohol, tobacco and illicit drugs as a regrettable erosion of human and social capital. The current GPI accounts include only the long-term trends in youth drug abuse, based on youth drug crime arrest data, for which longitudinal data made inclusion in the 40-year GPI accounts possible. Future accounts should also include trends in tobacco and alcohol use. The GPI accounts consider increasing substance abuse in society as a movement away from genuine well-being.

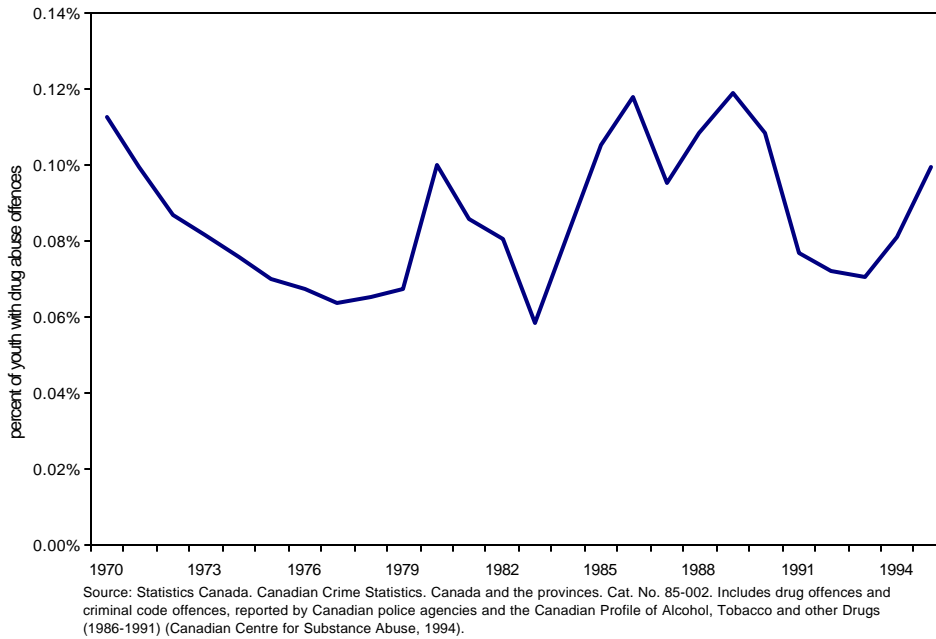
A 1995 survey by the Alberta Alcohol and Drug Abuse Commission revealed that the most popular illicit drug, cannabis, was used by roughly 10 percent of adults (18 years and older) and 16 percent of teens (12 to 17 years). About three percent of adults surveyed in 1997 said they used cannabis once or more per week, with four percent of teens reporting this frequency of use. Use of harder drugs such as cocaine/crack, LSD, and heroin was lower than cannabis, with less than two percent of Alberta's adult population and five percent of Alberta adolescents reporting occasional use of these drugs for the same survey periods as cited for cannabis.

In 1997, there were 85,611 reported alcohol or drug-related offences in Alberta, with cannabis and other drug-related offences accounting for six percent of this total. The figure below shows the percentage of Alberta youth charged with drug abuse from 1971 to 1995. Drug abuse has varied over the years from a low of 0.0582 percent of youth in 1983 to a high of 0.1190 percent in 1989, with an upward trend.

