

The Economic Costs of Alcohol and Drug Abuse in Oregon in 2006

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Summary

The consequences of alcohol and drug abuse extend well beyond the individual user. Indeed, family members, neighbors, and entire communities are affected. Substance abuse leads to turmoil for friends and family members of its victims. It results in the premature death and serious illnesses of loved ones. It forces governments to divert scarce resources from other programs to address the needs of abusers and the problems they create. And finally, it is often the root cause of violent and property crimes, as well as impaired drivers. These human and social consequences are significant and most evidence suggests that, given the incidence of alcohol and drug use in this state, they are greater in Oregon than the rest of the nation. They also come at a great economic cost—one that is shared by all who live and work in Oregon.

ECONorthwest was asked by Workdrugfree, Oregon Nurses Foundation and Associated Oregon Industries to estimate the economic costs of alcohol and drug abuse in Oregon. The key findings of this analysis are:

- Total direct economic costs from substance abuse in Oregon totaled approximately **\$5.93 billion** in 2006. These costs fall into the following three categories:
 - **\$813 million in healthcare costs** related to alcohol and drug abuse programs, and the adverse medical consequences associated with abuse.
 - **\$4.15 billion in lost earnings** as a result of foregone productivity by users who die prematurely, are sick, fail to come to work, or are incarcerated as a result of alcohol and drug abuse, and by victims of crimes committed by drug and alcohol abusers.
 - **\$967 million in other costs** such as violent, property, and consumption-related crimes; expenditures on alcohol and drug enforcement laws, criminal justice, and social welfare programs; and property damages attributed to motor vehicle crashes and fires.
- Alcohol abuse alone cost Oregon's economy approximately \$3.244 billion in 2006. A large number by any measure, it is approximately **eight times** greater than the \$395.0 million in tax revenues collected in fiscal year 2006 from the sale of alcohol.¹

¹ Alcohol or liquor tax revenue include sales taxes, license fees, taxes on beer and wine, and miscellaneous revenues. Source: Oregon Liquor Control Commission ("OLCC").

- The economic costs of drug abuse were approximately \$2.686 billion in 2006 or 45 percent of the total economic costs of substance abuse in the state.
- On average, the total economic costs of alcohol and drug abuse in Oregon in 2006 was approximately **\$1,600 per person**.
- To put substance abuse costs into perspective, the \$5.93 billion in economic costs represents approximately **4 percent of Oregon's gross state product** in 2006.

Caveats and Limitations

The economic costs of alcohol and drug abuse estimated in this analysis do not include those from tobacco.

This study relies on a methodology developed by the coordinated efforts of The Lewin Group (“Lewin”)—a national consulting firm that specializes in healthcare and human services research—and federal agencies whose mission it is to conduct, coordinate, and disseminate healthcare research.

Although we believe the methodology to be reliable, the findings from this study should be viewed as approximations for the following reasons. First, Lewin’s comprehensive national study of the economic costs of alcohol and drug abuse was last conducted for 1992.² Demographic and other changes in the structure of the economy may have affected parameters in their analysis that await revisions. Also, national estimates have been adjusted to Oregon using aggregate adjustment factors (for differences in substance abuse rates and wages, and changes in population and prices) across major cost categories or cost components. While a logical means of scaling national data to state data, the technique nonetheless introduces a degree of approximation.

² Updated reports, based on the original 1992 report, were done in 2001 and 2004 by Lewin for the Office of National Drug Control Policy.

Alcohol and Drug Abuse: Prevalence in Oregon

Alcohol

- Based on age-adjusted death rates, Oregon ranked fourth in the nation for alcohol-induced deaths (7.0 deaths per 100,000 for the U.S.; 13.5 deaths per 100,000 for Oregon).
- Based on the 2005 results of the National Survey on Drug Use and Health, about 234,000 Oregonians suffered from alcohol abuse or dependence.
- Oregon adults have higher rates of current alcohol use and heavy drinking than the nation for all age categories over 21 years.
- In 2005, Oregonians of all ages had higher rates of current alcohol use than the nation. About two-thirds of 21- to 54-year-olds drank alcohol on one or more occasions each month. Only adults 65 or older had past month alcohol use rates below 50 percent.

