



What is the Return on Investment for Businesses Whose Problem Drinkers Receive at Least Screening and Brief Intervention (SBI)?

Objective: To extrapolate economic benefits associated with brief substance abuse treatment of employees who are problem drinkers and working in ten industries in North Dakota.

Screening and Brief Intervention (SBI): Screening involves the use of a short interview (evaluation) by healthcare professionals. When an alcohol problem is discovered, a brief intervention with as few as 1-5 short sessions can treat most people. People with more severe problems can be referred to more intensive treatment programs.

Data Sources:

1. Return on Investment Alcohol Cost Calculator developed by Ensuring Solutions to Alcohol Problems, George Washington University, Washington, D.C.,
2. The North American Industry Classification System (NAICS) Census Data, and
3. Review of current literature on the benefits associated with substance abuse treatment in the United States.

Study Design: North Dakota data on the number of employees in ten industries in North Dakota are available from the North American Industry Classification System (NAICS). North Dakota data were used with the Alcohol Cost

Calculator to determine the number of problem drinkers, the number of problem drinkers with alcohol abuse, and the number of problem drinkers with alcohol dependence among those employees.

Data Collection from Regional Human Service Centers: For findings regarding 'evaluation only' consumers at Regional Human Service Centers in North Dakota, Regional Office Automated Program (ROAP) data were used for counts and rates (the Regional Human Service Center rate structure).

Principal Findings: The estimated number of problem drinkers identified across ten industries in North Dakota is 35,089. Of these, 20,035 abuse alcohol and 15,052 are alcohol dependent. Providing brief treatment for as few as 10% (2,004) and up to as many as 80% (16,028) of the 20,035 employees with alcohol abuse disorders would result in an estimated net benefit to businesses from a low of about \$800,000 to a high of approximately \$7,000,000.

Conclusions: Identifying persons in the workplace early in the alcohol continuum (before alcohol dependence) and providing brief treatment with lower costs reaps benefits to businesses of up to \$4.39 for every \$1 spent.

Return on Investment

Nearly 14 million Americans have problems because of their drinking. About 5.2% have alcohol abuse disorder and 3.9% have alcohol dependence disorder. This is just under 1 in 10 persons. Fewer than one in five problem drinkers are treated each year.

The Diagnostic and Statistical Manual of Mental Disorders IV describes **alcohol abusers** as those who drink despite recurrent social, interpersonal, and legal problems as a result of alcohol use. Harmful use implies alcohol use that causes either physical or mental damage. Those who are **alcohol dependent** (alcoholics) meet all of the criteria of alcohol abuse, but will also exhibit some or all of the following:

- Narrowing of the drinking repertoire (drinking only one brand or type of alcoholic beverage).
- Drink-seeking behavior (only going to social events that will include drinking, or only hanging out with others who drink).
- Alcohol tolerance (having to drink increasing amounts to achieve previous effects).
- Withdrawal symptoms (getting physical symptoms after going a short period without drinking).
- Drinking to relieve or avoid withdrawal symptoms (such as drinking to stop the shakes or to "cure" a hangover).
- Subjective awareness of the compulsion to drink or craving for alcohol (whether they admit it to others or not).
- A return to drinking after a period of abstinence (deciding to quit drinking and not being able to follow through).

Those who have become alcohol dependent generally require outside help to stop drinking, which could include detoxification, medical treatment, counseling and/or self-help group support. The cost/benefit of receiving treatment at Regional Human Services Centers in North Dakota is

discussed in "*What are the Average Costs of Substance Abuse Treatment in the Public Sector in North Dakota?*" (Research Note 1, Division of Mental Health and Substance Abuse).

Many drinkers who are diagnosed as only alcohol abusers can be helped with a brief intervention, including education concerning the dangers of binge drinking and alcohol poisoning.

There is substantial evidence that preventing and treating alcohol problems produces a wide range of benefits for employers. An Alcohol Cost Calculator has been developed at George Washington State University Medical Center using substantial research and documentation to support the results of research about costs and savings associated with alcohol screening and brief treatment.

"Cost/benefits ratios" result from complex analysis on many levels. Benefits may be seen through decreases in:

- visits to the emergency room
- number of nights in a hospital
- per capita health care costs
- days missed at work
- dependence on illegal drugs
- the affects of serious mental illness
- depression
- smoking
- problems with law enforcement
- driving under the influence of alcohol or drugs
- causing domestic violence
- victims of domestic violence

A large body of scientific research (see References), which includes meta-analysis of multiple complex studies, supports the cost/benefit relationships identified in this report (4.39:1).