Noteworthy

- Cannabis was used by roughly 10% of adults (18 years and older) and by 16% of teens (12 to 17 years) surveyed in 1995.
 - In 1997, there were 85,611 reported alcohol or drug-related offences in Alberta with cannabis and other drug-related offences accounting for 6% of this total.
 - One study estimated the total cost of substance abuse for Canada at \$18.45-billion, or 2.7% of GDP; the authors say this is an optimistic estimate of costs since the actual figure is likely to be much higher.
 - The Alcohol and Drug Abuse Commission estimates that the economic and social costs of illicit drug use in Alberta were \$135-million in 1992, or \$51 per person.
 - According to Alberta's Chief Medical Examiner, 6% of investigated deaths in 1995 were drug-related. These included suicides from drug overdose or poisoning and accidental deaths involving drugs or alcohol, which caused or contributed to mortality.
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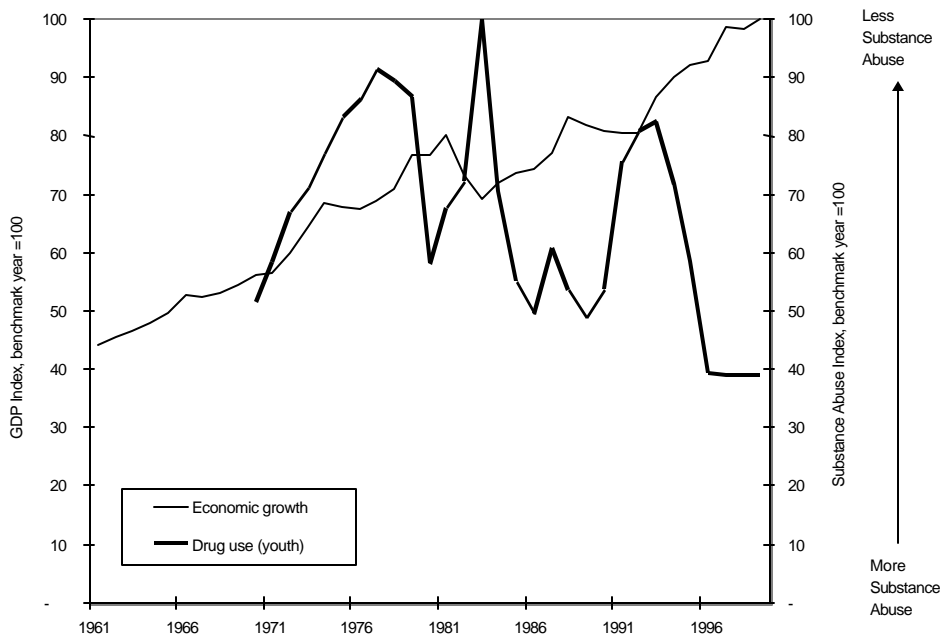
Alberta Drug Abuse (percentage of youth drug crime arrests), 1971 to 1995



So What?

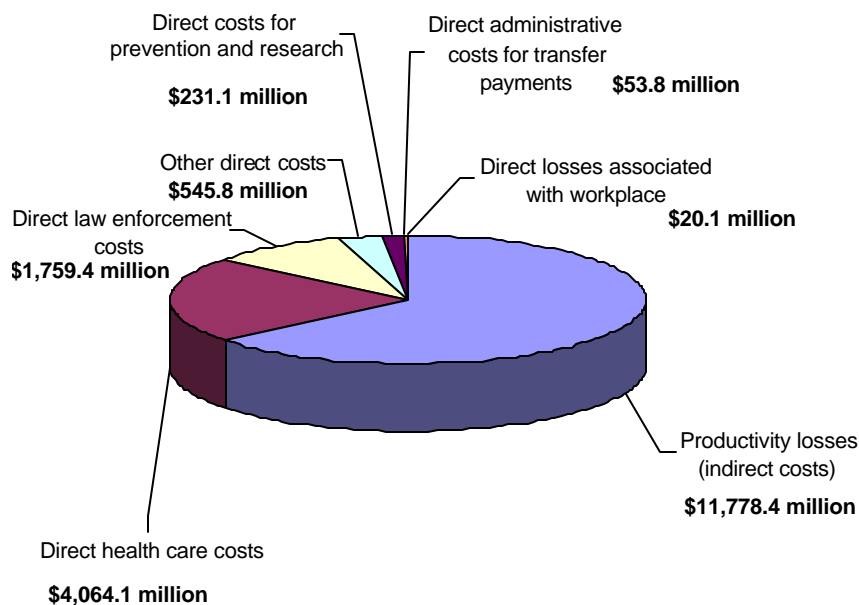
The figure below shows youth drug use and provincial Gross Domestic Product (GDP) as indices. Although the trend in youth drug use is variable, the figure shows that as provincial GDP has increased, so too has drug use by youths.

Youth Drug Crime Arrests Index: Where are we today?



This increase is costly. Drug use and the economy of the drug trade affect all of society through health costs, crime, financial stress and other costs to social cohesion at the household and community level. One study estimated the total cost of substance abuse for Canada at \$18.45-billion, or 2.7 percent of GDP, which the authors argue is an optimistic estimate of costs since the actual figure is likely to be significantly higher (see figure below).

