Screening and Intervention for Alcohol Problems

A National Survey of Primary Care Physicians and Psychiatrists

Peter D. Friedmann, MD, MPH, Deirdre McCullough, MS, Marshall H. Chin, MD, MPH, Richard Saitz, MD, MPH

OBJECTIVE: To describe adult primary care physicians' and psychiatrists' approach to alcohol screening and treatment, and to identify correlates of more optimal practices.

DESIGN: Cross-sectional mailed survey.

PARTICIPANTS: A national systematic sample of 2,000 physicians practicing general internal medicine, family medicine, obstetrics-gynecology, and psychiatry.

MEASUREMENTS: Self-reported frequency of screening new outpatients, and treatment recommendations in patients with diagnosed alcohol problems, on 5-point Likert-type scales.

MAIN RESULTS: Of the 853 respondent physicians (adjusted response rate, 57%), 88% usually or always ask new outpatients about alcohol use. When evaluating patients who drink, 47% regularly inquire about maximum amounts on an occasion, and 13% use formal alcohol screening tools. Only 82% routinely offer intervention to diagnosed problem drinkers. Psychiatrists had the most optimal practices; more consistent screening and intervention was also associated with greater confidence in alcohol history taking, familiarity with expert guidelines, and less concern that patients will object.

CONCLUSIONS: Most primary care physicians and psychiatrists ask patients about alcohol use, but fewer use recommended screening protocols or offer formal treatment. A substantial minority of physicians miss the opportunity to intervene in alcohol problems. Efforts to improve physicians' screening and intervention for alcohol problems should address their confidence in their skills, familiarity with expert recommendations, and beliefs that patients object to their involvement

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Address correspondence and reprint requests to Dr. Friedmann; Division of General Internal Medicine, Rhode Island Hospital, 593 Eddy St., Providence, RI 02906 (e-mail: pfriedmann@lifespan.org). 84

lcohol problems are an important cause of prevent- ${\bf A}$ able morbidity.¹ Societal costs stemming from alcohol use disorders were estimated at \$148 billion annually in 1992.² Present in over 10% of general medical patients and a higher proportion of the mentally ill,^{3,4} these disorders are responsible for \$19 billion in health care expenditures and implicated in up to 22% of hospitalizations.^{2,5}

Primary care physicians and psychiatrists are well positioned to identify alcohol problems and intervene.^{6,7} Primary care physicians can identify preclinical alcohol disorders in the context of patient contact for other problems, and their influence with their patients can facilitate effective intervention. The high prevalence of substance abuse among mentally-ill patients and their greater training in addictions give psychiatrists no less an opportunity to intervene in these disorders. Screening is the essential first step, and many professional organizations, including the Institute of Medicine, the National Institute on Alcohol Abuse and Alcoholism (NIAAA), the American Medical Association, and the American Society of Addiction Medicine, recommend that clinicians routinely ask patients about alcohol use.8-11 To screen for problem drinking, the NIAAA and the U.S. Preventive Services Task Force (USPSTF) recommend that physicians ask all patients whether they drink, and assess the specific quantity, frequency, and pattern of consumption.9,12 These bodies also consistently recommend physician intervention for recognized problem drinking. Nonetheless, diagnosis and treatment of these problems remain underemphasized, inconsistent, and, when performed, insufficient to conform to recommended practices.13-16

Conceptual and empirical work has suggested that major barriers to appropriate practices in this area are stigmatizing attitudes toward substance-abusing patients, physicians' lack of self-efficacy in managing these disorders, pessimism about the effectiveness of intervention, and time constraints, among others.¹⁷⁻²¹ However, no study has examined the relative importance of these barriers in a nationally representative sample of American physicians. We therefore conducted a national survey of family physicians, general internists, obstetrician-gynecologists, and psychiatrists to examine screening and treatment practices for alcohol problems. We also sought to understand these physicians' attitudes regarding these disorders and to identify the barriers to recommended screening and intervention practices.

