Screening and Brief Intervention and Referral to Treatment for Drug Use in Primary Care
Back to the Drawing Board

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The use of drugs other than alcohol is a leading cause of fatal injury in the United States, accounting for more than 40 000 deaths per year.\(^1\) Increases in the rate of drug-attributable deaths over the past 2 decades have been fueled by overdoses of illicitly used prescription drugs (such as opioids and sedatives, sometimes in combination with alcohol). In 2011, an estimated 1 280 134 hospitalizations were related to drug overdoses nationwide, of which 1 021 563 (80%) involved drugs only and 258 571 (20%) involved drugs in combination with alcohol.\(^2\) National roadside research surveys have detected more drivers on roads after using drugs than alcohol,\(^3\) and several meta-analyses indicate that fatal traffic crash risks of drivers who have simultaneously used drugs and alcohol exceed the fatal crash risk of driving after either alone.\(^4,5\) In addition, marijuana use has increased in the past decade,\(^6,7\) perhaps accelerated by legalization of medical marijuana in 22 states and Washington, DC, and legalization of recreational use by Colorado and Washington State. These public health trends underscore the need for continuing research to develop effective interventions for unhealthy drug use, and the emphasis on primary care in health care system reforms suggests that approaches to identify and effectively intervene with patients exhibiting risky patterns of drug use should be evaluated in a variety of clinical settings.

A substantial number of experimental studies have indicated that screening and brief negotiated intervention (BNI) are effective in adult primary care in reducing risky alcohol misuse.\(^8\) Other research, such as a study of illicit drug screening and intervention for adults in an urgent care setting\(^9\) and an observational study of screening and interventions in a broad array of general medical settings,\(^10\) have suggested that BNI may also be effective in helping patients reduce their use of illicit drugs. A large multicenter international study showed overall significant effects in primary care, although no significant effects were identified when the US sites were examined separately.\(^11\) Building on these studies, this issue of JAMA includes reports\(^12,13\) from 2 well-designed and implemented randomized clinical trials that found screening and brief interventions in general medical settings were not effective for reducing drug use.

In a 3-group randomized trial, Saitz et al\(^12\) tested the efficacy of 2 brief counseling interventions for illicit drug use or prescription drug misuse. Adult primary care patients with Alcohol, Smoking, and Substance Involvement Screening Test scores of 4 or greater were studied (N = 528). The authors compared a 15-minute BNI and a 30- to 45-minute adaption of motivational interviewing (MOTIV) and a booster with no brief intervention. The BNI included motivational interviewing feedback, review of “pros” and “cons” of use, and development of plans for change. The MOTIV intervention elicited possible links between drug use and health concerns, highlighted discrepancies between negative drug use outcomes and valued goals, enhanced self-efficacy about behavior change, and provided options for change. At intake, the reported main drug use was marijuana (63%), cocaine (19%), and opioids (17%), and both interventions addressed alcohol in the 15% for whom it was a concern. In addition, all patients received a written list of substance use disorder treatment and mutual help resources.

At the 6-month follow-up, there were no significant differences between groups in mean main drug use days in the past month, in any drug use, or in risk of drug dependence. Nor were there significant differences in drug use consequences, injection drug use, unsafe sex, hospitalizations, emergency department visits, or mutual help attendance. Lack of effect was consistent regardless of drug used, severity, alcohol use, and substance-related health condition. The authors concluded that if other trials yield consistent results, widespread implementation of drug screening and brief intervention with referral to treatment should be reconsidered. Of note, contrary to many studies on alcohol screening and brief intervention, there was not a reduction in heavy drinking. This raises the possibility that drug- and alcohol-using, single, low-income patients with high unemployment and comorbidities may benefit less from BNI.

In another study in this issue, Roy-Byrne et al\(^13\) randomized 868 adult (age ≥18 years) primary care patients in 7 safety-net clinics to receive enhanced care as usual or a brief 30-minute intervention and booster within 2 weeks providing feedback on drug use, discussing pros and cons of use, raising participant confidence in being able to change, and presenting options for change. Patients in both groups received a handout depicting their drug problem, severity score, and a list of substance abuse treatment resources. The authors identified and tracked past 30-day use of the most frequently used drug, as well as chemical dependence treatment records, state alcohol arrest records, and in-patient hospitalization and death records. In both groups, follow-up at 3, 6, 9, and 12 months was more than 87%.

During follow-up, there were no significant differences between the 2 study groups on days of drug use, Addiction Severity Index drug use, or any secondary outcomes or admissions to chemical dependency. Both groups reduced drug use frequency...
in the first 3 months with no subsequent change. However, those with high drug use severity were more likely to enter special drug treatment and reduce emergency department use. No benefit was seen for those with low drug use severity and marijuana use. The authors concluded that brief interventions among disadvantaged populations that do not consider type and severity of drug use may not yield public health benefits. However, exploratory analyses by Roy-Byrne et al13 suggested that targeting interventions toward those with severe drug abuse and use of stimulants and opiates might increase uptake of specialty treatment.

These rigorously designed studies shared several strengths: random intervention assignment, high follow-up rates, primary drug outcomes based on self-report with multiple secondary outcomes based on self-report, biomarkers, archival data, adequate statistical power, low attrition, careful consent procedures, and intent-to-treat analyses. However, these studies also have limitations: neither study analyzed alcohol or tobacco as the primary drug of abuse (although Saiz et al12 did monitor heavy drinking days among drug users); neither measured simultaneous same-day alcohol/drug use or drug/drug use; and both study samples had high rates of physical and mental health comorbidity and high poverty, unemployment, and minority involvement. Further, in the study by Roy-Byrne et al,13 only 46% of study participants received the planned booster and, as the authors acknowledge, it is possible that the five 25-minute assessments used in that trial may have reduced drug use in all groups.

Although these studies offer no direct evidence of effectiveness for universal drug screening, brief intervention, and referral to treatment in primary care settings, exploring drug use with patients should remain a priority in primary care. The goal for clinical research is to develop and test new interventions with potential for benefiting patients. Drug screening and brief intervention research that focuses on adolescents and young adults is especially needed because rates of marijuana use among young people and the potency of marijuana have increased at the same time that recognition among youth of the health risks of marijuana use have declined.7 Prospective research also indicates that more people begin combined use of alcohol, tobacco, and drug use early in adolescence than begin use of any single substance. Multiple substance initiators experience a greater likelihood they will develop dependence to multiple substances.14 Drugs, alcohol, and tobacco use by youth each stimulate brain reward for the other substances, supporting the idea that each is a gateway for the use of the other substances.15 Research should focus on reducing simultaneous use of alcohol and drugs and combinations of drug use.

These issues warrant exploration not only in primary care for adolescents and adults but with special populations, such as in prenatal care; emergency departments; trauma centers; mental health clinics; programs targeting driving-while-intoxicated offenders; other criminal justice settings; and college, military, and employment settings. If brief interventions are insufficient, then easily accessible treatment services with long-term follow-up may be needed, as will development of efficient primary care referral approaches to address risky substance use and related physical and mental comorbidities.

REFERENCES