Total Costs of Alcohol, Tobacco and Illicit Drug Use in Canada, 1992



Source: Single et. al. 1996. Canadian Centre for Substance Abuse. www.ccsa.ca/costhigh.htm

The Alberta Alcohol and Drug Abuse Commission estimates that the economic and social costs of illicit drug use in Alberta were \$135-million in 1992, or \$51 per person. Most of these costs (\$88-million) related to productivity losses due to death and disability, followed by the cost of law enforcement, courts, corrections and customs and excise (\$30-million). According to Alberta's Chief Medical Examiner, six percent of investigated deaths in 1995 were drug-related, including suicides from drug overdose or poisoning and accidental deaths involving drugs or alcohol, which caused or contributed to mortality. Among adults surveyed in 1998, 35 percent reported personal or financial harm because of their own or someone else's drug use. If we assume the 1992 per capita estimate of \$51 to hold true in 1999, the total cost of illicit drug use in Alberta would have totaled \$151.2-million in 1999—equal to 0.14 percent of Alberta's GDP. As an index, youth drug use in Alberta ranked 38.9 on a scale of 0 to 100, where 100 represents the lowest youth drug rates that occurred between 1970 and 1999.

2. Introduction

Substance abuse—the abuse of alcohol, tobacco, illicit drugs, and medication—is an important contributor to the well-being of individuals, households and communities. Abuse and addictive use of such substances can have significant socio-economic impacts on a society and economy and, as a rule, go unaccounted for in provincial economic figures—the GDP. How much do expenditures on alcohol, tobacco, illicit drugs and medication contribute to the provincial GDP? While tobacco, alcohol and medication sales contribute to economic growth and prosperity, what are the full social and economic costs of substance abuse to individuals, households and government? These costs—or regrettable expenditures—are covered by individuals (loss of productivity, family breakdown, stress, counseling), communities (loss of social cohesion and sense of well-being) and government (expenditures on addictions counseling and rehabilitation programs, policing costs). If these costs were fully counted as regrettable costs that diminish the genuine well-being of Albertans, how would they affect the provincial picture of economic growth?

The Alberta GPI accounts track trends in the level of substance abuse in the province over time and attempt to estimate the full economic costs and benefits of alcohol, tobacco, drugs and medication.

The Alberta Alcohol and Drug Abuse Commission (AADAC) tracks trends in substance abuse (*Alberta Profile: Social and Health Indicators of Addiction*, June 1999). Much of the data for alcohol and tobacco use is based on expenditure data derived from Statistics Canada personal consumption surveys. Accurate data on illicit drug use are not available.

3. The Costs of Substance Abuse

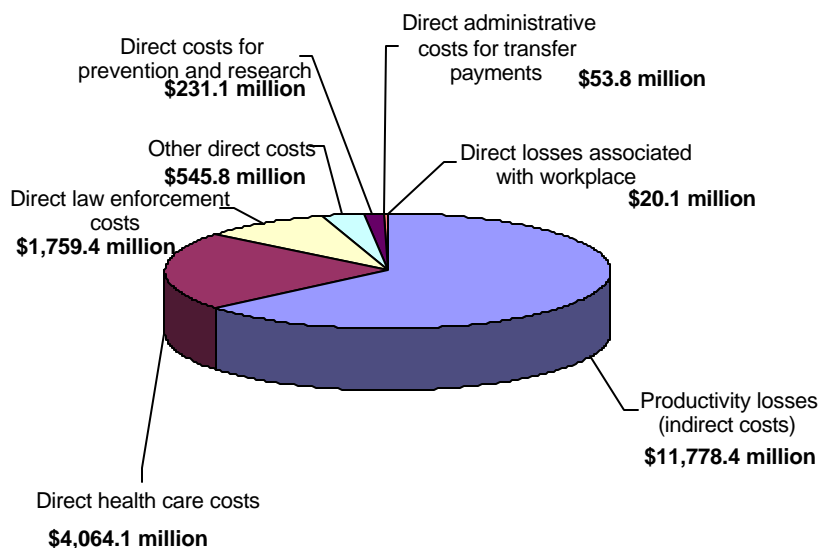
Until recently there had been no studies of the total costs of substance abuse in Canada. In 1996, researchers Eric Single, Lynda Robson, Xiaodi Xie, and Jürgen Rehm completed *The Costs of Substance Abuse in Canada* study, which provided the first estimates of the health, social and economic costs associated with the use of alcohol, tobacco and illicit drugs.¹ The study estimated the total cost of substance abuse for Canada at \$18.45-billion, or 2.7 percent of GDP, which they argue is an optimistic estimate of costs with the actual figure likely to be significantly higher.

