

Alcohol-Related Hospitalization Charges New Mexico, 2002

Introduction

The cost of alcohol-related hospitalizations in New Mexico is important data for use in our work to reduce alcohol abuse. With this in mind, the New Mexico Department of Health is providing this report on alcohol-related hospitalization charges, based on data from the New Mexico Health Policy Commission's 2002 Hospital Inpatient Discharge Dataset (HIDD). This dataset includes total hospital charges associated with each inpatient discharge. Hospital "charges" are similar to costs, but are slightly higher due to their inclusion of a variety of additional indirect costs experienced by hospitals.

Methods

The methodology used in this report to estimate alcohol-related hospitalization charges is adapted from The Economic Costs of Alcohol and Drug Abuse in the United States, 1992.¹ Considerable research has been conducted concerning the relative contribution of alcohol to specific illnesses and injuries that result in death.² This research has resulted in the identification of a set of diagnoses that are considered to be alcohol-related; and agreement on what proportion of deaths associated with these diagnoses can reasonably be considered to be alcohol-related. This proportion is known as the "alcohol attributable fraction" (AAF) of the diagnosis, and can range from 0 for non-alcohol-related diagnoses to 1 for diagnoses that are directly related to alcohol consumption (e.g., alcoholic liver disease).

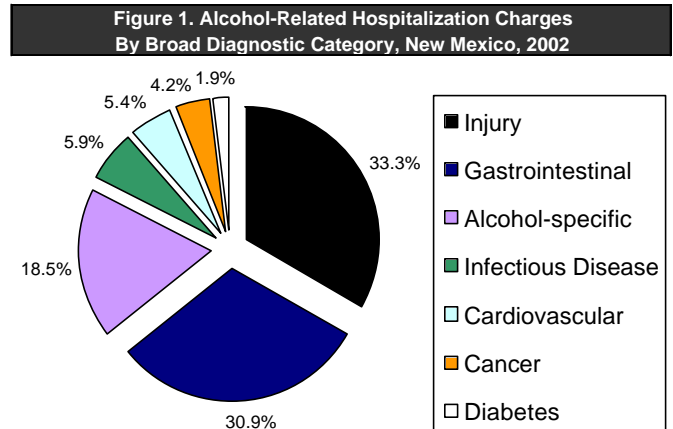
For this report, alcohol-related hospital charges were calculated by: (1) identifying alcohol-related discharges based on primary hospital diagnosis; and (2) multiplying the total hospital charges for these discharges by the AAF for the primary diagnosis. The alcohol-related diagnoses and AAFs used in this report are listed in Table 2.

Results

This methodology estimated New Mexico's alcohol-related hospitalization charges for 2002 at about **\$74,500,000**. These charges were distributed by broad diagnostic category as shown in **Table 1** and **Figure 1**, and by specific diagnoses as shown in **Table 2**. The charges were distributed by county as shown in **Table 3**.

Table 1. Alcohol-Related Hospitalization Charges By Broad Diagnostic Category, New Mexico, 2002

Diagnostic Category	Alcohol-Related Charges	Percentage of Charges
Injury	\$ 24,803,201	33.3%
Injury (not E-coded)	\$ 14,825,371	19.9%
Injury (E-coded)	\$ 9,977,829	13.4%
Gastrointestinal	\$ 23,015,096	30.9%
Alcohol-specific	\$ 13,784,141	18.5%
Infectious Disease	\$ 4,372,335	5.9%
Cardiovascular	\$ 4,048,649	5.4%
Cancer	\$ 3,145,138	4.2%
Diabetes	\$ 1,383,600	1.9%
TOTAL	\$ 74,552,161	100.0%



Source: New Mexico Health Policy Commission Hospital Inpatient Discharge Dataset (HIDD) (includes NM resident hospital discharges from in-state non-Federal hospitals only)

The estimated alcohol-related hospitalization charges of \$74.5 million were almost twice the amount of alcohol taxes that were collected in New Mexico in 2002 (\$38 million). As shown in **Figure 2**, the gap between hospital charges and alcohol tax revenue has been growing steadily since the first version of this report appeared in 1998. In 1998, \$51,000,000 in hospital charges were reported against \$35,000,000 in alcohol taxes.

Discussion

It is important to note that the \$74.5 million figure reported above underestimates total New Mexico resident alcohol-related hospitalization charges, for the following reasons: 1) charges for New Mexico resident hospitalizations in neighboring states are not included; 2) charges for hospitalizations at federal hospitals, such as Veterans Administration and Indian Health Service hospitals, are not included; 3) charges associated with secondary alcohol-related diagnoses are not included; and 4) charges for injury-related hospitalizations are underestimated, since not all New Mexico