METHODS

Data Collection

Beginning in September 1997, we mailed an 8-page survey, an individualized letter, a \$2 bill, and a prepaid

Received from the Division of General Internal Medicine, Rhode Island Hospital, Brown University School of Medicine, Providence, RI (PDF); Section of General Internal Medicine, Department of Medicine, Pritzker School of Medicine, University of Chicago, Chicago, Ill (DM, MHC); and Clinical Addiction Research and Education Unit. Section of General Internal Medicine, Department of Medicine, Boston Medical Center, Boston University School of Medicine, Boston, Mass (RS).

return envelope to a national systematic sample of family physicians, general internists, obstetrician-gynecologists, and psychiatrists. Two additional mailings (through March 1998) included token candy incentives.

Adherence to Recommended Alcohol Practices. The physicians were instructed to think about new adult patients who had visited their primary outpatient practice over the previous 90 working days. On 5-point Likert-type scales with responses "never, rarely, sometimes, usually, and always," the survey assessed the frequency with which the physician asked new patients about alcohol use.^{9,15} On similar scales, the survey asked whether the physician inquired about the maximum number of drinks consumed on a given occasion or used a formal alcohol screening tool (for example, the CAGE, AUDIT, or MAST) in new patients who drank.²²⁻²⁴ For simplicity, and to give physicians the benefit of the doubt with regard to these practices, these questions were dichotomized a priori for our analyses between "usually and always" versus "sometimes, rarely, or never."

To evaluate adherence to recommended screening practices in patients who drink,9,12 we created a dichotomous variable that measured whether the physician usually/always assessed the maximum amount of alcohol consumed on a given occasion or used a formal alcohol screening tool. This variable approximates the spirit of recommendations to screen for problem drinking and hazardous drinking by "taking a detailed alcohol history" or using a formal alcohol screening questionnaire or both.12 Although assessment of maximum amounts consumed on an occasion is not a proxy for a detailed history, inquiry about maximum amounts is a necessary part of screening for problem drinking or hazardous drinking. Thus, assessment of maximum amounts is a necessary but insufficient part of a detailed alcohol history. We examined adherence to one aspect of a relatively lenient guideline because no consensus exists about the operational definition of a detailed alcohol history.12

The survey also assessed typical treatment practices in adult patients whom the physician has diagnosed as having an alcohol problem. On 5-point Likert-type scales like the ones described above, we inquired how often the physician recommended a 12-step program such as Alcoholics Anonymous, offered referral to a mental health professional (social worker, psychologist, or psychiatrist), offered referral to a chemical dependency treatment program, or counseled the patient without other consultation or referral for alcoholism. These questions did not specify how the diagnosis was or should be made. We created dichotomous variables from these questions that indicate whether the physician offered the intervention "usually or always." For our multivariate analyses, the binary dependent variable indicated whether the physicians usually or always intervened in at least one of those ways in patients with diagnosed alcohol problems.

Self-Assessment, Barriers, and Attitudes. On 5-point Likert scales of agreement, the questionnaire assessed physicians, confidence in their alcohol history taking, their interest in caring for patients with alcoholism, their familiarity with the NIAAA's "Physician's Guide to Helping Patients with Alcohol Problems,"⁹ as well as the significance of seven proposed barriers to screening for substance abuse (Table 1). The brief version of the Substance Abuse Attitude Survey, a validated multidimensional instrument, evaluated physician attitudes toward substance-abusing patients.^{25,26} Scoring of the five subscales (permissiveness, nonmoralism, nonstereotyping, treatment optimism, and treatment intervention) is standardized along a 10-point continuum, with a score of 10 representing the most positive attitudes.

Physician and Practice Characteristics. The questionnaire also asked the physicians about their primary specialty, the characteristics of their practices, and the number of hours devoted to learning about alcohol or other drug problems in medical school, in postgraduate training, and in continuing medical education (Table 1). The variable "minutes per outpatient" was calculated from the number of hours spent in outpatient care activities and the number of outpatients seen in a typical week.

Study Population

We drew a national systematic sample of 500 family physicians, 500 general internists, 500 obstetriciangynecologists, and 500 psychiatrists in active clinical practice from the American Medical Association Physician Masterfile (current as of May 1997), a national listing of all licensed physicians. Of the 2,000 subjects in the original sample, 107 had incorrect addresses or had died. The remaining 1,893 physician-subjects were composed of 853 eligible respondents, 229 respondents who did not take care of outpatients, and 811 nonrespondents with unknown eligibility. Thus, the crude response rate (eligible respondents per assumed eligible subjects) was 853/(853 + 811) = 51%. We calculated an adjusted response rate based on standard techniques²⁷: Since 853 (79%) of the 1,082 respondents were eligible, we estimated that 639 (79%) of the 811 nonrespondents with unknown eligibility would be eligible. Thus, the adjusted response rate was 853/(853 + 639) = 57%.

