Alcohol, Other Drugs, and Health: Current Evidence

JULY–AUGUST 2010

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INTERVENTIONS & ASSESSMENTS

Can a Single Question Detect Drug Use and Drug Use Disorders?

A short accurate screening test for drug use and drug use disorders would be useful in primary care. In this study, researchers asked 286 adult primary-care patients the following question: "How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?" A positive response was "at least 1 time." Participants also completed the 10-item Drug Abuse Screening Test (DAST). Responses were compared with oral fluid testing for illegal drugs and the Composite International Diagnostic Interview—Substance Abuse Module (reference standard).

- The single-question screen was 85% sensitive and 96% specific for current drug use (either self-reported or confirmed by positive oral fluid test). It was 100% sensitive and 74% specific for a drug use disorder (abuse or dependence).
- The test characteristics of the single-question screen were similar to the 10-item DAST and were not substantially affected by patient demographic characteristics.

Comments: This study indicates that a brief single-question screen for drug use and drug use disorders has sensitivity and specificity comparable to longer screening tools. Although the results support the use of the single question in primary-care settings, its ultimate value will depend on whether clinicians follow up positive screens with skillful assessment, intervention, and/or referral to specialized treatment.

Kevin L. Kraemer, MD, MSc

Reference: Smith PC, Schmidt SM, Allensworth-Davies D, et al. A single-question screening test for drug use in primary care. *Arch Intern Med.* 2010;170(13):1155–1160.

Brief Interventions May Increase Entry into Specialty Addiction Treatment

One assumption underlying large-scale efforts to implement screening and brief intervention (BI) is that people with dependence will improve. To inform the question, investigators in Washington state selected 2 samples (n=2493 each) from over 70,000 adults who either screened positive for unhealthy alcohol or other drug use in the emergency department (ED) or who were not screened (and, therefore, did not receive BI) but who had medical, behavioral-health, or arrest records indicating a substance use disorder. Propensity-score matching was used to ensure similarity between groups. Patients who received BI were divided into 2 additional subgroups: those referred to brief treatment (4–12 sessions of motivational interviewing) who either did (n=265) or did not (n=1100) participate in it. Treatment entry was determined using administrative records of publicly funded treatment.

- Patients who received BI in the ED were more likely to enter specialty addiction treatment in the next 12 months than those who did not (34% versus 23%, respectively).
- Patients who participated in brief treatment were more likely to enter specialty addiction treatment in the next 12 months than those who did not (52% versus 34%, respectively).

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Alcohol, Other Drugs, and Health: Current Evidence **is a project of the Boston Medical Center, supported by the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism, and produced in cooperation with the Boston University Schools of Medicine and Public Health.**

Effect of BI on Treatment Entry (continued from page 1)

Comments: These data may be the best available so far to show that brief counseling in a screening and BI program increases entry into specialty care. However, despite the sophisticated methods used in this study, only a randomized trial can answer the question definitively. Results of such trials to date have not shown that screening and BI improves linkage to treatment. The question remains important, since universal screening identifies many people for whom BI alone is insufficient.

Richard Saitz MD, MPH

Reference: Krupski A, Sears JM, Joesch JM, et al. Impact of brief interventions and brief treatment on admissions to chemical dependency treatment. *Drug Alcohol Depend.* 2010;110(1–2):126–136.

Patients with HIV infection and Opioid Use Who Receive Methadone Maintenance Are More Likely to Initiate and Adhere to Antiretroviral Therapy

People with HIV-infection and injection drug use (IDU) are less likely to initiate and adhere to antiretroviral therapy (ART) than those with no IDU. Methadone maintenance treatment (MMT) reduces IDU and may improve adherence to ART. To determine whether MMT is positively associated with ART initiation and adherence, researchers studied a cohort of 231 ART-naïve opioid users with HIV infection and IDU in Vancouver between 1996 and 2008, comparing the 24% of subjects receiving MMT at baseline with those who were not. Follow-up was at 24 months.