Here is how those costs break down:

- \$9,559.8-million (51.8 percent) for tobacco
- \$7,552.1-million (40.8 percent) for alcohol
- \$1,358.8-million (7.4 percent) for illicit drugs
- \$18,452.7-million total costs

Figure 1 shows the breakdown of total substance abuse costs by type. The largest cost is loss of productivity followed by direct health care costs and direct law enforcement costs.

Figure 1: Total Costs of Alcohol, Tobacco and Illicit Drugs in Canada, 1992



Source: Single et.al. 1996. Canadian Centre for Substance Abuse www.ccsa.ca/costhigh.htm

This study examined the gross (rather than net) societal and government costs, but did not consider impacts on government revenues and other benefits. The study is not a total cost-benefit analysis but provides an important stepping stone to a fuller cost-benefit analysis. The economic cost estimates in their study “do not necessarily reflect the amount of money and life years which could realistically be saved as a result of effective government and social policy and programming.”

4. Tobacco

“Smoking kills an estimated 3,400 Albertans each year—more than the number of people killed by heroin, cocaine, alcohol, AIDS, fires, murders, suicides, and motor vehicle crashes combined,” according to *The Report on the Health of Albertans* (1999).² This report says smoking is related to 30 percent of all cancer and 85 percent of all new lung cancer cases as well as being a major contributor to heart and lung disease. Statistics from the Alberta Tobacco Reduction Alliance and the Alberta Cancer Board indicate that 29 percent of Albertans over 15 smoke (31 percent of men, 27 percent of women, and 29 percent of teenagers).³ Second-hand smoke can also cause lung cancer and heart disease in non-smokers as well as contribute to respiratory problems for children and allergic reactions for others.

Over the past three decades, there has been a general increase in the number of women who smoke,⁴ which has translated into rising rates of lung cancer for women. The incidence of cancer and death rates for women are nearly five times higher than 1969 rates. Yet remarkably Alberta has the lowest lung cancer death rate in Canada. It has been estimated that 50 percent of cancer cases and deaths could be prevented through the elimination of tobacco use, improved diet, protection from the sun, and adequate breast and cervical cancer screening.

Tobacco consumption peaked in Canada in 1965, averaging 4,000 cigarettes per person per year. This has declined to roughly 2,069 cigarettes per person per year today, half the volume of the 1960s.⁵ The Alberta Tobacco Reduction Alliance notes that smoking prevalence is as high as the national average. According to the 1996/97 National Population Health Survey, almost 29 percent of Albertans (15+ years) smoke—more than 600,000 individuals. Men are more inclined to smoke than women (31 percent of men vs. 27 percent of women), while 29 percent of Alberta teenagers (15-19) smoke, up from 24 percent in 1994.⁶ Among youth (15-24 years), 32 percent of males smoke while 33 percent of females are smokers. Over 63 percent of all Aboriginal peoples (First Nations, Metis and Inuit) smoke—about double the Canadian average. Smoking is correlated with socio-economic profile and educational attainment, as 33 percent of people with less than secondary education smoke compared with 23 percent of people with college or university degree. The prevalence among “blue-collar” workers was found to be 14 to 27 percent higher than the national average.

4.1. The Total Cost of Tobacco Use

The total cost of tobacco use in Alberta was estimated at \$728.589-million in 1992—that’s \$277 per Albertan or 0.99 percent of 1992 GDP.⁷ Most of these costs (\$508-million) relate to productivity losses due to death and disability, followed by health care costs of \$215-million.⁸ For Canada, the cost of tobacco use was estimated for 1992 at \$9.56-billion, or \$336 per capita—more than 51.8 percent of the total substance abuse costs. Productivity losses due to illness and premature deaths totalled \$6.8-billion (71.1 percent of total costs), followed by direct health care costs due to smoking of \$2.67-billion (27.9 percent of total costs).

5. Alcohol

According to AADAC, roughly 82 percent of adult Albertans consumed at least one alcoholic drink in 1996.⁹ Some 50 percent of drinkers consumed two drinks or less per occasion while five percent reported heavy drinking. As of May 1998, Alberta had 707 retail liquor outlets. Between 1988 and 1997, per capita consumption of alcohol actually dropped 13 percent (9.8 litres to 8.5 litres). Total consumption per capita per year was the equivalent of 500 bottles of beer or 99 bottles of wine. Albertans drink more than the national average with an average 7.2 litres per capita consumed in 1997/98, ranking second behind Yukon (12.7 litres).

