

Epidemiology of Adolescent and Young Adult Hospital Utilization for Alcohol & Drug Use, Suicide, and Poisoning in the U.S.

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BACKGROUND

Adolescence and young adulthood is an important transitional period during which morbidity and mortality often arise from individuals' behaviors such as alcohol and drug use, suicide, and poisonings, rather than infectious or pathological disease. Self-report survey data regarding health behaviors are readily available, however little data from objective sources has been reported and minimal study of health care utilization, particularly hospital utilization, related to these behaviors has been conducted.

Indicators of alcohol use increase substantially between adolescence and young adulthood, with 43.1% of 12th graders reporting past month-use in 2008 (Mulye et al., 2009). Reported past-month use of illicit drugs has been increasing and was 21.9% in 2007 (Knopf, Park, & Mulye, 2010). In 2005 the rate of suicide was 7.1 per 100,000 adolescents and young adults (National Center for Injury Prevention and Control, 2010) and suicide attempts were reported by 6.9% of high school in 2007 (Centers for Disease Control and Prevention, 2010). Poisonings represent an additional behavioral threat to the health of this age group as previous research has shown that many reported poisonings in this age group may be overdose attempts, with more than half of the deaths from poisonings found to be probable suicides (Hawton K. & Harris L., 2007; Christesen, 1994).

Combined, these behaviors are likely resulting in substantial morbidity and are certainly resulting in mortality as unintentional injury is the leading cause of death for ages 10 to 24 and suicide is the third leading cause of death for this age group (National Center for Injury Prevention and Control, 2010).

OBJECTIVES

Examination of the patterns and characteristics of individuals who were admitted to the hospital for these conditions would allow for an understanding of the more serious consequences of these behaviors as compared to examining those who present to outpatient and emergency rooms for treatment. Additionally, this is an important step in understanding the health care utilization attributable to these conditions.

This study was undertaken to examine the patterns and characteristics of adolescents and young adults admitted to the hospital for alcohol and drug use, suicide and poisoning in the United States.