- The cumulative incidence rate of ART initiation was 64% for patients who were receiving MMT at baseline and 45% for those who were not.
- After accounting for viral load and CD4+ cell count, subjects receiving MMT were more likely to initiate ART than those who were not (relative hazard ratio, 1.62).
- Among the 152 subjects who initiated ART during the study period, subjects on MMT were more likely to achieve 95% or greater adherence to ART than those who were not (adjusted odds ratio, 1.49).

Comments: Although this study does not provide biologic adherence outcomes, such as change in CD4+ cell count or viral load, it does demonstrate a positive association between MMT and ART initiation and adherence. These findings support the World Health Organization's recommendation that opioid agonist treatment be accessible to opioid-dependent HIV-infected individuals.

Alexander Y. Walley, MD, MSc

Reference: Uhlmann S, Milloy MJ, Kerr T, et al. Methadone maintenance therapy promotes initiation of antiretroviral therapy among injection drug users. *Addiction.* 2010;105(5):907–913.

Promoting Access to Hepatitis C Treatment via Integration with Methadone Maintenance Programs

Opioid-dependent patients who are infected with hepatitis C virus (HCV) should, but seldom do, receive HCV treatment. This retrospective observational study examined the feasibility and effectiveness of integrating HCV evaluation and treatment into a methadone maintenance treatment (MMT) program. Medical records of all patients who enrolled in MMT during the first 2 years of integrated HCV evaluation and treatment were reviewed (N=291). Of the 188 MMT patients (65%) who screened positive for HCV-antibody, 159 were eligible to receive further HCV evaluation and treatment based

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Integrating Hepatitis C Treatment with Methadone Maintenance (continued from page 2)

on insurance status,* and 125 accepted.

- Eighty-three (66%) patients were found to have chronic HCV infection, and 21 of 83 (25%) initiated treatment.
- Sustained virologic response (i.e., undetectable viral load 6 months following treatment) was achieved in 8 of 21 patients (38%) who initiated treatment.
- Seventeen patients had contraindications to HCV treatment, and 45 patients opted to forego or delay treatment, most commonly due to personal choice (29 of 45 patients).

*Medicaid-insured patients were offered treatment, and uninsured patients or patients with insurance not accepted by the methadone program were offered off-site care.

Comments: This small retrospective study demonstrates the feasibility of integrating HCV care with MMT programs. Treatment outcomes among HCV patients in this sample were comparable to those of other published studies. Although the results are encouraging, further evaluation using an off-site comparator group would lend further support to this model of care.

Jeanette M. Tetrault, MD

Reference: Harris KA, Arnsten JH, Litwin AH. Successful integration of hepatitis C evaluation and treatment services with methadone maintenance. *J Addict Med.* 2010;4(1):20–26.

Effect of Opioid Agonist Treatment on Survival and Cessation among Patients with Injection Drug Use

Few studies have reported the long-term effectiveness of opioid agonist treatment (OAT) on injection drug use (IDU) cessation and survival. Between 1980–2007, Edinburgh Addiction Cohort researchers identified 794 patients with a history of IDU and flagged them for follow-up with the UK National Registry Office. Between 2005–2007, 432 of the patients were interviewed regarding early life experience, substance use, and health and social histories. In addition, data were extracted from medical and death-registration records for 655 patients.

- Among interviewees, 135 (31%) were currently using injection drugs; of these, 83% were also receiving OAT.
- Among patients followed up via medical records, 558 (85%) received OAT at some point during the follow-up period. Of these, 277 achieved long-term cessation (at least 5 consecutive years of no IDU), and 228 died. The leading causes of death were HIV infection (45%), drug overdose (24%), and liver disease (11%).
- In adjusted analyses, each additional year of OAT decreased risk of death before long-term cessation by 13%.
- Among patients who did not receive OAT, probability analysis indicated that 25% would be dead within 25 years of first injection compared with 6% of patients who received at least 5 years of OAT.
- Opiate agonist treatment was inversely associated with long-term IDU cessation.