**Table 2. Alcohol-Related Hospitalization Charges
By Diagnosis, New Mexico, 2002**

Diagnosis	Alcohol Attributable Fraction	Alcohol-Related Charges
011-012.86: Respiratory TB	0.25	\$ 86,179
140-149.9: Malignant neoplasm lip/oral cav/pharynx-Males	0.50	\$ 435,241
140-149.9: Malignant neoplasm lip/oral cav/pharynx-Females	0.40	\$ 322,898
150-150.9: Malignant neoplasm of esophagus	0.75	\$ 1,593,726
151-151.9: Malignant neoplasm of stomach	0.20	\$ 793,274
250-250.93: Diabetes mellitus	0.05	\$ 1,383,600
291-291.9: Alcoholic psychoses	1.00	\$ 6,960,361
303-303.93: Alcohol dependence syndrome	1.00	\$ 5,786,945
305.0-305.03: Nondependent abuse of alcohol	1.00	\$ 1,019,287
357.5: Alcoholic polyneuropathy	1.00	\$ 17,548
401-401.9: Essential hypertension	0.08	\$ 175,074
425.5: Alcoholic cardiomyopathy	1.00	\$ 118,477
430-438: Cerebrovascular disease	0.07	\$ 3,755,099
480-487.8: Pneumonia/influenza	0.05	\$ 4,286,156
530-535.21, 535.4-537.9: Diseases of the esophagus/stomach/duod.	0.10	\$ 3,172,505
535.3-535.31: Alcoholic gastritis	1.00	\$ 610,352
571.0-571.3: Alcoholic cirrhosis	1.00	\$ 9,753,537
571.4-571.49: Chronic hepatitis	0.50	\$ 37,723
571.5: Cirrhosis, alcohol not mentioned	0.50	\$ 1,377,785
571.8: Other chronic non-alcohol liver damage	0.50	\$ 64,317
571.9: Unspecified chronic liver disease, alcohol not	0.50	\$ 31,897
572.3: Portal hypertension	0.50	\$ 261,987
577.0: Acute pancreatitis	0.42	\$ 6,994,705
577.1: Chronic pancreatitis	0.60	\$ 710,288
790.3: Excessive blood level of alcohol	1.00	\$ -
800-829.1: Fractures	0.10	\$ 9,524,761
830-839.9: Dislocations	0.10	\$ 91,315
840-848.9: Sprains & strains	0.10	\$ 222,162
850-854.19: Intracranial	0.10	\$ 1,462,739
860-869.1: Thorax/abdomen/pelvis	0.10	\$ 1,364,556
870-879.9: Open wound-head/neck/trunk	0.10	\$ 193,681
880-887.7: Open wound-upper limb	0.10	\$ 203,454
890-897.7: Open wound-lower limb	0.10	\$ 190,826
900-904.9: Injury to blood vessels	0.10	\$ 122,601
905-909.9: Late effects	0.10	\$ 16,096
910-919.9: Superficial	0.10	\$ 12,487
920-924.9: Contusions	0.10	\$ 119,919
925-929.9: Crushing	0.10	\$ 21,538
930-939.9: Foreign bodies	0.10	\$ 52,947
940-949.5: Burns	0.10	\$ 263,270
950-957.9: Nerves & spinal	0.10	\$ 73,416
958-959.9: Trauma, comp.	0.10	\$ 123,436
960-964.9, 965.1-966.4, 968.1-968.9: Poisoning	0.10	\$ 326,250
980.0: Toxic effect ethyl alcohol	1.00	\$ 187,441
980.1-989.9: Toxic effects	0.10	\$ 130,048
990-995.89: Other external	0.10	\$ 122,430
E810-E825.9: Motor vehicle accidents	0.42	\$ 1,953,409
E826,E829: Pedal cycle & oth road vehicle accidents	0.20	\$ 100,417
E830-E838.9: Water transport accidents	0.20	\$ 3,534
E840-E845.9: Air & space transport accidents	0.16	\$ 5,010
E860-E860.1: Accidental poisoning by alcohol	1.00	\$ 30,928
E880-E888: Accidental falls	0.35	\$ 5,008,529
E890-E899: Accidents caused by fire/flames	0.45	\$ 53,116
E901,E911,E917-E920,E922,E980: Oth injuries & adverse effects	0.25	\$ 760,880
E910-E910.9: Accidental drowning & submersion	0.38	\$ -
E950-E959: Suicide & self-inflicted injury	0.28	\$ 1,439,177
E960-E969: Homicide & injury purposely inflicted by others	0.46	\$ 622,831
TOTAL		\$ 74,552,161

Source: New Mexico Health Policy Commission Hospital Inpatient Discharge Dataset (HIDD)
(includes NM resident hospital discharges from in-state non-Federal hospitals only)

hospitals code for injuries in the most detailed manner available (i.e., using E-coding, which is detailed coding that describes the cause of the injury).

As an example of the latter issue, if a patient with a broken hip from a motor vehicle crash is admitted to a hospital that uses E-coding, the alcohol-attributable fraction for the injury is 42% (the AAF for motor vehicle accidents). However, if the same patient with the same injury is admitted to a different hospital that does not use E-coding, we cannot determine the cause of the broken hip. As a result, the alcohol-attributable fraction for this incompletely specified injury would only be 10% (the AAF for injuries with unspecified causes). Therefore, if most of a particular New Mexico county's resident hospitalizations occur at a hospital that does not use the more detailed E-coding, that county's alcohol-related hospitalization charges will be underestimated. Despite these issues, injury is still the leading cause of alcohol-related hospitalization charges. If E-coding was more complete, injury would comprise an even higher proportion of total alcohol-related hospital charges.

