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**Alcohol Use Risk Levels
Among Older Patients
Screened in Emergency
Departments in Southern
California**

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More information is needed about the spectrum of alcohol use among older individuals, and correlates of problem drinking. This study described the alcohol use risk levels of a large convenience sample of patients 65 years and older visiting two large California hospital emergency departments (EDs). A personal interview, administered in the ED by a trained health educator, collected sociodemographic information and alcohol use using the Alcohol Use Disorders Identification Test instrument. A total of 476 older patients provided complete interviews. This group equally comprised of men and women. Fifty-four percent were White non-Hispanic, 28% were Hispanic, 11% were African American, and 6% Other/Unknown. About 14% were at risk or above for alcohol misuse. No differences in risk-level distribution were

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found for young-old (65-74 years of age) and old-old (75+) groups. Higher alcohol risk was associated with male gender and higher income. Results are discussed in terms of intervention approaches for older people.

Keywords: *elderly drinking; elderly alcohol abuse; elderly alcohol screening; patients*

Until recently, alcohol use and misuse among older individuals was a relatively neglected research and clinical topic (Menninger, 2002). Although alcohol use among young people is well studied, the topic has rarely been systematically examined among older people. Recent work suggests that alcohol use disorders and risky alcohol use are surprisingly common among older people (Adams, 1995; Adams, Magruder-Habib, Trued, & Broome, 1992; Guner & Arndt, 2004; Helzer, Burnham, & McEvoy, 1991; Hinkin et al., 2001; Myers et al., 1984), although the true picture is not known because alcohol misuse by older people is often misdiagnosed and underdetected. Thirty-five percent of adults over 65 years of age report using alcohol in the past month (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004). Problem drinking among older adults in these populations is estimated to range from 1% to 22% (Adams, 1995; Adams et al., 1992; Helzer et al., 1991; Myers et al., 1984); about 7% of older adults report binge drinking and about 2% report frequent heavy drinking. These estimates are likely higher among those seen in health care settings (Sorocco & Ferrell, 2006). At least 1 in 10 elderly emergency room patients are thought to suffer from an alcohol problem according to several descriptive studies (Callahan & Tierney, 1995; Oslin, 2004). Older women may be at particularly high risk for alcohol problems (Blow & Barry, 2002).

The consequences of alcohol abuse for older people can be severe and even fatal. Alcohol use among older people can lead to various physical, psychological, social, and cognitive health impairments (O'Connell, Chin, Cunningham, & Lawlor, 2003). With age, the ability to process alcohol and other substances decreases due to physiological changes (e.g., greater fatty tissue, lower enzymatic capacity, enhanced brain sensitivity to depressant substances), making older people more vulnerable to the effects of alcohol (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 1998). Elderly alcohol abusers are at higher risk for pancreatitis, cirrhosis, hepatitis, stroke, various cancers, dementia, malnutrition, coronary artery disease, dental disease, cardiomyopathy, atrial fibrillation, high blood pressure, suicide, psychiatric disorders, accidents, and injuries (Adams, Yuan, Barboriak,

& Rimm, 1993; Blazer, 1995; Bortz & O'Brien, 1997; Cummings, Bride, & Rawlins-Shaw, 2006; Draper, 1994; Friedlander & Norman, 2006; Waller, 1998). In addition, alcohol can exacerbate dementia, be mistaken for psychiatric illness, or mask other health problems.

The role of stressors in aging, such as the loss of a spouse, health problems, and social isolation may be central to alcohol misuse in older persons (Welte & Mirand, 1995). Furthermore, older individuals may be vulnerable to the effects of even modest amounts of alcohol because of potential interactions with medications, higher medication noncompliance, coexisting illness, and age-related changes in body composition (NIAAA, 1998).

