

Updating Estimates of the

Economic Costs

of

Alcohol Abuse

in the

United States

Estimates, Update Methods, and Data

December 2000

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THE ECONOMIC COSTS OF
ALCOHOL ABUSE**

IN THE UNITED STATES:

Estimates, Update Methods, and Data

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health
National Institute on Alcohol Abuse and Alcoholism**

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Estimates, Update Methods, and Data

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**UPDATING ESTIMATES OF THE ECONOMIC COSTS OF ALCOHOL ABUSE
IN THE UNITED STATES**
*Estimates, Update Methods, and Data*¹

Introduction

The economic costs of alcohol abuse are estimated to have been \$184.6 billion in 1998 (Table 1). This new estimate represents a 25 percent increase (3.8 percent per year on average) from the \$148 billion comprehensive estimate developed previously for 1992 (Harwood et al., 1998). The current update has developed new estimates for 22 major cost components and has applied various combinations of 18 different specific adjustment factors to account for 1992 to 1998 changes in, for example:

- Incidence/prevalence of selected alcohol-specific consequences;
- Population;
- General prices; and
- Worker compensation (wage rates).

Table 1
Economic Costs of Alcohol Abuse: 1992 Estimates and Projections for 1998
(Millions of current-year dollars)

Cost Component	Cost Estimate (\$ in millions)		Average Annual Percent Change
	1992 (original estimate)	1998 (updated estimate)	
Total	148,021	184,636	3.8
Specialty Alcohol Services	5,573	7,466	5.0
Medical Consequences (except FAS)	11,205	15,963	6.1
Medical Consequences of FAS	2,042	2,909	6.1
Lost Future Earnings Due to Premature Deaths	31,327	36,499	2.6
Lost Earnings Due to Alcohol-Related Illness	68,219	86,368	4.0
Lost Earnings Due to Fetal Alcohol Syndrome	990	1,253	4.0
Lost Earnings Due to Crime/Victims	6,461	10,085	7.7
Crashes, Fires, Criminal Justice, etc.	22,204	24,093	1.4

Source: Harwood et al. (1998) and analysis by The Lewin Group.

¹ As used in this report and throughout most of the literature on economic costs, the term “alcohol abuse” refers to any cost-generating aspect of alcohol consumption. This differs from the clinical definition of the term, which involves specific diagnostic criteria. Thus, the costs associated with a single occasion of drunk driving that leads to injury or property damage would be counted in this framework, even though this behavior would not, by itself, meet the clinical criteria for a diagnosis of alcohol abuse.

The 3.8 percent average annual increase in the estimated costs of alcohol abuse reflects changes in a number of factors: between 1992 and 1998, national health expenditures grew an average of 6.1 percent annually, gross domestic product growth averaged 5.3 percent, adult population grew 0.9 percent per year, consumer prices increased by 2.5 percent per year on average, and worker compensation grew by an average of 3.0 percent annually.

Methodology

This report presents updated/projected estimates of the economic costs of alcohol abuse using the same general approach that has been employed for this purpose in prior efforts (e.g., Harwood et al., 1998; Rice et al., 1990). This update strategy is necessary to maintain reasonably up-to-date cost estimates because of the effects of various trends in our society and the economy, which, while relatively gradual over a year or two, may have a material impact over several years.

Changes in actual costs of alcohol abuse between the year for which detailed estimates were developed and more recent years for which estimates are desired may be decomposed into two categories: changes in the frequency and intensity of the underlying behavioral outcomes and changes in the monetary valuation of these outcomes. This report measures changes in these components using the following indicators:

- Population;
- Incidence/prevalence of selected alcohol-related consequences;
- Prices for health care services;
- Worker compensation (wage rates); and
- General prices.