Illicit Drugs

- Illicit drug use is more prevalent in Oregon than in the nation. Oregon has higher usage rates of marijuana, methamphetamines, and illicit use of prescription stimulants and pain relievers.
- Vital statistics data reveal that Oregon's drug-related mortality rate was at least twice the rate of the United States every year from 1999 to 2003.
- About one of every ten Oregonians age 18 to 25 used illicit drugs other than marijuana (10.6 percent). This is 25 percent higher than the national rate (8.5 percent). Illicit drug use by Oregon adults 26 or older was the same as the nation, 2.4 percent.³

Economic Consequences

Alcohol and drug abuse exact a high economic toll on the Oregon economy. In this study, ECONorthwest estimated that the costs of drug and alcohol abuse totaled approximately \$5.93 billion, or four percent of Oregon's gross state product. This is far more than the contribution of agriculture, forestry, fishing, and hunting activities in Oregon (\$3.77 billion in 2006).⁴

³ State Epidemiological Outcomes Workgroup, *Alcohol, Tobacco and Illicit Drug Consumption and Consequences in Oregon*, 2007. See www.oregon.gov/DHS/addiction/resource_center.shtml

⁴ Bureau of Economic Analysis, Gross Domestic Product by State, Oregon. See <http://www.bea.gov/regional/gsp/action.cfm>

In addition to the relative magnitude of the problem, the costs of drug and alcohol abuse in Oregon are of concern for other reasons. Alcohol and drug abuse leads to greater expenditures on healthcare. This increased healthcare spending comes at the cost of foregone spending elsewhere in the economy.

A comparison of the economic costs of alcohol and drug abuse with the economic costs of other major health problems in the U.S., place alcohol and drug abuse among the most costly healthcare problems facing this country. Based on National Institute of Health estimates, the costs of alcohol abuse (\$185 billion in 1998) and drug abuse (\$180 billion in 2002) were comparable with, or exceeded, the costs of other major health problems such as cancer (\$96 billion in 1990), diabetes (\$98 billion in 1997), HIV/AIDS (\$29 billion in 1999), and smoking (\$138 billion in 1998).⁵

Alcohol and drug abuse negatively affect the productivity of workers. The productivity losses due to alcohol and drug abuse result from work either not being done or being performed poorly or dangerously such that economic output in Oregon is compromised. Because of alcohol and drug abuse nationally, the cost to U.S. companies from employee alcohol and drug use is estimated at billions of dollars a year.⁶

In addition to healthcare and productivity costs, alcohol and drug abuse affect the costs to society from crime, motor vehicle accidents, and other effects. According to the Office of National Drug Control Policy, drug abuse related crime cost the nation \$107.8 billion in 2002.⁷ Closer to home, the Oregon State Police report for 2005 that 30 percent of physical assaults, 23 percent of sexual assaults and three percent of robberies are attributable to alcohol abuse.⁸ With regards to motor vehicle accidents, in 2006, 41 percent of fatal crashes in Oregon were alcohol related.⁹

⁵ National Institute of Health, Office of Policy and Analysis. See <http://ospp.od.nih.gov/ecostudies/COIreportweb.htm>, as cited in ONDCP, *The Economic Costs of Drug Abuse 1992-2002*. P.v-1.

⁶ SAMHSA, Office of Applied Studies, *The NSDUH Report: Worker Substance Use, by Industry Category*, August 2007.

⁷ ONDCP, *The Economic Costs of Drug Abuse 1992-2002*.