Although alcohol use typically declines with age, research suggests the existence of a sizable segment of problem drinkers among older persons. In addition, generational cohorts who grew up after the 1950s were raised in a period in which drinking was more common and acceptable than in previous cohorts. The lack of well-controlled research of this problem is partly due to difficulty in identifying elderly problem drinkers for reasons such as underreporting of true alcohol consumption, isolation of the elder from social contacts, and inadequate screening instruments designed to diagnose elderly alcohol misuse (Widner & Zeichner, 1991). Current trends suggest that alcohol consumption among older people will continue to grow in the future and will present a major concern for the professional in the assessment and treatment of older people.

As the number of older individuals grows, more information is needed about the spectrum of alcohol use among older individuals and correlates of problem drinking (Tuvey, Schultz, & Klein, 2006). The purpose of this study is to describe the alcohol use risk levels of a large convenience sample of older patients visiting emergency departments (EDs) in southern California. America's largest elderly population lives in California (California Department of Aging [CDA], 2007), and the state has one of the world's most ethnically dynamic and diverse populations. About one out of every four persons who is 65 years and older living in San Diego visited a local county ED in 2006 (San Diego County, 2008). Therefore, the geographic area provides a unique opportunity to conduct this research.

Method

Patients ($N = 476$) were from two large southern California hospital EDs participating in a broader service-oriented alcohol screening effort (SAMHSA, 2008). A personal interview was administered in the ED by a

trained bilingual/bicultural health educator (HE) fluent in both English and Spanish. Adult patients were asked to participate regardless of the reason for their ED visit. Ideally, all adults in the ED were to be screened, although because of limited resources the true penetration rate was about 50%.

The HEs collected information on five sociodemographic characteristics from patients: gender, with men coded as 1 and women coded as 0; age in years; racial/ethnic background, including Hispanic, African American, White non-Hispanic, or Other/Unknown; level of education, coded as 1 (*less than high school*), 2 (*high school*), or 3 (*greater than high school*); and annual family income level ranging from 1 (*less than US\$10,000 per year*) to 5 (*US\$50,000 or more per year*).

Alcohol use risk levels were determined using the Alcohol Use Disorders Identification Test (AUDIT) screening instrument, a 2- to 4-min, 10-item instrument developed by the World Health Organization as a simple and valid method of screening for excessive and risky drinking (Barbor, Biddle-Higgins, Saunders, & Monteiro, 2001; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). The AUDIT is widely used, and numerous studies have reported high reliability and good concurrent and predictive validity of the AUDIT (see Barbor et al., 2001). Developed from data collected from multinational samples, the AUDIT may be administered either as an oral interview or self-administered questionnaire. In the present study, standard cut points were applied to AUDIT scores (ranging from 0-40) to categorize participants into the following five clinical risk categories: non drinker/abstainer (score of 0), low risk (score of 1-7), at risk (score of 8-15), high risk (score of 16-19), and severe risk (score of 20 or higher). The appendix presents the 10-item AUDIT instrument.

Results

Of the 4,748 adults screened for alcohol use during a 3.5-month period, 16% were 65 years of age or older ($n = 760$). About 25% of the older patients ($n = 193$) were not able to complete screenings due to conditions such as disorientation and being hard of hearing; an additional 12% ($n = 91$) were unable to complete the screening due to a language barrier or the patient was discharged before the screening could be complete. A total of 476 older patients provided complete screenings. This group equally comprised of men and women. The average (mean) age was 75 years, with a range of 65 to 98 years. Fifty-four percent were White non-Hispanic, 28% were Hispanic, 11% were African American, and 6% were Other/Unknown.