The first two factors address changes in the “real” consequences of alcohol abuse. Specifically, as total population increases, one might expect the burden of alcohol abuse to rise proportionally. However, this conclusion relies on the assumption that the incidence and prevalence rates of the various adverse consequences of alcohol abuse remain more or less constant. While there is highly detailed information about population change in the United States, there is much less current data about the incidence and prevalence of alcohol abuse and its consequences.

Other important changes over time affect the “value” of the impacts. These changes are usually summarized by changes in the prices of goods and services—including the value of labor

in the economy. There are extensive data available about price trends in the U.S. economy. Cost of illness studies (including Harwood et al., 1998) usually distinguish between the value of goods and services consumed and the value of labor productivity forgone as a result of the illness. Changes in the former are generally represented with factors such as the Consumer Price Index (or the Medical Price Index), while the latter are represented with measures of the cost of labor services—wage and salary indices.

The simplest approach to updating or adjusting cost estimates is to adjust the original total cost estimate for population change (which grew by about 1 percent annually between 1992 and 1998) and the general change in prices (consumer prices increased by an average of about 2.5 percent annually between 1992 and 1998). This approach is readily applied, and the data are readily available and easily explained and understood. Application of these two factors results in an overall increase of 23 percent, between 1992 and 1998. Although this is fairly close to the 25 percent change actually estimated in this report, there are disadvantages to such a limited approach. There may be factors that lead various cost components to change at different rates across time, relating to both real changes in behavioral outcomes and changes in subcomponent prices.

At the opposite extreme it is possible to return to the original calculation spreadsheets (which involve hundreds or perhaps thousands of cells). It is possible to adjust selected components representing either the real outcomes (base population, incidence or prevalence, and/or severity of impacts) or the prices used in valuation, without refreshing all of the data.

A middle level of complexity has been taken in developing the updated estimates for this report. Specifically, the original cost estimates have been grouped into 22 major components. The estimated costs associated with each of these components have been updated by applying adjustment factors to reflect changes in both the real consequences of alcohol abuse and the value assigned to the consequences.

Most cost components have been updated by applying one or more adjustment factors to account for changes in the real consequences of alcohol abuse, and another one or more adjustment factors to account for changes in the value of those consequences. In the simplest cases (such as the category Lost Productivity Due to Alcohol-Related Illness), this amounts to multiplying the 1992 estimate for a particular cost component by the ratio of the 1998 population to the 1992 population and then again by the ratio of the relevant price or wage index value for 1998 to the corresponding value for 1992. For some other cost components (such as Property Damage Due to Motor Vehicle Crashes), the real consequences have been updated using factors

that are more specific to the particular outcome under consideration than simply overall population growth.

For a few cost components, updating has been accomplished using only a single factor to adjust for both the real and price components of change. For example, health care costs for treating the medical consequences of alcohol consumption have been updated based on the growth in National Health Expenditures from 1992 through 1998 as reported by the Health Care Financing Administration.

The cost components and adjustment factors used in this report are summarized in Table 2. The cost components are defined and described in Harwood et al. (1998).

Table 2
Summary of Cost Components and Adjustment Factors

Cost Component	Adjustment Factors	
	Real Change	Price/Wage Index
Alcohol Abuse Treatment	Estimates of alcohol treatment spending ¹	
Alcohol Abuse Prevention	ONDCP drug control budget ²	
Alcohol Abuse Research	NIAAA budget authority ³	
Alcohol Abuse Training	Total population ⁴	Consumer Price Index ⁵
Medical Consequences of Alcohol Consumption (including FAS)	National health expenditures ⁵	CPI Medical ⁵
Lost Future Earnings Due to Premature Deaths	Alcohol-involved deaths; ⁷ alcohol-related MVC deaths ⁸	Hourly Compensation Index ⁵
Lost Productivity Due to Alcohol-Related Illness (including FAS)	Adult population ⁴	Hourly Compensation Index ⁵
Lost Productivity Due to Alcohol-Related Crime (victims and prisoners)	Crimes of violence and property crime ^{9,10}	Hourly Compensation Index ⁵
Crime—Criminal Justice, Property Damage, etc.	Crimes of violence, property crime, ^{9,10} and alcohol-defined crimes	Consumer Price Index ⁵
Social Welfare Administration	SSI=0; balance trended by Food Stamps ³	
Motor Vehicle Crashes—Property Damage	Alcohol-related fatal and non-fatal injuries ⁸	Consumer Price Index ⁵
Fire Destruction—Property Damage	Total fire losses	

¹ Mark et al., 1998.