⁸ Oregon State Police, Law Enforcement Data Systems. See http://www.oregon.gov/osp/cjis/annual_reports.html

⁹ NHTSA, Fatality Analysis Reporting System. See <http://www-fars.nhtsa.dot.gov/States/StatesAlcohol.aspx>

Tallying the Costs in Oregon

To measure the economic costs of alcohol and drug abuse in Oregon, ECONorthwest adopted the framework developed by The Lewin Group in their study of alcohol and drug abuse in the United States in 1992.¹⁰ This framework was later used by The Lewin Group to update their estimates, methods, and data for alcohol abuse in the United States in 1998¹¹, and for drug abuse in 1998 and 2002.¹² These latter analyses provided valuable insight into how to cost-effectively apply the national methodology to the state of Oregon.

The Lewin Group's methodology classifies the economic costs of alcohol and drug abuse into three main categories, which are subdivided into individual components. Lewin breaks down the total costs of drug and alcohol abuse into: 1) the costs of healthcare, 2) the costs of lost productivity, and 3) other costs. Each main cost category then consists of individual cost components. For example, the first main category—the costs of health care—consists of alcohol and drug programs (treatment, prevention, training, research, and insurance administration) and medical consequences (healthcare costs for abusers and victims, and health insurance administration costs).

Furthermore, since Lewin's data are national figures for 1992, 1998, and 2002 (for drugs), ECONorthwest used economic, abuse rate, and demographic data to scale the analysis to approximate what the costs would have been in Oregon in 2006.

¹⁰ Harwood, H., Fountain, D., and Livermore, G., *The Economic Costs of Alcohol and Drug Abuse in the United States, 1992*, prepared by The Lewin Group for the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Department of Health and Human Services, NIH Publication No. 98-4327, Rockville, MD, 1998.

¹¹ Harwood, H., *Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods, and Data*, prepared by The Lewin Group for the National Institute on Alcohol Abuse and Alcoholism, December 2000.

¹² ONDCP, *The Economic Costs of Drug Abuse 1992-1998 (2001)*, and *The Economic Costs of Drug Abuse 1992-2002 (2002)*, prepared for the ONDCP by The Lewin Group.

Costs of Healthcare

Alcohol and drug abuse leads to greater expenditures on healthcare. According to the Centers for Disease Control, alcohol is the third leading preventable cause of death in the United States and is associated with a host of adverse health effects, including liver cirrhosis, cancer, stroke, motor vehicle crashes, falls, suicides, and violence-related injuries and deaths.¹³ According to the U.S. Department of Health and Human Services, approximately 234,000 Oregonians suffered from alcohol abuse or dependence in 2005.¹⁴

ECONorthwest estimates that healthcare expenditures associated with alcohol and drug abuse in Oregon totaled \$813 million in 2006. The two main components of this cost category are:

- \$307 million in expenditures on alcohol and drug abuse services, including alcohol and drug abuse treatment, prevention, research, training, and the insurance administration costs associated with these programs.
- Approximately \$506 million in medical costs attributed to the adverse health effects related to alcohol and drug abuse, and the insurance administration costs associated with these medical services.

Costs of Lost Productivity (Foregone Earnings)

From an economic perspective, alcohol and drug abuse negatively impacts worker productivity. That is, mortality, morbidity, and incarceration of users decrease the supply of labor (work-hours) available to Oregon businesses.¹⁵ Lost work by the victims of crimes committed by abusers of alcohol and drugs robs Oregon businesses in a similar fashion. As a result, Oregon businesses are less competitive and the state produces fewer goods and services than it otherwise would. More importantly, much like unemployment, this foregone output is lost forever.

Lower worker productivity caused by alcohol and drug abuse ultimately shows up in the form of lost or foregone earnings for both users and victims. ECONorthwest estimates that the economic cost of lost productivity in Oregon was \$4.15 billion in 2006. We estimate the sources of this effect to be:

¹³ Centers for Disease Control, "Alcohol-Attributable Deaths and Years of Potential Life Lost — United States, 2001," *Morbidity and Mortality Weekly Report*, 53(37), September 24, 2004, pp. 866-870.