Alcohol is the substance most used by youth, with 55 percent of adolescents (12 to 17 years of age) reporting alcohol use in the last 12 months in 1995, and seven percent reporting frequent drinking (one or more times per week).

Alcohol use by pregnant women was reported by 7.5 percent of those who gave birth between 1994 and 1996, but most used it only lightly.

The impacts of alcohol use are varied, affecting personal well-being, family relationships, workplace productivity, and community safety, according to AADAC. Alcohol used during pregnancy can lead to birth defects and other medical and health implications. Alcohol can also lead to health problems, domestic violence, injuries, criminal activities and death.

In 1997, 28 percent of Alberta drivers involved in auto crashes had been drinking prior to the accident. In 1997, 13,803 impaired driving charges were laid in Alberta, one of the highest rates in the country behind Yukon, Saskatchewan and the Northwest Territories.

Among Albertans surveyed in 1998, 63 percent reported that they experienced personal or financial harm as a result of their own or someone else's alcohol use. In 1997, 58 percent of all incidents of family violence involved alcohol or drug use. Based on opinion polls, 30 percent of Albertans believe that alcohol-related problems are on the rise and they see alcohol-related crime (24 percent) and violence (19 percent) as serious or very serious community problems.

5.1. The Cost of Alcohol Use

The total cost of alcohol use in Alberta was estimated at \$749-million in 1992, an amount equal to \$285 per Albertan or 1.2 percent of GDP.¹⁰ Most of these costs include productivity losses (\$445-million), health care (\$124-million) and law enforcement (\$111-million). For Canada, alcohol accounts for more than \$7.5-billion in costs, or \$256 per capita, which represents 40.8 percent of the total cost of substance abuse. The largest factor is \$4.1-billion (or 55 percent of total costs) attributed to productivity losses due to illness or premature death, \$1.36-billion (18.3 percent of total costs) for law enforcement and \$1.3-billion (17.3 percent of total costs) in direct health care costs.

Single et.al. estimated that 6,701 Canadians lost their lives as a result of alcohol consumption in 1992, many in motor vehicle accidents (1,477 individuals, or 22 percent of deaths), alcoholic liver cirrhosis (960 Canadians) and alcohol-related suicide (908 Canadians).¹¹ Alcohol-related suicide amounted to a human cost of 186,257 years of life lost. At the same time they noted that alcohol use might have benefits: "Indeed, the net number of deaths from coronary heart disease attributable to alcohol is negative; that is, more deaths are prevented than caused by alcohol." Alcohol-related illness (morbidity) was estimated at 86,076 hospitalizations in 1992 with a total of 1,149,106 days spent in hospital. Most hospitalizations were due to accidental falls, representing six percent of deaths and 20 percent of hospitalizations, in contrast to motor vehicle accidents involving alcohol, which accounted for 22 percent of deaths and 12 percent of hospitalizations.

6. Illicit Drugs

Illicit drug use occurs at all levels of Alberta society throughout the province. AADAC monitors trends in illicit drug use. Unfortunately longitudinal data back to 1961 were not available without reconstructing data sets, which was not possible for this GPI account due to time constraints. According to AADAC, recent national trends show drug use among adolescents in Canada is increasing; unfortunately comparable data for Alberta are not available.