Comments: This study showed a cumulative survival benefit among patients receiving OAT but also showed that OAT does not reduce, and may even increase, the overall duration of IDU. The benefits on survival applied to patients with evidence of continuing IDU as well; therefore, withdrawing these patients from treatment programs would negatively impact their survival. These results support a risk-reduction approach to OAT that retains patients with continuing use.

Nicolas Bertholet, MD, MSc

Reference: Kimber J, Copeland L, Hickman M, et al. Survival and cessation in injecting drug users: prospective observational study of outcomes and effect of opiate substitution treatment. *BMJ.* July 1, 2010 (E-pub ahead of print).

Does Naltrexone Treatment for Alcohol Disorders Reduce Health-Care Costs?

Naltrexone can decrease relapse in patients with alcohol dependence, but its effect on health-care costs is unknown. Researchers analyzed 2000–2004 data from a large health-care insurance claims database and identified 3 patient groups: a naltrexone group with an alcohol-related diagnosis and ≥1 claims for naltrexone (n=1138); a control group with an alcohol-related diagnosis but no claims for naltrexone (n=3411); and a control group with no alcohol-related diagnosis or claims for naltrexone (n=3410). Patients in the control groups were matched 3:1 to a naltrexone-group subject by demographics, region, health plan type, and index (start-of-naltrexone) date. Adjusted multivariable regression models were used to assess differences in health-care costs between the groups 6 months before and 6 months after the index date.

- Compared with alcohol controls, a greater proportion of the naltrexone group had alcohol-related inpatient admissions (21% versus 1%) and outpatient office visits (50% versus 5%) in the pre-index period.

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Does Naltrexone Treatment Reduce Health-Care Costs? (continued from page 3)

- Mean total health-care costs increased from the pre-index to the post-index period in each group (naltrexone group, $4,829 to $5,420; alcohol controls, $2,503 to $4,576; nonalcohol controls, $1,414 to $1,496).
- Mean alcohol-related health-care costs increased from the pre-index to the post-index period in the naltrexone group ($1,352 to $1,415; difference, +$63) and the alcohol control group ($68 to $882; difference, +$814).
- Multivariable models showed significantly less increase pre-index to post-index in total, alcohol-related, and nonalcohol-related health-care costs in the naltrexone group compared with alcohol controls.

Comments: These results suggest naltrexone therapy for alcohol use disorders may decrease alcohol-related and nonalcohol-related health-care costs. However, although the researchers controlled for confounders, the higher total and alcohol-related costs in the naltrexone group in the pre- and post-index period, as well as greater alcohol-treatment engagement in the pre-index period, suggest subjects in the naltrexone group may have been at a different stage of treatment engagement than alcohol controls. As a result, the greater increase in alcohol-related health-care costs for alcohol controls may have been the result of "catching-up" to the already engaged naltrexone group.

Kevin L. Kraemer, MD, MSc

Reference: Kranzler HR, Montejano LB, Stephenson JJ, et al. Effects of naltrexone treatment for alcohol-related disorders on healthcare costs in an insured population. *Alcohol Clin Exp Res.* 2010;34(6):1090–1097.

Methadone Treatment Reduces Overall Health-Care Costs for Commercially Insured Patients with Opioid Dependence

Under the Mental Health Parity and Addiction Equity Act, insurers are now required to cover addiction treatment. To assess the costs associated with treating opioid dependence, researchers reviewed data from a not-for-profit health maintenance organization that covered addiction services, including methadone. Patients with at least 2 opioid-dependence diagnoses between 2000 and 2004 (N=1518) were assigned to 1 of 3 addiction treatment categories: no treatment, outpatient treatment without methadone, and methadone treatment. Researchers then compared differences in health-care utilization and costs between groups, controlling for age, gender, and Medicaid status.

