and report data on vaccination coverage among children entering school by providing a new online reporting system, available since the 2002-03 school year. Anecdotal reports from states indicate that the online reporting system, which automates data management and calculation tasks, has made it easier for states to report their coverage. CDC also has encouraged greater standardization of reporting; unlike previous reports, this report is based only on coverage among children entering kindergarten, rather than on a mix of those children and first graders.

State laws requiring proof of vaccination before entering school have been referred to as a "safety net" for the U.S. vaccination program because they ensure that no child is missed.[3] This safety net relies on the efforts of school nurses, teachers, and others to identify children who are not UTD. Findings of uniformly high nationwide coverage during the 2002-03 and 2003-04 school years underscore the success of school entry requirements in boosting vaccine coverage. Childhood vaccination coverage is also measured nationally among children aged 19-35 months.[4] Higher percentages of children are UTD at kindergarten entry than at younger ages, suggesting that school entry laws are a key to ensuring high coverage.

The findings in this report are subject to at least two limitations. First, methods for assessing vaccination coverage among children entering school vary because state and local laws determine which vaccines and doses are required, and sampling methods differ. The substantial variation in sampling methods among states limits the comparability of these data. Second, children attending private schools and those who are home-schooled were not surveyed by all states. The difference in vaccination rates between children schooled at home and children in traditional school environments is unknown.

Additional information about assessing and reporting vaccination coverage among children entering school is available from the National Immunization Program Immunization Information Hotline, telephone 800-232-2522 (English) or 800-232-0233 (Spanish), or by e-mail at nipinfo@cdc.gov.

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Alcohol-Attributable Deaths and Years of Potential Life Lost—United States, 2001

MMWR. 2004;53:866-870

1 table omitted

EXCESSIVE ALCOHOL CONSUMPTION IS the third leading preventable cause of death in the United States[1] and is associated with multiple adverse health consequences, including liver cirrhosis, various cancers, unintentional injuries, and violence. To analyze alcohol-related health impacts, CDC estimated the number of alcohol-attributable deaths (AADs) and years of potential life lost (YPLLs) in the United States during 2001. This report summarizes the results of that analysis, which indicated that approximately 75,766 AADs and 2.3 million YPLLs, or approximately 30 years of life lost on average per AAD, were attributable to excessive alcohol use in 2001. These results emphasize the importance of adopting effective strategies* to reduce excessive drinking, including increasing alcohol excise taxes and screening for alcohol misuse in clinical settings.

Alcohol-Related Disease Impact (ARDI)* software was used to estimate the number of AADs and YPLLs. ARDI estimates AADs by multiplying the number of deaths from a particular alcohol-related condition by its alcohol-attributable fraction (AAF). Certain conditions (e.g., alcoholic cirrhosis of the liver) are, by definition, 100% alcohol attributable. For the majority of the chronic conditions profiled in ARDI, the system calculates AAFs by using relative risk estimates from meta-analyses[2,3] and prevalence data on alcohol use from the Behavioral Risk Factor Surveillance System. For some conditions, especially those with an acute onset (e.g., injuries), ARDI includes direct estimates of AAFs. Direct estimates of AAFs are based on studies assessing the proportion of deaths from a particular condition that occurred at or above a specified blood alcohol concentration (BAC).[4,5] For acute conditions, a death is alcohol attributable if the decedent (or, as in the case of motor-vehicle traffic, a driver or nonoccupant) had a BAC of ≥0.10 g/dL. AAFs for motor-vehicle–traffic deaths are obtained from the Fatality Analysis Reporting System.[6] YPLLs, a commonly used measure of premature death, are then calculated by multiplying age- and sex-specific AAD estimates by the corresponding estimate of life expectancy. For chronic conditions, AADs and YPLLs were calculated for decedents aged ≥20 years; for the majority of acute conditions, they were calculated for decedents aged ≥15 years. However, ARDI also provides estimates of AADs and YPLLs for persons aged <15 years who died from motor-vehicle crashes, child maltreatment, or low birthweight. Consistent with World Health Organization recommendations,[7] the harmful and beneficial effects of alcohol use are reported separately.