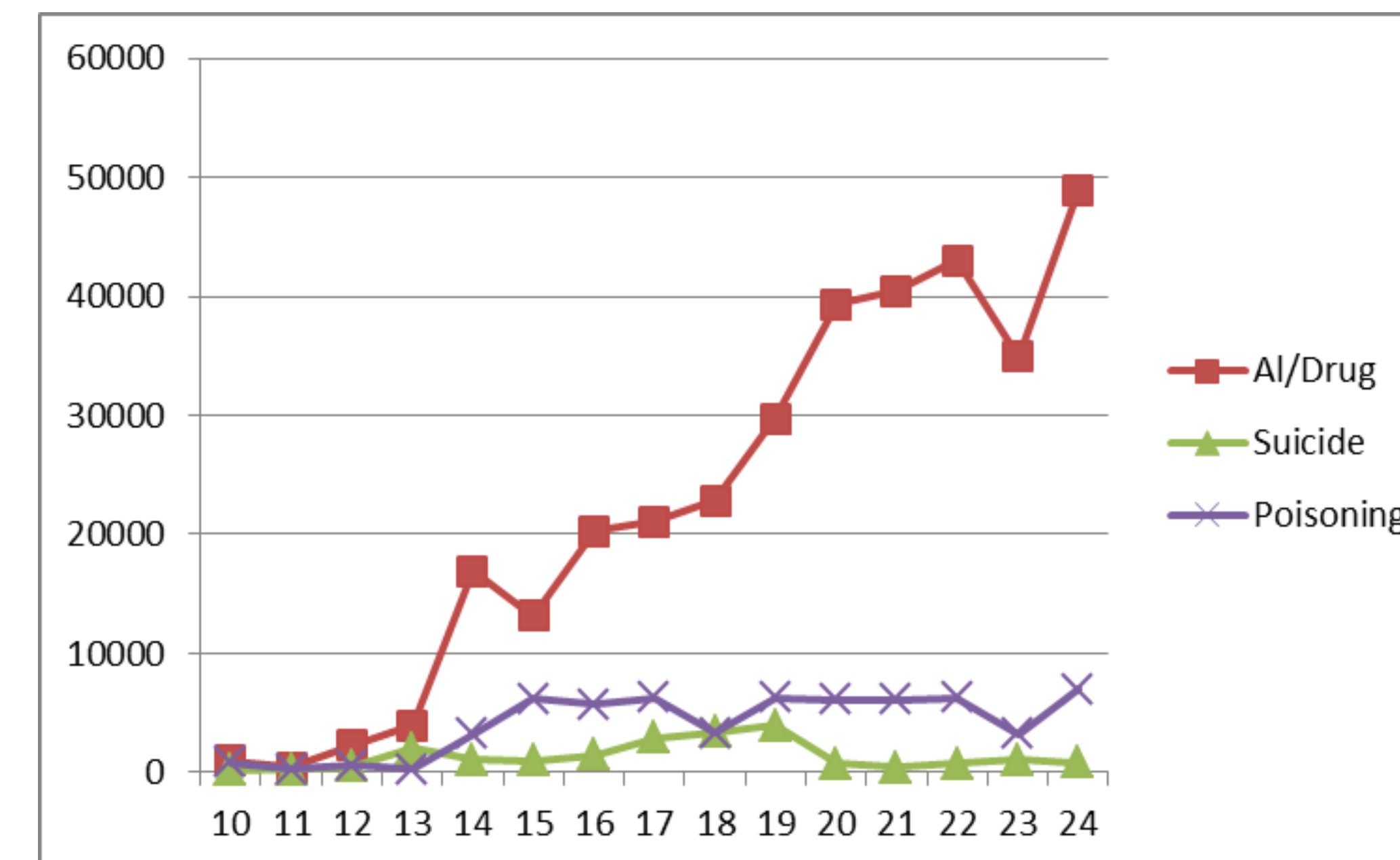
METHODS

The data for this investigation came from the 2007 National Hospital Discharge Survey (NHDS). Records for all individuals who had an age in the range of 10-25 years and were discharged from the hospital with any recorded diagnosis of alcohol or drug abuse or dependence, suicide, or poisoning were abstracted. National estimates were calculated utilizing the weighted number of discharges and the U.S. Census Bureau population data for this age group. Rao-Scott Chi square tests were performed to evaluate differences between groups and all significance tests were two-sided using $p < 0.05$ as the level of statistical significance.

RESULTS

National estimates for hospital discharges per 1,000 10-24 year olds are 54.2 for alcohol/drug use, 3.3 for suicide, and 9.8 for poisoning. Seasonal trends in discharges for alcohol/drug (April peak) and suicide (September peak) were observed, as were regional differences with more than twice as many alcohol/drug-related discharges in the South. Over 42% of all care related to these diagnoses is expected to be paid for by public health insurance programs. Self-pay is also high for these conditions (16.1%). Figure 1 below demonstrates that alcohol/drug and poisonings rise beginning at age 13, while suicide discharges do not rise until the later teen years. Prevention efforts for these conditions should take these trajectories into consideration in order to be most effective.

Figure 1. Discharges by age for alcohol and drug use, suicide, and poisonings



STUDY LIMITATIONS

The National Hospital Discharge Survey only allows for examination of those admitted to the hospital. Patients who present to the emergency department but are not admitted to the hospital are not included in this data set. While this is most useful for examining issues related to hospital utilization, additional investigation of ambulatory care related to these diagnoses is warranted. Diagnoses codes, particularly for suicide, may be biased due to the lack of knowledge of how the injury occurred. Intentional ingestion of hazardous substances is the most likely misdiagnosis for unreported suicide. Patients may present as an accidental poisoning in order to avoid the negatively perceived diagnosis of suicide attempt, resulting in incorrect classification in these analyses. It was for this reason that the poisoning category was included in this report; however, further investigation to examine this issue is needed. Finally, NHDS reports no data on the costs of the health services utilized. Additional investigation regarding the health care cost burden of admissions related to these diagnoses would be valuable.

CONCLUSIONS

A significant portion of inpatient hospital care is attributable to alcohol/drug use, suicide and poisonings in adolescents and young adults. These data have implications for primary intervention programs and suggest the need for further investigation of the associated health care costs related to these conditions.

REFERENCES – please see handout