- Fifty-one percent of opioid-dependent patients received methadone, 34% received outpatient treatment, and 15% did not receive treatment.
- Eighty-six percent of patients made at least 1 primary-care visit. Forty-eight percent visited the emergency department (ED), and 24% were hospitalized.
- Compared with the outpatient and no-treatment groups, methadone recipients had significantly fewer annual ED visits (1.3 versus 2.6 and 3.7, respectively), primary-care visits (3.8 versus 7.5 and 9.0, respectively), and hospitalizations (0.2 versus 0.6 and 1.1, respectively).
- Mean yearly health-care costs were lower for the methadone group compared with the outpatient and no-treatment groups ($7,163 versus $14,157 and $18,695, respectively).

Comments: Although this observational study could not fully account for confounders that influence patterns of health-care utilization, the finding that opioid-dependent patients who participate in methadone treatment are less expensive to insurers than patients who go without it may allay cost concerns as addiction treatment is incorporated into covered services.

Hillary Kunins, MD, MPH, MS

Reference: McCarty D, Perrin NA, Green CA, et al. Methadone maintenance and the cost and utilization of health care among individuals dependent on opioids in a commercial health plan. *Drug Alcohol Depend.* June 3, 2010 [E-pub ahead of print].

Effectiveness of Opioid-Treatment Agreements and Urine Testing in Reducing Opioid Misuse among Patients with Chronic Noncancer Pain

Chronic noncancer pain is one of the most common reasons patients visit physicians. Despite a paucity of data demonstrating effectiveness, opioid therapy is frequently prescribed. To offset potential risks associated with opioid prescribing, consensus guidelines suggest the use of risk-reduction strategies including opioid-treatment agreements (OTAs) and urine drug testing (UDT). This systematic review assessed the effectiveness of OTAs and UDT in reducing opioid misuse in outpatients prescribed opioids for chronic noncancer pain.

- Eleven of 102 eligible studies met inclusion criteria (6 in pain clinics and 5 in primary care): 3 evaluated OTAs alone, 1 evaluated UDT alone, and 7 evaluated both.

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Treatment Agreements and Urine Testing to Reduce Opioid Misuse (continued from page 4)

- All studies were observational and of poor-to-fair quality based on multiple assessment criteria.
- In the 4 studies with a comparison group, there was a 7–23% absolute-risk reduction in opioid misuse; however, the multicomponent interventions described were not representative of common clinical practice.

Comments: Few studies have examined the effectiveness of risk-reduction strategies for patients prescribed opioids. Of those published, none have examined opioid abuse, dependence, overdose, or death. As stated by the authors, weak evidence currently exists to support OTAs and UDT for such patients, since poor study quality, lack of generalizability, and variation in practice settings and interventions limit the findings and preclude meta-analysis.

Jeanette M. Tetrault, MD

Reference: Starrels JL, Becker WC, Alford DP, et al. Systematic review: treatment agreements and urine drug testing to reduce opioid misuse in patients with chronic pain. *Ann Intern Med.* 2010;152(11):712–720.

HEALTH OUTCOMES

Misuse and Diversion of Methadone and Buprenorphine Are Increasing, but Buprenorphine Appears to Have a Better Safety Profile

Buprenorphine is increasingly used for opioid agonist treatment and methadone for pain, raising concerns about diversion, misuse, and overdose. To assess the relative safety of both medications investigators analyzed data from the Researched Abuse Diversion and Addiction-Related Surveillance (RADARS) system from 2003 to 2007. This system collects data from prescription-medication investigators and regulators, poison-control centers, and opioid-agonist treatment programs. Estimated rates of abuse, misuse, and diversion were calculated based on census data and pharmacy records.

- Rates of misuse and diversion of both medications increased from 2003 to 2007 but were consistently higher for methadone.
- Seventy-three percent of methadone-diversion cases were of the tablet form used for pain treatment as opposed to the liquid form used for opioid agonist treatment.
- Poison-control centers received many more calls for methadone (7746) than for buprenorphine (1117). Almost half of the methadone calls were for major life-threatening events (3500 calls versus 288 for buprenorphine). They also received reports of 140 deaths associated with methadone versus 5 associated with buprenorphine.