² Office of National Drug Control Policy, 2000.

³ Office of Management and Budget, 2000.

⁴ U.S. Bureau of the Census, 2000.

⁵ U.S. Bureau of Labor Statistics, 2000.

⁶ Cowan et al., 1999.

⁷ National Center for Health Statistics.

⁸ National Highway Traffic Safety Administration, 1999.

⁹ Centers for Disease Control and Prevention, 1999.

¹⁰ U.S. Department of Justice, 1999.

The cost components selected as the basis for the update are briefly discussed below, and sources (publications) for the data to be used in the updates are identified in the references.

- ***Alcohol Abuse Treatment:*** The recent study by Mark et al. (1998) has developed estimates of spending on alcohol treatment from 1986 through 1998. However, the most recent data available were for 1995. More recent estimates are updates/projections based on historical relationships of costs of alcohol services to real and price factors, and projections of those factors from 1995 to 1998.
- ***Alcohol Abuse Prevention:*** Federal funds constitute a major share of funding for substance abuse prevention. The change in Federal spending on drug prevention (Office of National Drug Control Policy, 2000) has been used to trend spending forward to 1998. As many drug prevention initiatives also address alcohol, this approach probably captures major trends in alcohol abuse prevention.
- ***Alcohol Abuse Research:*** This estimate represents the budget authorization for the NIAAA from the Federal budget (Office of Management and Budget, 2000) and reflects both real and price changes.
- ***Alcohol Abuse Training:*** Two factors were used for the update—growth in resident U.S. population (U.S. Bureau of the Census, 2000) and growth in the Consumer Price Index for urban consumers (U.S. Bureau of Labor Statistics, 2000).
- ***Medical Consequences of Alcohol Consumption:*** This was updated using a single factor—change in national health expenditures (Cowan et al., 1999). This measure encompasses both real and price factors; however, there is no adjustment for alcohol-specific trends.
- ***Medical Consequences of Fetal Alcohol Syndrome:*** This was updated using a single factor—change in national health expenditures (Cowan et al., 1999). This measure encompasses both real and price factors; however, there is no adjustment for FAS-specific trends.
- ***Lost Future Earnings Due to Premature Deaths:*** This was estimated separately for alcohol-related motor vehicle crashes (National Highway Traffic Safety Administration, 1999) and for all other alcohol-related deaths (Centers for Disease Control and Prevention, 1999). Adjustments also were made for growth in average earnings of workers using the Bureau of Labor Statistics “hourly compensation index” (U.S. Bureau of Labor Statistics, 2000).