Table 1
Multivariate Logistic Regression Analysis of Sociodemographic Predictors of Risky Alcohol Use Among Older Patients

Predictor	<i>B</i>	<i>p</i>	Adjusted OR	95% CI
Age	-0.30	.36	0.74	0.39-1.41
Gender	-0.81	.02	0.44	0.23-0.87
Race/ethnicity	-0.13	.52	0.88	0.59-1.31
Hispanic ^a			1.00	
African American	0.04	.95	1.04	0.30-3.65
White non-Hispanic	0.16	.75	1.17	0.44-3.13
Other/unknown	-1.40	.22	0.25	0.03-2.26
Level of education	0.00	.99	1.00	0.92-1.09
Family income	0.27	.004	1.30	1.09-1.56

Note: OR = odds ratio; CI = confidence interval.

a. Reference group

Thirty-two percent had less than a high school education, 27% had exactly a high school education, and 41% had more than a high school education. The median annual income was US\$10,000 to US\$14,999. Fourteen percent opted to take the screening interview in Spanish.

Fourteen percent of the older-aged sample was at risk or above for alcohol misuse (i.e., risky use), 30% were low risk, and 56% were nondrinkers. No differences in risk-level distribution were found for young-old (65-74 years of age) and old-old (75+) groups. Bivariate analyses showed that male gender, White non-Hispanic ethnicity, higher family income, and higher education tended to be associated with risky alcohol use. Table 1 presents results of multivariate logistic regression conducted to examine which of the sociodemographic characteristics were independently associated with risky alcohol use. Gender and income were independent significant predictors of risky alcohol use, such that men and those at relatively higher income were at greater risk.

Discussion and Conclusions

This descriptive study suggests that risky alcohol use is not uncommon in a convenience sample of older individuals receiving care for a variety of reasons in EDs. The prevalence of risky alcohol use (14%) is in line with estimates for older adults reported elsewhere (1%-22%), although reported rates vary widely depending on definitions and settings (Adams,

1995; Adams et al., 1992; Helzer et al., 1991; Myers et al., 1984; Sorocco & Ferrell, 2006). The present study used the AUDIT to assess alcohol use risk, a widely used instrument that takes into account quantity and frequency of use, as well as problems with alcohol. However, the AUDIT was not developed specifically for older individuals and may be inadequate in determining their age-specific risks (Dufour & Fuller, 1995; Graham, 1986; Fink, Hays, Moore, & Beck, 1996; O'Connell et al., 2004). For example, the sensitivity of the AUDIT (i.e., its ability to identify "true positives") was unacceptably low in several studies of older patients (Moore, Beck, Babor, Hays, & Ruben, 2002; Morton, Jones, & Manganaro, 1996; Philpot et al., 2003). A few screening instruments have been developed that may be more appropriate—for example, the Alcohol-related Problems Survey (ARPS) takes into account other comorbidities and medication use, age-specific factors that may place older individuals at risk (Fink et al., 2002). Another is the Michigan Alcoholism Screening Test—Geriatric Version (MAST-G), an instrument that includes measures of older people-specific consequences of drinking (Blow et al., 1992). Another consideration for accurately measuring alcohol consumption in older individuals is the drinking for medicinal purposes. In a recent study of home-dwelling older people, 12% reported negatively to a question about alcohol consumption but reported drinking brandy or other spirits for medicinal purposes (Aira, Hartikainen, & Sulkava, 2008).

In the present study, higher alcohol risk was associated with sociodemographic characteristics; men and those with higher income were at particularly high risk. It is important to point out, however, that higher income in this group of patients is a relative term, insofar as the median income was US\$10,000 to US\$14,999 per year and 70% reported less than US\$25,000 per year. Identifying these high-risk groups and incorporating modifiable age-specific factors into practical and effective prevention and treatment strategies will likely become an important public health goal as the older population grows.