Statistical Analysis

As appropriate, we performed bivariate comparisons between categorical and continuous variables with standard analysis of variance, Wilcoxon rank sum and Kruskal-Wallis tests, between categorical variables with the χ^2 test, and between continuous variables with the Pearson or Spearman correlation coefficient. Controlling

Descriptor	Family Medicine	Internal Medicine	Obstetrics/ Gynecology	Psychiatry
n (04 of upodivated comple)	949 (56)	105 (47)	000 (50)	106 (50)
Physician characteristics	243 (30)	195 (47)	222 (32)	190 (50)
Age median (IOP)*	42 (36-50)	41 (33-48)	44 (35-54)	49 (42-59)†
Vears in practice median (IOP)	$\frac{12}{15}(7-23)$	14(6-21)	$17(7_{9})$	$\frac{10}{14} (\frac{12}{30})^{\dagger}$
Women %	15 (7-25) 25	30	30	22 (14-04)
Board certified %	68	54	52 60	23 66‡
Doard Certified, 70	08	54	00	00
training median (IOR)	25 (11-50)	20 (10-40)	10 (4-22)	40 (25-100)†
Physician self-assessment	20 (11 00)	20 (10 10)	10 (1 22)	10 (20 100)
mean agreement (SD)§				
Very confident in alcohol history taking	3.8 (0.74)	3.8 (0.83)	3.2 (0.93)	$4.2 (0.79)^{\dagger}$
Very interested in caring for patients	0.0 (0.1 1)	010 (0100)	0.2 (0.00)	112 (011 0)
with alcohol problems	3.1 (0.96)	2.9(1.1)	2.5(1.1)	$3.2(1.2)^{\dagger}$
Very familiar with the NIAAA guidelines	2.2 (0.89)	2.1 (0.90)	2.0 (0.86)	2.3 (1.09)†
"My efforts to facilitate a change in alcoholic patients"	()	(,	(,	(,
drinking habits are likely to be successful"	3.2 (0.76)	3.0 (0.78)	3.0 (0.80)	3.5 (0.75) [†]
Physician-reported barriers to screening, mean agreement (SD) [¶]				
"Patients don't want to be asked these questions"	2.7 (1.0)	2.6 (1.1)	2.6 (1.1)	1.7 (0.86)†
"My patients rarely have these problems"	1.8 (0.71)	1.9 (0.86)	2.1 (1.0)	1.5 (0.63) ⁺
"These problems are not a physician's responsibility"	1.6 (0.64)	1.6 (0.70)	1.6 (0.68)	1.2 (0.50) ⁺
Perceived time constraints	3.3 (1.1)	3.0 (1.2)	3.0 (1.2)	1.8 (1.0)†
Long wait for substance abuse treatment				
appointments	2.6 (1.1)	2.6 (1.1)	2.5 (1.1)	1.8 (1.0)†
Patients refuse to accept the diagnosis	3.3 (1.1)	3.1 (1.1)	3.0 (1.2)	1.9 (1.1)†
Physician lacks formal training in dealing				
with alcohol problems	2.9 (1.1)	2.8 (1.0)	3.2 (1.1)	1.7 (0.98)†
Substance Abuse Attitude Scale (brief SAAS)				
subscales, mean (SD) [¶]				
Permissiveness	4.3 (1.2)	4.2 (1.1)	4.2 (1.3)	4.6 (1.3)*
Nonstereotypes	7.6 (1.1)	7.7 (1.2)	7.6 (1.0)	7.8 (1.1)
Nonmoralism	7.3 (1.1)	7.1 (1.2)	7.1 (1.2)	7.7 (1.2)†
Treatment optimism	7.8 (0.90)	7.8 (0.97)	7.8 (0.94)	8.2 (1.1)†
Treatment intervention	7.3 (0.79)	7.3 (0.80)	7.3 (0.75)	7.7 (0.81)†
Outpatient practice characteristics, median % of outpatients (IQR)				
Women	60 (50–65)	55 (50–60)	100 (100–100)	60 (50-70)†
African-American race	5 (1–20)	10 (5–30)	10 (5–30)	5 (1–20)†
Hispanic ethnicity	5 (1-10)	5 (2–15)	8 (3–20)	5 (0.5–10)†
Medicaid insured	10 (5–30)	10 (5–30)	15 (5–45)	10 (0–30) [‡]
Patients with alcohol or drug problems	10 (5–15)	10 (5–20)	5 (3–10)	25 (15–50) [†]
Calculated minutes per outpatient	24 (19–30)	31 (24–45)	25 (18–36)	48 (36–68)†