- ***Lost Productivity Due to Alcohol-Related Illness:*** This was updated using the growth in resident adult U.S. population (U.S. Bureau of the Census, 2000) and growth in average earnings of workers (hourly compensation index) (U.S. Bureau of Labor Statistics, 2000).
- ***Lost Productivity of Victims of Alcohol-Related Crime:*** Separate adjustments were applied to violent crime and property crime. These estimates were adjusted to reflect changes in the total number of violent and property crimes in the United States (U.S. Department of Justice, 1999). Both values were adjusted for growth in the average earnings of workers (hourly compensation index) (U.S. Bureau of Labor Statistics, 2000). No adjustment was made for a possible change in the causal role of alcohol in crimes.
- ***Lost Productivity of Prisoners:*** The estimate was adjusted by the change in total census of prisoners (U.S. Department of Justice, 2000) and the change in average earnings (hourly compensation index) (U.S. Bureau of Labor Statistics, 2000).
- ***Crime—Criminal Justice Expenditures:*** Separate adjustments were applied to violent crime, property crime, and alcohol-defined crime (e.g., DUI, public drunkenness, liquor law violations). The first two subcategories were adjusted by the changes in the estimated number of these types of crimes committed (U.S. Department of Justice, 1999). The alcohol-defined crime costs were adjusted based on the number of arrests for alcohol-defined offenses. Price adjustment used the Consumer Price Index for urban consumers (U.S. Department of Justice, 2000).
- ***Social Welfare Administration:*** This category was divided into two separate components for updating: Supplemental Security Income (SSI) payments and all other social welfare payments. Beginning in 1997, alcohol disorders no longer constituted an acceptable basis for SSI eligibility. Therefore, this value was set to zero and no SSI costs were attributed to alcohol abuse after 1996. Other major changes in social welfare becoming effective in 1997 have significantly reduced payments to beneficiaries. This trend has been estimated/represented by the change in Food Stamp benefits (U.S. Department of Agriculture, 2000). While the Social Security Administration (SSA) compiles national (Federal plus State) estimates of social welfare outlays (and particularly public aid), publication of these data lags about 4 to 5 years—1994 data are the most recent available.
- ***Motor Vehicle Crashes—Property Damage:*** This category has been broken into components associated with fatal and nonfatal accidents. As noted above, the Department of Transportation publishes data about alcohol-related fatalities and injuries (National

Highway Traffic Safety Administration, 1999), which have been used to make real adjustments to the original estimates. The Consumer Price Index was used to adjust for price changes.

- **Fire Destruction:** Property and administrative costs due to alcohol-related fires were updated using one factor—the estimated change in total fire losses in the United States (National Fire Data Center, 1999), which represents changes in real factors and in the cost per fire. No data are available to measure any trend of alcohol involvement in fires.

Updated Cost Estimates

For almost all of the adjustment factors identified above, observations were obtained through calendar year 1998. For the few factors lacking 1998 data, it was determined either to use the 1997 values or, in the case of fire destruction, to use the average of 1996 and 1997 (because the data series for national fire losses varies from year to year). Although updated estimates have not been produced for 1997 (nor for 1993–1996), these could be developed using the same approach as for 1998. Values for the various adjustment factors for the entire 1992–1998 period are presented in the Appendix.

The updated estimates for the cost components are shown in Table 3. Note that for presentation (e.g., in Table 1) several of the cost components were added together to construct summary components. For example, “specialty alcohol services” comprise alcohol treatment services, the associated insurance administration expenses, alcohol prevention, alcohol research, and alcohol training.

The update calculations indicate that costs of alcohol abuse grew from \$148 billion in 1992 to \$185 billion in 1998, approximately a 25 percent increase, for an average annual increase of 3.8 percent. There is a modest range in the projected changes in the various components. The component with the highest rate of growth was productivity losses of persons incarcerated for alcohol-related crimes. This may seem somewhat incongruous since most of the other crime-related cost components had relatively low or even negative rates of increase. The apparent contradiction occurs because the number and rate of offenses fell strongly over the 1992–1998 period, but the census of persons incarcerated actually increased by almost 6 percent annually over the same period.

Thus, the updated estimates of the economic costs of alcohol abuse presented in this report were based on the previously reported estimates for 1992 and on changes in population,

price and wage levels, and health care expenditures between 1992 and 1998. For a few of the cost categories considered in this report, the updating was based on changes in more specific outcomes of interest. However, it is possible that other changes occurred in the 1992–1998 period that affected the actual costs of alcohol abuse that are not reflected in the summary updating of cost estimates described in this report.