Comments: In this study, even when taking prescribing rates into account, methadone was associated with higher rates of diversion, misuse, and poisoning than buprenorphine. Although the comparison was primarily between buprenorphine prescribed for addiction and methadone prescribed for pain, these results reinforce concerns about the use of methadone for pain and provide some reassurance regarding the risks associated with diversion and misuse of buprenorphine.

Darius Rastegar, MD

Reference: Dasgupta N, Bailey EJ, Cicero T, et al. Post-marketing surveillance of methadone and buprenorphine in the United States. *Pain Med.* 2010;11(7):1078–1091.

Sustained Virologic Response in Hepatitis C Treatment May be Similar for Patients Who Drink Alcohol and Those Who Abstain

Alcohol use hastens the progression of liver disease among individuals with chronic Hepatitis C (HCV) infection, but the impact of ongoing alcohol use on efficacy of HCV treatment is unknown. This retrospective analysis of the Swiss Hepatitis C Cohort assessed alcohol use among 554 patients receiving antiviral therapy for hepatitis C. Participants were divided into 3 groups: nondrinkers (81%), those who consumed 1–24 g per day (15%), and those who consumed >24 g (about 2 drinks) per day (1%). Multivariable analyses included HCV genotype, age, body mass index, cirrhosis, medication type, treatment adherence, and drinking level during treatment. The main outcome was a sustained virologic response (SVR) 6 months following treatment.

- Overall, 58% of participants were adherent to antiviral therapy, and 60% achieved SVR.
- The odds of achieving SVR were lower but not significantly so for those consuming 1–24 g per day [odds ratio (OR), 0.5] and those consuming >24 g per day (OR, 0.7) compared with nondrinkers.

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Affect of Alcohol on Sustained Virologic Response in Hepatitis C (continued from page 5)

Comments: The retrospective observational design of this analysis limits the strength of the findings, and the small number of participants who drank, particularly those who drank 2 drinks a day, limits the power of the study to detect harms. This limitation is especially important, since the ORs for drinkers were consistent with a lower likelihood of achieving SVR. These findings do suggest that adherence to medication may be the most important factor in HCV treatment success. Ongoing alcohol use need not necessarily preclude an individual from consideration for HCV treatment.

Hillary Kunins, MD, MPH, MS

Reference: Bruggmann P, Dampz M, Gerlach T, et al. Treatment outcome in relation to alcohol consumption during hepatitis C therapy: an analysis of the Swiss Hepatitis C Cohort Study. *Drug Alcohol Depend.* 2010;110 (1–2):167–171.

Does Early Cannabis Use Lead to Psychosis?

Studies have suggested an association between cannabis use and psychosis-related outcomes. In this sibling-pair analysis of an Australian birth cohort, researchers interviewed 3801 young adults (53% of the original cohort) to assess age-of-onset of cannabis use as well as nonaffective psychosis, hallucinations, and Peters et al. Delusions Inventory (PDI) score at 21-year follow-up. The sample included 228 sibling pairs.

- Those with 6 or more years since initiation of cannabis had an increased risk of nonaffective psychosis (adjusted odds ratio [AOR], 2.2), scoring in the highest quartile on the PDI (AOR, 4.2), and hallucinations (AOR, 2.8).
- Within the sibling pairs, there was a modest association between years since first cannabis use and PDI score.
- Notably, participants who reported hallucinations at the 14-year follow-up were more likely than those who didn't to have longer times since first cannabis use and to use cannabis more frequently at the 21-year follow-up.

Comments: Unfortunately, design issues raise concerns about these results. Although sibling-pair analysis reduces the influence of genetic and/or environmental factors, it does not address recall bias (individuals with psychotic symptoms might be more likely to report early cannabis use); protopathic bias (individuals with preclinical manifestations of psychosis, such as hallucinations, might be more likely to initiate cannabis); or bias introduced by differential loss to follow-up. Since a randomized trial is not feasible, other ongoing studies should use prospective data and econometric methods to reach a more definitive conclusion.