Alcohol Screenings and Brief Treatment

Research shows that for people identified early in the problem drinking continuum (before physical dependence) an evaluation, education, and/or a series of brief counseling sessions can yield substantial payoffs. A majority of persons identified through screenings and evaluations, is likely to cut back on their drinking when counseled to do so by a healthcare professional.

A return on investment of \$4.39 for every \$1 spent on employees who have an alcohol abuse disorder can be derived from brief treatment. In the public sector during the period January 1, 2005 through September 30, 2006, 966 consumers were seen for

'evaluation only' at the Regional Human Service Centers in North Dakota. The cost was \$228,608. Considered an intervention, the benefits of evaluating those 966 consumers, based on the 4.39:1 cost/benefit ratio would be \$1,003,589, with a net benefit of \$774,981.

Table 3 illustrates by type of industry, the estimated number of persons with alcohol abuse and with alcohol dependence in North Dakota. Those with alcohol dependence (15,052) would typically be served through a Regional Human Service Center or a private treatment provider. While the Human Service Centers do not have the capacity to serve 15,000 consumers, the number does speak to the unmet need for services.

Table 3. Number of Problem Drinkers in North Dakota with Alcohol Abuse and with Alcohol Dependence, by Industry (*Alcohol Cost Calculator 2005 using 2002 data from the National Survey on Drug Use and Health and the National Comorbidity Survey*)

INDUSTRY	SOURCE ⁵	Total # Employees	# Problem Drinkers	# Problem Drinkers with Alcohol Abuse	# Problem Drinkers with Alcohol Dependence
Agriculture	NAICS 2004	35,876	3,930	2,244	1,686
Construction & Mining	NAICS 2004	29,698	3,637	2,077	1,560
Manufacturing	NAICS 2004	25,924	2,648	1,512	1,136
Transportation & Utilities ¹	NAICS 2004	17,127	1,797	1,026	771
Wholesale	NAICS 2004	19,602	2,229	1,273	956
Retail	NAICS 2004	53,620	4,895	2,795	2,100
Finance and Real Estate ²	NAICS 2004	30,608	3,155	1,801	1,353
Professional ³	NAICS 2004	19,218	1,643	938	705
Government	SIC 2000	76,779	7,099	4,053	3,045
Leisure & Hospitality ⁴	NAICS 2004	36,563	4,056	2,316	1,740
Total			35,089	20,035	15,052

¹ includes warehousing

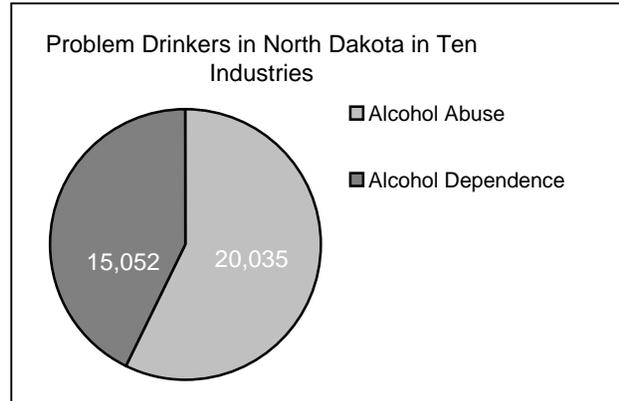
² includes insurance, rental, and leasing

³ technical services and management of companies and enterprises

⁴ arts, entertainment, and recreation; accommodation and food services

⁵ The North American Industry Classification System (NAICS) has replaced the U.S. Standard Industrial Classification (SIC) system

These are conservative estimates in that they include only those employed in the ten industries listed.



With brief intervention businesses can experience cost benefit ratios of 4.39 to 1. While the cost benefit ratio remains the same, different industries experience problem drinkers at rates from 9% to 12% of their employees.

Considering the number of problem drinkers in the 10 industries identified above, providing brief treatment for as few as 10% (2,004) and up to as many as 80% (16,028) of the 20,035 employees with alcohol abuse disorders would result in estimated net benefits from a low of about \$879,317 to a high of \$7,036,292.

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