Table 3
Economic Costs of Alcohol Abuse: 1992 Estimates and Updates for 1998
(Millions of current-year dollars)

Cost Component	Cost Estimate (\$ in millions)		Average Annual Percent Change	Total Percent Change
	1992 (original estimate)	1998 (updated estimate)		
Total	148,021	184,636	3.8	24.7
Specialty Alcohol Services	5,573	7,466	5.0	34.0
Alcohol Abuse Treatment	4,046	5,506	5.3	36.1
Insurance Administration	182	248	5.3	36.1
Alcohol Abuse Prevention	1,088	1,397	4.3	28.4
Alcohol Abuse Research	184	226	3.5	22.8
Alcohol Abuse Training	73	90	3.6	23.3
Medical Consequences	13,247	18,872	6.1	42.5
Medical Consequences of Alcohol Consumption	10,667	15,196	6.1	42.5
Medical Consequences of Fetal Alcohol Syndrome	1,944	2,769	6.1	42.5
Insurance Administration	636	906	6.1	42.5
Lost Future Earnings Due to Premature Deaths	31,327	36,499	2.6	16.5
Motor Vehicle Crashes	8,023	8,592	1.1	7.1
Other Alcohol-Related	23,304	27,906	3.0	19.7
Lost Productivity Due to Morbidity	69,209	87,621	4.0	26.6
Lost Productivity Due to Alcohol-Related Illness	68,219	86,368	4.0	26.6
Lost Productivity Due to Fetal Alcohol Syndrome	990	1,253	4.0	26.6
Lost Earnings Due to Crime/Victims	6,461	10,085	7.7	56.1
Lost Productivity Due to Alcohol-Related Crime	1,012	988	-0.4	-2.4
Lost Productivity of Incarcerated Persons	5,449	9,097	8.9	67.0
Crime—Criminal Justice, Property Damage, etc.	6,311	6,328	0.0	0.3
Violent Crime	3,386	3,208	-0.9	-5.3
Property Crime	393	325	-3.1	-17.3
Alcohol-Defined Offenses	2,532	2,795	1.7	10.4
Social Welfare Administration	683	484	-5.6	-29.1
Supplemental Security Income	84	0	-100.0	-100.0
Other Social Insurance	599	484	-3.5	-19.1
Motor Vehicle Crashes—Property Damage	13,619	15,744	2.4	15.6
Fatal Crashes	2,416	2,511	0.6	3.9
Nonfatal Crashes	11,203	13,233	2.8	18.1
Fire Destruction—Property Damage	1,590	1,537	-0.6	-3.3

Source: Harwood et al. (1998) and analysis by The Lewin Group.

Primary Data Sources for Updates

All of the data series used in performing this update exercise (except those from Mark et al., 1998) were located in Federal Agency statistical data banks on the World Wide Web. These statistics are also available in a variety of hardcopy publications as noted below.

Centers for Disease Control and Prevention (1999). Table 21. *National Vital Statistics Report*, Volume 47, No. 19.

Cowan, C. A.; Lazenby, H. C.; Martin, A. B.; McDonnell, P. A.; Sensenig, A. L.; Stiller, J. M.; Whittle, L. S.; Kotova, K. A.; Zezza, M. A.; Donham, C. S.; Long, A. M.; and Stewart, M. W. (1999). National Health Expenditures, 1998. *Health Care Financing Review*, Volume 21, Number 2.

Harwood, H.; Fountain, D.; and Livermore, G. (1998). *The Economic Costs of Alcohol and Drug Abuse in the United States 1992*. Report prepared 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: National Institutes of Health.
<http://www.nida.nih.gov/EconomicCosts/Index.html>.

Insurance Information Institute, *Insurance Facts* (annual), New York, NY.

Mark, T.; McKusick, D.; King, E.; Harwood, H.; and Genuardi, J. (1998). *National Expenditures for Mental Health, Alcohol and Other Drug Treatment, 1996*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

National Center for Health Statistics. *Vital and Health Statistics: Mortality Statistics* (periodic). Hyattsville, MD: U.S. Centers for Disease Control and Prevention.