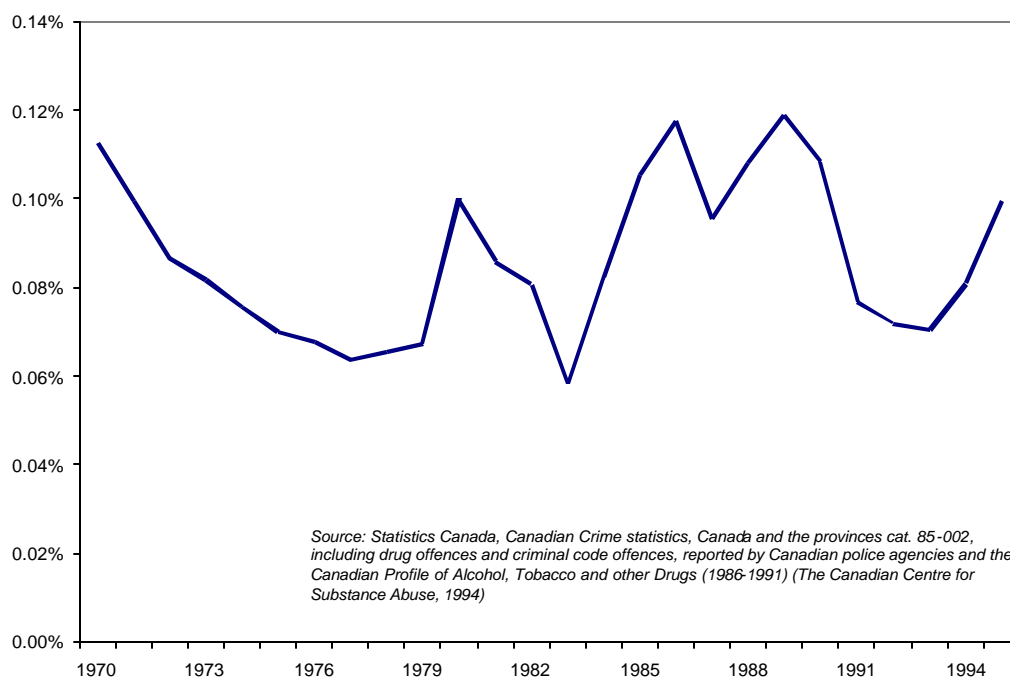
Alberta data from AADAC surveys show that the prevalence of illicit drug use in Alberta is relatively low. Recent survey statistics show that the most popular illicit drug, cannabis (marijuana, hashish), is used by roughly 10 percent of adults (18 years and older)¹² surveyed in 1995 and 16 percent of teens (12 to 17 years) surveyed in 1995.¹³ Of the adult population, roughly three percent surveyed in 1997 said they used cannabis one or more times per week, with four percent of teens reporting this frequency of use. Prevalence of harder drugs such as cocaine/crack, LSD, and heroin was lower than cannabis with less than four percent of Alberta's adult population and five percent of Alberta adolescents reporting occasional use of these drugs for the same survey periods.

Illicit drug use by pregnant women in Alberta was reported by 1.4 percent of those giving birth between 1994 and 1996, with cannabis the preferred drug.¹⁴

In 1997, 85,611 alcohol- or drug-related offences were reported in Alberta with cannabis and other drug-related offences accounting for six percent of this total.¹⁵ Offences involving cannabis have increased consistently since 1991.¹⁶ In 1997, Alberta recorded 5,093 offences for drug possession, trafficking and importation with more than 70 percent of offences related to cannabis.¹⁷ According to AADAC, the highest rate of drug-related offences in the province was in the Whitecourt area and the lowest in Calgary, with northern communities (Northern Lights Regional Health Authority) generally having higher offence rates than the rest of the province.

The only longitudinal trend data on youth drug use we could find came from the Index for Social Health analysis.¹⁸ The data are based on youth drug abuse statistics from Statistics Canada and Canadian Crime statistics, which include data on drug offences and criminal code offences reported by Canadian police agencies.¹⁹ Other useful sources were the Canadian Profile of Alcohol, Tobacco and other Drugs (1986-1991, by the Canadian Centre for Substance Abuse, 1994). Figure 2 shows the percentage of Alberta youth charged with drug abuse from 1971 to 1995. The figure suggests that only a very small minority of youth have committed drug offences of a criminal nature. The incidence varies from a low of 0.0582 percent of all youth in 1983 to a high of 0.1190 percent in 1989 with an upward trend since 1993. There is no statistical significance to the trend from 1970 to 1995 although visually it shows a slight increase. Because of the longitudinal data set on youth drug abuse, this was used as the basis of the GPI indicator for substance abuse. Future GPI indicators should include an indicator of tobacco and alcohol use and an expanded index of illicit drug use.

Figure 2: Alberta Youth Drug Abuse based on Youth Drug Crime Arrests or Offences, 1971 to 1995



Contrasting with the evidence of drug-related youth crime offences shown in Figure 2, a survey of Albertans found that compared with other provincial studies, 42 percent of adults believe there have been increases in drug problems, in liberal attitudes toward the use of illegal drugs, and in acceptance of drug use among peers and among youth.^{20 21 22}

6.1. The Total Cost of Illicit Drug Use

Single et. al. estimated the total cost of illicit drug use in Alberta at \$135.3-million in 1992, an amount equal to \$51 per Albertan or 0.18 percent of 1992 GDP. Most of these costs (\$88-million) related to productivity losses due to death and disability, followed by the cost of law-enforcement, courts, corrections, customs and excise (\$30-million).²³ For Canada, the cost of illicit drug use is estimated at \$1.37-billion or \$48 per capita, of which the largest cost (\$823-million or 60.0 percent) is productivity losses due to illness or premature death, with a substantial portion (\$400-million or 29.2 percent) for law enforcement and \$88-million (6.4 percent) in direct health care costs.