Conclusion

In conclusion, New Mexico had alcohol-related hospitalization charges for 2002 of at least \$74.5 million, which was likely a significant underestimate. County-specific hospitalization charges in this report were un-

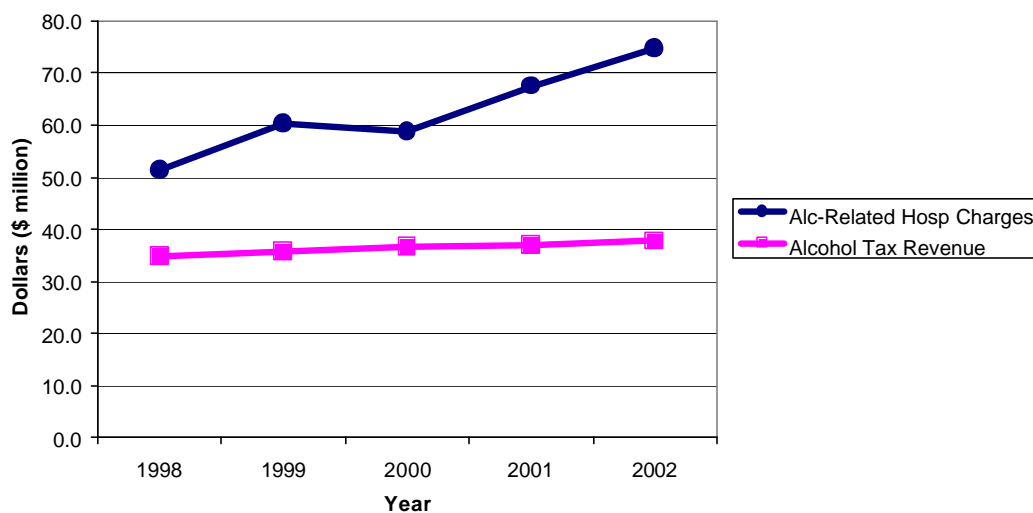
derestimated to varying degrees depending on the extent to which county resident hospitalizations occurred in out-of-state hospitals, in federal hospitals, in hospitals that tended to code alcohol-related diagnoses as secondary, and in hospitals that did not use E-coding. Despite these limitations, New Mexico's 2002 alcohol-related hospitalization charges were still significantly greater than its 2002 alcohol tax revenue of \$38 million.

In closing, it's important to note that hospitalization charges represent only a small fraction of the full range of alcohol-related costs (less than 10% of the total, based on recent national estimates).¹ Additional costs include treatment costs, health and human service costs, and insurance administration costs; law enforcement and criminal justice costs; and the very considerable cost of lost productivity due to alcohol-related illness and death. We must work together to continue to reduce the burden, including the monetary cost, of alcohol abuse in New Mexico.

¹ National Institute on Drug Abuse (1998). *The Economic Costs of Alcohol and Drug Abuse in the United States - 1992*. Rockville, MD: National Institutes of Health. Available at <http://www.nida.nih.gov/EconomicCosts/Index.html>. Accessed 29 December 2004.

² Stinson, F.S.; Dufour, M.C.; Steffens, R.A.; and DeBaakey, S.F. Alcohol-Related Mortality in the United States, 1979-1989. *Alcohol Health & Research World*. 1993; 17(3): 251-260.

Figure 2. Alcohol-Related Hospitalization Charges and Alcohol Excise Tax Revenue, New Mexico, 1998-2002



Sources: New Mexico Health Policy Commission Hospital Inpatient Discharge Dataset (HIDD); and New Mexico Taxation and Revenue Department

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**Table 3. Alcohol-Related Hospitalization Charges
By County, New Mexico, 2002**

County	Alcohol-Related Charges
Bernalillo	\$ 22,202,936
Catron	\$ 106,493
Chaves	\$ 3,694,485
Cibola	\$ 1,222,609
Colfax	\$ 528,028
Curry	\$ 1,282,317
De Baca	\$ 113,675
Dona Ana	\$ 5,878,207
Eddy	\$ 1,697,021
Grant	\$ 1,189,728
Guadalupe	\$ 245,879
Harding	\$ 16,369
Hidalgo	\$ 108,599
Lea	\$ 1,626,158
Lincoln	\$ 749,068
Los Alamos	\$ 441,037
Luna	\$ 1,008,561
McKinley	\$ 2,130,672
Mora	\$ 221,898
Otero	\$ 6,878,249
Quay	\$ 310,295
Rio Arriba	\$ 2,626,416
Roosevelt	\$ 516,149
San Juan	\$ 4,382,977
San Miguel	\$ 1,527,621
Sandoval	\$ 2,992,635
Santa Fe	\$ 4,518,111
Sierra	\$ 532,823
Socorro	\$ 873,168
Taos	\$ 1,951,217
Torrance	\$ 414,593
Union	\$ 97,929
Valencia	\$ 2,466,238
NEW MEXICO TOTAL	\$ 74,552,161

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(includes NM resident hospital discharges from in-state non-Federal hospitals only)