National Fire Data Center (1999). The National Fire Problem (fact sheet). United States Fire Administration, Federal Emergency Management Administration.

National Highway Traffic Safety Administration (1999). *Traffic Safety Facts 1998* (annual). Washington, DC: U.S. Department of Transportation, National Center for Statistics and Analysis.

National Safety Council, *Accident Facts* (annual), Itasca, IL.

Office of Management and Budget (2000). *Budget of the United States Government* (annual). Washington, DC: Superintendent of Documents.

Office of National Drug Control Policy (2000). *National Drug Control Strategy: Budget Summary* (annual). Washington, DC: Executive Office of the President.

U.S. Bureau of the Census (2000). *Statistical Abstract of the United States* (annual). Washington, DC: U.S. Department of Commerce.

U.S. Bureau of Labor Statistics (2000). *Monthly Labor Review* (periodic). Washington, DC: U.S. Department of Labor.

U.S. Department of Agriculture (2000). Food Stamp Program Participation and Costs.
<http://www.fns.usda.gov/pd/fssummar.htm>

U.S. Department of Justice (1999). *Criminal Victimization 1998; Changes 1997–98 with Trends 1993–98*. Washington, DC: Bureau of Justice Statistics. Publication NCJ 176353, July 1999, revised 8/25/99.

U.S. Department of Justice (2000). *Sourcebook of Criminal Justice Statistics, 1999*. Washington, DC: Bureau of Justice Statistics. <http://www.albany.edu/sourcebook/index.html>

Appendix 1
Factors Used in Adjusting Costs of Alcohol Abuse From 1992 to 1998
Adjustment Factors for Respective Cost Components

Cost Component	Adjustment Factor(s)	1992	1993	1994	1995	1996	1997	1998
Alcohol Abuse Treatment	Estimates of Substance Abuse Treatment Spending in billions, Mark et al., 1998 ¹	\$4.215	\$4.426	\$4.708	\$4.814	\$4.962	\$5.189	\$5.506
Insurance Administration	Proportional to change in AAT (above)							
Alcohol Abuse Prevention	Federal Drug Abuse Prevention Expenditures in billions, ONDCP Drug Control Budget	\$1.539	\$1.556	\$1.597	\$1.559	\$1.401	\$1.643	\$1.975
Alcohol Abuse Research	NIAAA Budget Authority, Federal Budget, Office of Management and Budget	\$184	\$176	\$186	\$183	\$199	\$211	\$226
Alcohol Abuse Training	Population in millions, Bureau of the Census	255	257.7	260.3	262.8	265.2	267.7	270.3
	Consumer Price Index-All Urban Consumers, Bureau of Labor Statistics	140.3	144.5	148.2	152.4	156.9	160.5	163.0
Medical Consequences of Alcohol Consumption	National Health Expenditures (NHE) in billions, Health Care Financing Administration	\$767	\$837	\$899	\$948	\$994	\$1,043	\$1,092
Medical Consequences of Fetal Alcohol Syndrome	National Health Expenditures (NHE) in billions, Health Care Financing Administration	\$767	\$837	\$899	\$948	\$994	\$1,043	\$1,092
Insurance Administration	Proportional to change in NHE, above							
Lost Future Earnings Due to Premature Deaths	Deaths from Alcohol-Induced Causes, NCHS	19,568	19,557	20,163	20,231	19,770	19,576	19,576 ²
	Alcohol-Related Fatalities, Fatality Accident Reporting System, DOT	17,810	17,461	16,589	17,274	17,126	16,189	15,935
	Hourly Compensation Index, Bureau of Labor Statistics	100	102.5	104.4	106.8	110.7	114.7	119.7
Lost Productivity Due to Alcohol-Related Illness	Adult Population in millions, Bureau of the Census	190.7	192.4	194.2	196.1	198.2	200.4	201.7
	Hourly Compensation Index, Bureau of Labor Statistics	100	102.5	104.4	106.8	110.7	114.7	119.7

¹ Original estimates, which are being updated. Values through 1995 based on data, while those for 1996–1998 are themselves multifactor updates/projections.