Until recently, few studies have examined the total costs of substance abuse. Drug use and the economy of the drug trade affect all of society, in terms of health costs, crime, financial stress and other costs to social cohesion at the household or community level. Cocaine use, for example, is an important emerging issue because injection drug use is a primary risk for HIV. According to AADAC, 4.9 percent of known AIDS cases in Alberta are attributable to injection drug use, with 45 percent of all positive HIV serological tests in Alberta listing drug abuse as the risk factor.²⁴ Increased cannabis use among teens has health and social consequences and risks even though this drug is not itself tied to violent crime or mortality.²⁵

According to the Alberta Chief Medical Examiner, six percent of investigated deaths in 1995 were drug-related, including suicides resulting from drug overdose or poisoning and accidental deaths involving drugs or alcohol, directly or indirectly contributing to mortality.

Thirty-five percent of adults surveyed in 1998 reported personal or financial harm because of their own or someone else's drug use.²⁶

Estimates of the economic and social costs of illicit drug use in Alberta totaled \$135-million in 1992, or \$51 per person. Most of these costs (\$88-million) related to productivity losses due to death and disability, followed by the cost of law enforcement, courts, corrections, customs and excise (\$30-million).²⁷

In the absence of more detailed social and economic cost estimates of drug abuse, we are unable at this stage to construct full cost estimates that are longitudinal in nature. This is an area for further research and development. Additional studies of the full costs of drug abuse to health care and enforcement services are required as well as more detailed estimates of indirect costs such as productivity losses and other impacts on household and community well-being.

7. Substance Abuse (Illicit Drugs) as an Index

The GPI accounting system takes raw data and converts it to an index for comparison with other indicators and for aggregation with other indicators to create composite indices such as the Societal GPI Index (containing 22 social and human health indicators) and the aggregate GPI (containing all 51 indicators in the GPI accounts). The substance abuse index is composed only of youth drug crime arrest data as a proxy for illicit drug use (see Appendix B). We were unable at this time to access longitudinal data for tobacco and alcohol use to use in constructing a more comprehensive substance abuse index in the Alberta GPI accounts. We recognize that the use of only youth drug crime arrests as a proxy for substance abuse in society is inadequate and we encourage other researchers to fill this information gap.

The youth drug use index is derived from raw data on the incidence of youth arrested for drug crimes. A benchmark year is chosen equal to the lowest incidence of youth drug crime arrest, which in this case is 1983. Because data were only available from 1970 to 1995, the longitudinal data set is incomplete. We did not have sufficient confidence in the process to extrapolate data from 1961 to 1969. We did, however, extrapolate figures for 1996 through to 1999 using linear regression analysis. The lowest rate of youth drug crime arrests in 1983 is set to 100 points then the entire raw data time series from 1970 to 1999 is divided through by the 1983 figure to derive an index for youth drug abuse (based on arrests). We presume that a lower youth drug crime arrest rate is a desirable condition for genuine societal well-being.

Indexing is useful for comparing social indicator trends, for example, with Genuine Progress Indicators or composite indices that would otherwise not be comparable. Figure 3 compares the youth drug crime arrests index with the GDP index over 40 years. As the figure indicates, youth drug crime arrests fluctuated over the study period but were generally higher in the latter part of the 1990s while the GDP was increasing.

Figure 3: Youth Drug Crime Arrests Index vs. GDP Economic Growth Index, Alberta 1961 to 1999



Appendix A. List of Alberta GPI Background Reports

A series of Alberta GPI background reports accompanies the *Alberta Sustainability Trends 2000* report and this report. These documents are being released in late 2001 and early 2002 and will be available on the Pembina Institute's website at www.pembina.org.