¹⁴ See Table 16 from the U.S. Department of Health and Human Services, Office of Applied Studies, *2005 State Estimates of Substance Use & Mental Health*.

¹⁵ Centers for Disease Control, *loc. cit.* According to the Centers for Disease Control, nationally in 2001, the number of alcohol-attributable deaths (AADs) was approximately 75,766, resulting in approximately 2.3 million years of potential life lost (YPLLs).

- \$978 million in lost earnings attributed to premature deaths (mortality) attributed to alcohol and drug abuse.
- \$2.003 billion in lost earnings attributed to the adverse medical consequences and illnesses (morbidity) attributed to alcohol and drug abuse.
- \$1.169 billion in lost earnings associated with users whose alcohol and drug abuse steers them towards a life of crime, and the victims of crime.

In total, the costs of lost productivity represents approximately 70 percent of the total economic costs of alcohol and drug abuse in this state in 2006. This finding is consistent with national results from Lewin's 1992 study. That analysis found the costs of lost productivity to be approximately 71.8 percent (\$176.418 billion) of the total economic costs of alcohol and drug abuse (\$245.680 billion).¹⁶

Other Costs

Alcohol and drug abuse imposes other costs including those tied to alcohol and drug enforcement efforts, criminal justice system, administration of social welfare programs, and the damages associated with motor vehicle crashes and fires. ECONorthwest estimates that these other costs totaled about \$967 million in Oregon in 2006, and they break out as follows:

- \$656 million in additional costs related to alcohol and drug enforcement, and the criminal justice system.
- \$13 million in additional costs for social welfare program administration.
- \$271 million in personal and property damages related to motor vehicle crashes.
- \$26 million in personal and property damages related to fires.

Conclusion

Summarizing the analysis, ECONorthwest estimates that substance abuse cost the Oregon economy about \$5.929 billion in 2006. Although the social, health, and economic damage from substance abuse was not shared equally by everyone in the state, there is little doubt that most families have been and continue to be affected. Even those not directly hurt by substance abuse felt some of the effects of the cost components shown in Table 1. That is because many of the costs filter throughout the economy via higher insurance rates, diverted government spending to address substance abuse related crimes and consequences, lost economic output, and higher healthcare costs.

¹⁶ <http://www.niaaa.nih.gov/Resources/DatabaseResources/QuickFacts/EconomicData/cost5.htm>

**Table 1: Economic Costs of Alcohol and Drug Abuse in Oregon in 2006
(millions of 2006 dollars)**

Major Cost Category / Individual Cost Component	Alcohol	Drugs	Total
Costs of Healthcare			
Alcohol and drug abuse services	\$157	\$150	\$307
Medical consequences	\$396	\$111	\$506
Healthcare Total	\$553	\$261	\$813
Cost of Lost Productivity (Foregone Earnings)			
Premature deaths	\$619	\$359	\$978
Illness, institutionalization, incarceration	\$1,486	\$517	\$2,003
Crime and victims of crime	\$171	\$998	\$1,169
Productivity Total	\$2,276	\$1,874	\$4,150
Other Costs			
Crimes and criminal justice	\$109	\$547	\$656
Social welfare program administration	\$8	\$4	\$13
Motor vehicle crashes	\$271	—	\$271
Fires	\$26	—	\$26
Other Total	\$415	\$551	\$967
Total All	\$3,244	\$2,686	\$5,929

Source: ECONorthwest.

When the \$5.929 billion in economic costs are averaged over the entire population, we conclude that substance abuse cost the average Oregonian about \$1,600 in 2006. This statistic can be used as a metric for measuring the approximate economic costs of alcohol and drug abuse in communities throughout the state. For example (2006 populations in parenthesis):

- Beaverton (84,270) – \$134.8 million in economic costs
- Roseburg (21,050) – \$33.7 million in economic costs
- Multnomah County (701,545) – \$1.12 billion in economic costs