² This is the value for 1997. Data for 1998 have not yet been released.

Appendix 1 (continued)
Factors Used in Adjusting Costs of Alcohol Abuse From 1992 to 1998
Adjustment Factors for Respective Cost Components

Cost Component	Adjustment Factor(s)	1992	1993	1994	1995	1996	1997	1998
Lost Productivity Due to Fetal Alcohol Syndrome	Adult Population in millions, Bureau of the Census	190.7	192.4	194.2	196.1	198.2	200.4	201.7
	Hourly Compensation Index, Bureau of Labor Statistics	100	102.5	104.4	106.8	110.7	114.7	119.7
Lost Productivity Due to Alcohol-Related Crime	Crimes of Violence per 1,000 persons age 12+, National Victimization Survey, Bureau of Justice Statistics	47.8	49.9	51.8	46.6	42.0	39.2	36.6
	Population age 12+ in millions, Census Bureau	211	213	216	218	221	224	225
	Hourly Compensation Index, Bureau of Labor Statistics	100	102.5	104.4	106.8	110.7	114.7	119.7
Lost Productivity of Incarcerated Persons	Adults in Jail or Prison, in millions, Bureau of Justice Statistics	1.292	1.365	1.47	1.578	1.638	1.744	1.802
	Hourly Compensation Index, Bureau of Labor Statistics	100	102.5	104.4	106.8	110.7	114.7	119.7
Crime—Criminal Justice, Property Damage, etc.	Crimes of Violence per 1,000 persons age 12+, National Victimization Survey, Bureau of Justice Statistics	47.8	49.9	51.8	46.6	42	39.2	36.6
	Property Crimes + Personal Theft Rate per 1,000 persons age 12+ years, National Victimization Survey, Bureau of Justice Stat.	327.1	321.1	312.6	292.4	267.8	249.9	218.7
	Arrests—Alcohol Defined, in millions, Federal Bureau of Investigation	2.99	2.78	2.64	2.74	2.86	2.85	2.85 ³
	Population age 12+ in millions, Census Bureau	211	213	216	218	221	224	225
	Consumer Price Index—All Urban Consumers, Bureau of Labor Statistics	140.3	144.5	148.2	152.4	156.9	160.5	163.0

³ This is the value for 1997. Data for 1998 have not yet been released.

Appendix 1 (continued)
Factors Used in Adjusting Costs of Alcohol Abuse From 1992 to 1998
Adjustment Factors for Respective Cost Components

Cost Component	Adjustment Factor(s)	1992	1993	1994	1995	1996	1997	1998
Social Welfare Administration	SSI = 0 after 1996							
	Food Stamp Beneficiary Payments in billions, Social Security Administration	20.9	22	22.7	22.8	22.4	19.6	16.9
Motor Vehicle Crashes, Property Damage	Alcohol-Related Fatalities in thousands, Fatality Accident Reporting System, DOT	17.8	17.5	16.6	17.3	17.1	16.2	15.9
	Alcohol-Related Injuries in thousands, Fatality Accident Reporting System, DOT	300	289	297	300	321	327	305
	Consumer Price Index—All Urban Consumers, Bureau of Labor Statistics	140.3	144.5	148.2	152.4	156.9	160.5	163.0
Fire Destruction, Property Damage	Total Fire Losses in billions, National Fire Data Center	\$9.276	\$9.279	\$8.630	\$9.182	\$9.406	\$8.525	\$8.966 ⁴

⁴ This is the average for 1996 and 1997. Year-to-year variability suggests average preferable to most recent year. The estimate for 1998 has not been released.