Alberta GPI Background Reports and Sustainability Indicators

GPI Background Reports	GPI Accounts Covered by Report
1. Economy, GDP, and Trade	<ul style="list-style-type: none"> • Economic growth (GDP) • Economic diversity • Trade
2. Personal Consumption Expenditures, Disposable Income and Savings	<ul style="list-style-type: none"> • Disposable income • Personal expenditures • Taxes • Savings rate
3. Money, Debt, Assets and Net Worth	<ul style="list-style-type: none"> • Household debt
4. Income Inequality, Poverty and Living Wages	<ul style="list-style-type: none"> • Income distribution • Poverty
5. Household and Public Infrastructure	<ul style="list-style-type: none"> • Public infrastructure • Household infrastructure
6. Employment	<ul style="list-style-type: none"> • Weekly wage rate • Unemployment • Underemployment
7. Transportation	<ul style="list-style-type: none"> • Transportation expenditures
8. Time Use	<ul style="list-style-type: none"> • Paid work time • Household work • Parenting and eldercare • Free time • Volunteerism • Commuting time
9. Human Health and Wellness	<ul style="list-style-type: none"> • Life expectancy • Premature mortality • Infant mortality • Obesity
10. Suicide	<ul style="list-style-type: none"> • Suicide
11. Substance Abuse; Alcohol, Drugs and Tobacco	<ul style="list-style-type: none"> • Drug use (youth)
12. Auto Crashes and Injuries	<ul style="list-style-type: none"> • Auto crashes
13. Family Breakdown	<ul style="list-style-type: none"> • Divorce
14. Crime	<ul style="list-style-type: none"> • Crime
15. Gambling	<ul style="list-style-type: none"> • Problem gambling
16. Democracy	<ul style="list-style-type: none"> • Voter participation
17. Intellectual Capital and Educational Attainment	<ul style="list-style-type: none"> • Educational attainment
18. Energy (Oil, Gas, Coal and Renewable)	<ul style="list-style-type: none"> • Oil and gas reserve life • Oilsands reserve life
19. Agriculture	<ul style="list-style-type: none"> • Agricultural sustainability
20. Forests	<ul style="list-style-type: none"> • Timber sustainability • Forest fragmentation
21. Parks and Wilderness	<ul style="list-style-type: none"> • Parks and wilderness

The Alberta GPI Accounts: Substance Abuse

GPI Background Reports	GPI Accounts Covered by Report
22. Fish and Wildlife	<ul style="list-style-type: none">• Fish and wildlife
23. Wetlands and Peatlands	<ul style="list-style-type: none">• Wetlands• Peatlands
24. Water Resource and Quality	<ul style="list-style-type: none">• Water quality
25. Energy Use Intensity, Greenhouse Gas Emissions and Air Quality	<ul style="list-style-type: none">• Energy use intensity• Air quality-related emissions• Greenhouse gas emissions
26. Carbon Budget	<ul style="list-style-type: none">• Carbon budget deficit
27. Municipal and Hazardous Waste	<ul style="list-style-type: none">• Hazardous waste• Landfill waste
28. Ecological Footprint	<ul style="list-style-type: none">• Ecological footprint

Appendix B. Alberta Suicide Data, Index and Estimated Cost of Suicide

Raw data for Alberta suicide, suicide index and the cost of suicide

	Incidence of Youth Drug Crime Arrests (% of youth)	Incidence of Youth Drug Crime Arrests (% of youth) where benchmark year is the lowest rate in 1983.
1961	Not available	Not available
1962	Not available	Not available
1963	Not available	Not available
1964	Not available	Not available
1965	Not available	Not available
1966	Not available	Not available
1967	Not available	Not available
1968	Not available	Not available
1969	Not available	Not available
1970	0.1125%	51.73
1971	0.0996%	58.43
1972	0.0865%	67.28
1973	0.0817%	71.24
1974	0.0756%	76.98
1975	0.0700%	83.14
1976	0.0675%	86.22
1977	0.0637%	91.37
1978	0.0652%	89.26
1979	0.0672%	86.61
1980	0.1001%	58.14
1981	0.0858%	67.83
1982	0.0805%	72.30
1983	0.0582%	100.00
1984	0.0825%	70.55
1985	0.1054%	55.22
1986	0.1175%	49.53
1987	0.0953%	61.07
1988	0.1082%	53.79
1989	0.1190%	48.91
1990	0.1083%	53.74
1991	0.0768%	75.78
1992	0.0719%	80.95
1993	0.0704%	82.67
1994	0.0808%	72.03
1995	0.0996%	58.43
1996	0.1488%	39.22
1997	0.1488%	39.11
1998	0.1492%	39.01
1999	0.1496%	38.90

Notes: 1996 to 1999 figures are estimated through extrapolation; figures for 1961 to 1969 are not available.

Endnotes

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