In 2001, an estimated 75,766 AADs and 2.3 million YPLLs were attributable to the harmful effects of excessive

alcohol use (Table). Of the 75,766 deaths, 34,833 (46%) resulted from chronic conditions, and 40,933 (54%) resulted from acute conditions. Overall, 54,847 (72%) of all AADs involved males, and 4,554 (6%) involved persons aged <21 years. Of the deaths among males, 41,202 (75%) involved men aged ≥35 years; of those deaths, 41,202 (58%) were attributed to chronic conditions. For males and females combined, the leading chronic cause of AADs was alcoholic liver disease (12,201), and the leading acute cause of AADs was injury from motor-vehicle crashes (13,674). In addition, in 2001, an estimated 11 lives were saved because of the potential benefits of excessive alcohol use, all of which were attributable to a reduced risk for death from cholelithiasis (i.e., gall bladder disease).

Of the estimated 2,279,322 YPLLs, 788,005 (35%) resulted from chronic conditions, and 1,491,317 (65%) resulted from acute conditions (Table). Overall, 1,679,414 (74%) of the total YPLLs were among males, and 271,392 (12%) involved persons aged <21 years. Of all YPLLs among males, 973,214 (58%) involved men aged >35 years, of which 53% were attributed to chronic conditions. Deaths from alcoholic liver disease resulted in 316,321 YPLLs, and deaths from motor-vehicle–traffic crashes resulted in 579,501 YPLLs.

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CDC Editorial Note: In 2001, excessive alcohol use was responsible for approximately 75,000 preventable deaths and 2.3 million YPLLs in the United States. The majority of these deaths involved males (72%), and the majority of the deaths among males involved those aged ≥35 years (75%). Approximately half of the total deaths and two thirds of the total YPLLs resulted from acute conditions. Moreover, the BAC level used in this analysis for defining an alcohol-attributable injury death (≥0.10 g/dL) is higher than the BAC level used by the National Institute for Alcohol Abuse and Alcoholism[8] to define binge drinking (≥0.08 g/dL); as a result, all of the injury deaths were attributable to binge alcohol use (i.e., ≥5 drinks per occasion for men: ≥4 drinks per occasion for women).

The findings described in this report are similar to recent estimates of AADs attributable to excessive drinking in the United States.[1] In contrast, earlier estimates of alcohol-related deaths[9] were higher than the estimates in this analysis and other recent estimates[1] because they were calculated by using a different methodology and were based on mortality from all levels of alcohol consumption, not just excessive drinking.

The 2.3 million YPLLs for excessive drinking is approximately half of the total YPLLs that were caused by smoking in 1999, the most recent year for which this estimate is available,[10] even though mortality attributable to tobacco use is nearly six times higher than that attributable to excessive drinking. This difference exists because many AADs, particularly those caused by injuries, primarily affect youth and young adults, and deaths attributable to tobacco use are uncommon in this population.

The findings in this report are subject to at least six limitations. First, data on alcohol use, which are used to calculate indirect estimates of AAFs, are based on self-reports and might underestimate the true prevalence of excessive alcohol use because of underreporting of alcohol use by survey respondents and sampling noncoverage. Second, the risk estimates used in ARDI were calculated by using average daily alcohol consumption levels that begin at levels greater than those typically used to define excessive drinking in the United States. Third, deaths among former drinkers, who might have discontinued their drinking because of alcohol-related health problems, are not included in the calculation of AAFs, even though some of these deaths might have been alcohol attributable. Fourth, ARDI does not include estimates of AADs for several conditions (e.g., tuberculosis, pneumonia, and hepatitis C) for which alcohol is believed to be an important risk factor but for which suitable pooled risk estimates were not available. Fifth, ARDI exclusively uses the underlying cause of death from vital statistics to identify alcohol-related conditions and does not consider contributing causes of death that might be alcohol related. Finally, age-specific estimates of AAFs were only available for motor-vehicle–traffic deaths, even though alcohol involvement varies by age, particularly for acute conditions.

This analysis illustrates the magnitude of the health consequences of excessive alcohol use in the United States. In addition to estimating the national health effects of alcohol use, ARDI software also can produce state estimates of AADs and YPLLs. Such state-specific analyses are needed because the prevalence of excessive alcohol use, particularly binge drinking, is known to vary substantially by location. State-specific results also can focus discussions of effective public health strategies (e.g., increasing alcohol excise taxes and screening for alcohol misuse in clinical settings) to prevent excessive alcohol use and its adverse health and social consequences.

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10 available

*Available at http://www.cdc.gov/alcohol.