Peter D. Friedmann, MD, MPH

Reference: McGrath J, Welham J, Scott J, et al. Association between cannabis use and psychosis-related outcomes using sibling pair analysis in a cohort of young adults. *Arch Gen Psychiatry.* 2010;67(5):440–447.

Cutaneous Necrosis, Purpura, and Neutropenia: Think Contaminated Cocaine

Clinicians at the University of Rochester saw 2 patients in just over 1 week who had necrotic skin lesions and neutropenia. Neither had a significant medical history other than recent cocaine use.

- A 57-year-old woman presented with fevers, chills, arthralgias, recurrent Staphylococcus aureus boils, and palpable necrotic purpuric plaques on her cheeks and earlobes. Her nadir absolute neutrophil count (ANC) was 500/mm^3, her anticardiolipin antibody (ACLA) level was medium-positive, and her perinuclear antineutrophil cytoplasmic antibody (P-ANCA) was positive. Biopsy of a lesion showed organizing thrombi in small vessels and perivascular lymphocytic infiltrates.
- A 22-year-old woman presented with tender plaques on her cheeks, legs, and buttocks and a necrotic lesion on her nose. Her ANC was <1000/mm^3, and her P-ANCA and ACLA were positive. Biopsy results were consistent with leukocytoclastic vasculitis.

Comments: Although these patients were not tested for levamisole (an antihelminthic, immunomodulatory and antineoplastic medication), the authors are likely correct that these presentations resulted from it. Levamisole contamination of cocaine is common, and it can cause neutropenia and vasculitis. These cases serve as reminders that drugs of abuse and contaminants can cause unusual illnesses. A similar striking presentation, memorable to patient and clinician alike, should prompt testing for levamisole and might serve as a caution to those who use cocaine as well.

Richard Saitz MD, MPH

Reference: Bradford M, Rosenberg B, Moreno J. Bilateral necrosis of earlobes and cheeks: another complication of cocaine contaminated with levamisole. *Ann Intern Med.* 2010;152(11):758–759.

Prescription Opioid Abuse and Dependence Increases as Younger Nonmedical Users Grow Older

Researchers compared the findings of 2 surveys—the 1991–1992 National Longitudinal Alcohol Epidemiologic Survey (NLAES) and the 2001–2002 National Epidemiologic Study on Alcohol and Related Conditions (NESARC)—to determine whether increases in nonmedical prescription opioid use, abuse, and dependence were due to increases in all age groups (period effect), increases by age (age effect), or increases by year of birth (cohort effect). Analyses were limited to subjects aged 18–57 divided into 4 age cohorts: 18–27, 28–37, 38–47, and 48–57.

- There was no change in lifetime nonmedical use of prescription opioids within birth cohorts as they aged, suggesting initiation after age 27 is rare.
- There were significant increases in past-year use and a past-year opioid use disorder (OUD) within most age cohorts, consistent with an age effect.
- Lifetime and past-year prevalence of OUD was highest among more recent birth cohorts, consistent with a cohort effect.
- Lifetime prevalence of OUD increased among almost all pairs of birth cohorts, particularly younger birth cohorts, consistent with a period effect.

Comments: This study found period, age, and cohort effects have contributed to increases in prescription opioid abuse and dependence. The fact that nonmedical use of prescription opioids is usually initiated by people in their early 20s, becoming more of a problem as these individuals age, suggests we face an even larger problem in the future. Thus, prevention efforts should target youths to prevent the initiation of nonmedical use.

Darius A. Rastegar, MD

Reference: Martins SS, Keyes KM, Storr CL, et al. Birth-cohort trends in lifetime and past-year prescription opioid-use disorder resulting from nonmedical use: results from two national surveys. *J Stud Alcohol Drugs.* 2010;71(4):480–487.