Although older people-specific alcohol interventions are rare, a few do exist (Table 2 provides links to information and resources for alcohol-related problems of older people). Data from Project Guiding Older Adult Lifestyles (GOAL) suggest that brief advice from a physician can decrease alcohol use by older adults (Fleming, Manwell, Barry, Adams, & Stauffacher, 1999). In 2000, the American Society on Aging began their Staying Healthy Project (SHP), a community-based prevention/intervention program in northern California funded by SAMHSA to provide services tailored for older adults (Gordon, 2001). Another promising approach, Screening, Brief Intervention, and Referral to Treatment (SBIRT), is a brief relatively low-cost

Table 2
Resources for Older Individuals With Risky Alcohol Behaviors

As You Age: A Guide to Aging, Medicines, and Alcohol	http://asyouage.samhsa.gov/
Online Course: Alcohol, Medications and Older Adults	http://pathwayscourses.samhsa.gov/aaac/aaac_intro_pg1.htm
SAMHSA: Older Americans Substance Abuse and Mental Health Technical Assistance Center	http://www.samhsa.gov/olderadultstac/
Substance Abuse Treatment Facility Locator System	http://findtreatment.samhsa.gov/
Brief Intervention and Treatment for Elders (Project BRITE)	http://brite.fmhi.usf.edu/

strategy that has been effective when delivered during a “teachable moment” with patients in clinics and EDs (Bien, Miller, & Tonigan, 1993). However, SBIRT programs typically have been geared toward younger adults and do not address the issues uniquely relevant to older people, such as medication interactions and compliance, physiological changes that come with age, risk of falls, and social isolation (Fink, Elliot, Tsai, & Beck, 2005). An exception is Florida’s Project Brief Intervention and Treatment for Elders (Project BRITE), a SAMHSA-funded SBIRT program in emergency and primary health care settings geared toward individuals 55 years and older to identify nondependent but risky substance use (BRITE Program Directory, n.d.). The program’s health care setting is a strength because of the large numbers of older adults seen in those locations.

An important limitation of the present study relates to its use of a convenience sample. The researchers have no way of knowing how well the sample represents older individuals who present to EDs, limiting our ability to generalize. Those older individuals who completed the screenings may have differed on important characteristics from those who did not, affecting alcohol misuse prevalence estimates and patterns of prediction.

Despite a possible selection bias, this type of preliminary, descriptive study is a useful starting point in that it documents the scope of alcohol misuse among older patients and correlates of risky alcohol use. Geriatric alcohol use research is relatively rare, and pertinent research efforts are gaining increased attention. Future work should include validity studies of alcohol brief screeners for older individuals. In addition, large, representative samples should be used to pinpoint prevalence of the problem and identify age-specific factors that can be incorporated into effective brief interventions with the potential for a broad, public health impact.

Appendix
Alcohol Use Disorders Identification Test (AUDIT) Items

1. How often do you have a drink containing alcohol?
 - (0) Never
 - (1) Monthly or less
 - (2) Two to four times a month
 - (3) Two to three times a week
 - (4) Four or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
 - (0) 1 or 2
 - (1) 3 or 4
 - (2) 5 or 6
 - (3) 7, 8, or 9
 - (4) 10 or more
3. How often do you have six or more drinks on one occasion?
 - (0) Never
 - (1) Less than monthly
 - (2) Monthly
 - (3) Weekly
 - (4) Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?
 - (0) Never
 - (1) Less than monthly
 - (2) Monthly
 - (3) Weekly
 - (4) Daily or almost daily
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
 - (0) Never
 - (1) Less than monthly
 - (2) Monthly
 - (3) Weekly
 - (4) Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
 - (0) Never
 - (1) Less than monthly
 - (2) Monthly
 - (3) Weekly
 - (4) Daily or almost daily

(continued)

Appendix (continued)

7. How often during the last year have you had a feeling of guilt or remorse after drinking?
 - (0) Never
 - (1) Less than monthly
 - (2) Monthly
 - (3) Weekly
 - (4) Daily or almost daily
 8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
 - (0) Never
 - (1) Less than monthly
 - (2) Monthly
 - (3) Weekly
 - (4) Daily or almost daily
 9. Have you or someone else been injured as a result of your drinking?
 - (0) No
 - (2) Yes, but not in the last year
 - (4) Yes, during the last year
 10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?
 - (0) No
 - (2) Yes, but not in the last year
 - (4) Yes, during the last year
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