Alcohol Consumption Is Associated with Other Healthy Lifestyle Factors

The causal role of alcohol in cardioprotection remains uncertain. Researchers at the Center for CVD Prevention measured alcohol intake, cardiovascular (CV) risk factors, and health status among 149,773 subjects in the urban Paris-Ile-de-France Cohort. Subjects were classified according to alcohol intake: i.e., never, low (<10 g per day), moderate (10–30 g per day), and high (>30 g per day). Former drinkers were analyzed as a separate group.

- After adjusting for age, men who drank moderately were more likely to display clinical and biological characteristics associated with lower CV risk (lower body mass index, heart rate, pulse pressure, fasting triglycerides, fasting glucose, and stress and depression scores as well as higher levels of subjective health status, respiratory function, social status, and physical activity).
- Women who drank moderately also had characteristics associated with lower CV risk (lower waist circumference, blood pressure, fasting triglycerides, and low-density lipoprotein cholesterol).
- Alcohol intake was strongly associated with plasma high-density lipoprotein (HDL) cholesterol in both sexes.

Comments: The assumption of the authors in this study is that the health benefits seen in people who drink moderately are due to characteristics other than alcohol. Although moderate drinkers tend to be healthier than nondrinkers in many ways, clinical trials have demonstrated a causal role for alcohol for some factors, including higher HDL cholesterol and improved insulin sensitivity. It is true that other associations may be partially due to confounding by unmeasured factors; however, most recent prospective studies that have rigorously controlled for confounders support an inverse association between alcohol drinking and CVD risk independent of other health characteristics.

R. Curtis Ellison, MD

Reference: Hansel B, Thomas F, Pannier B, et al. Relationship between alcohol intake, health and social status and cardiovascular risk factors in the urban Paris-Ile-De-France Cohort: Is the cardioprotective action of alcohol a myth? *Eur J Clin Nutr.* 2010;64(6):561–568.

Effects of Alcohol Intake on Mortality among Older Adults

The effects of alcohol consumption in people over age 65 may be modified by metabolic changes, reduced body mass, and increased comorbid conditions. Researchers in Australia analyzed data from 2 prospective cohorts—men aged 65–79 years (n=11,727) and women aged 70–75 years (n=12,432) at baseline—and assessed the relationship between alcohol intake and total and cause-specific mortality at 10-year follow-up. Alcohol use was assessed based on days of use per week and quantity consumed per day. Results were adjusted for potential confounders.

- Compared with older adults who consumed alcohol

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Alcohol and Mortality in Older Adults (continued from page 7)

less than once per week, the risk of all-cause mortality was reduced in men who consumed ≤4 standard drinks* per day and in women who consumed 1–2 drinks per day. Similar results were observed for deaths due to cardiovascular disease.

- The total mortality risk among men and women who consumed 1–2 drinks per day was significantly lower (between 20–30%) than that of subjects who reported no consumption in a typical week.
- The risk of mortality was largely unaffected by frequency of drinking among men and women who drank 1–2 drinks per day; i.e., mortality risk was the same whether drinking at this level occurred 1–2 days per week or 7 days per week.

*In Australia, defined as 10 g of alcohol (about 4 ounces of wine, 10 ounces of beer, or 1.25 ounces of 80-proof liquor).

- Men in all frequency categories who consumed ≥9 drinks per day had a higher mortality risk (hazard ratios 1.29 to 1.51) than nondrinkers.

Comments: The argument for lower limits of regular alcohol use for older people has been based largely on theoretical concerns. In this study, these concerns did not translate into a higher risk for all-cause mortality; instead, consuming 1–2 drinks per day (versus no drinking) was associated with a 20–30% lower mortality risk. Although the authors also reported that 1–2 nondrinking days per week reduced mortality risk further in men (but not in women), the data presented do not support such a finding.

R. Curtis Ellison, MD

Reference: McCaul KA, Almeida OP, Hankey GJ, et al. Alcohol use and mortality in older men and women. *Addiction.* 2010;105(8):1391–1400.

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