Table 1. Description of the Survey Respondents, by Specialty

*IQR indicates interquartile range, the range between the 25th and 75th percentiles.

†p < .01.

 $^{\ddagger}p < .05.$

[§]From 5-point Likert scales of agreement where 1 = strongly disagree and 5 = strongly agree.

National Institute of Alcoholism and Alcohol Abuse's "Physician's Guide to Helping Patients with Alcohol Problems."

[¶]A score of 0 indicates the most negative, and a score of 10 the most positive, attitude on each subscale.^{25,26}

for specialty, physician age, gender, and board certification, we entered explanatory variables (p < .25) into three separate stepwise multivariate logistic regression models to determine factors (p < .05, two-tailed) associated with whether the physician usually or always asked about alcohol use, adhered to minimal recommended screening practices in patients who drank, or offered any intervention for diagnosed alcohol problems.

Respondents

The gender, geographic location, and age of respondents were similar to those of the physician sample and Masterfile population (data not shown). Family physicians had the highest, and general internists the lowest, response rate (p = .08) (Table 1). Of the respondents, 75%

RESULTS

responded to the first mailing wave, 14% to the second, and 11% to the final wave. Rates of screening for alcohol problems did not differ by mailing wave, suggesting that the addition of later respondents did not influence the sample's representativeness (data not shown).²⁸ Analyses weighted for the sampling rates of the specialties did not change our results substantially, so unweighted results are presented.

Across multiple domains, psychiatrists had more preparation and inclination than primary care physicians to diagnose and treat alcohol use disorders. Psychiatrists reported more hours of substance abuse training, more confidence in alcohol history taking, fewer barriers to screening, and lessstigmatizing attitudes toward substance-abusing patients (Table 1). For example, 52% of psychiatrists agreed or strongly agreed that their efforts to facilitate a change in alcoholic patients' drinking habits were likely to be effective, compared with 37% of family physicians, 29% of internists, and 29% of obstetrician-gynecologists (p = .001).

Screening

The great majority of physicians (88%) reported that they usually or always asked new outpatients whether they drank alcohol. However, adherence to recommended alcohol screening practices was limited.^{9,12} Fewer than half of physicians usually or always assessed maximum consumption on an occasion. Only 13% of the physicians studied usually or always used formal alcohol screening tools such as CAGE, MAST, or AUDIT in patients who drank. Internists and psychiatrists were more likely to ask about alcohol use and use formal screening tools than were family physicians or obstetrician-gynecologists (p < .001) (Fig. 1). Psychiatrists were also more likely to assess maximum consumption on an occasion (p < .001).

In multivariate analyses, factors associated with usually or always asking about alcohol use included internal medicine specialty, younger physician age, greater confidence in self-assessed alcohol history taking, familiarity with the NIAAA guidelines,9 and less agreement that patients don't want to be asked these questions (Table 2). Agreement that "patients refuse to accept the diagnosis of alcohol abuse" was collinear with the belief that "patients don't want to be asked questions about their substance use," and could be substituted with similar model fit. Factors associated with usually or always assessing the maximum consumption per occasion or the use of a formal screening questionnaire included psychiatric specialty, female physician gender, board certification, confidence in alcohol history taking, familiarity with the NIAAA guidelines,⁹ "Physician's Guide to Helping Patients with Alcohol Problems" and less agreement that "patients don't want to be asked about substance use" (Table 2). Interest in caring for patients with alcohol problems and familiarity with formal alcohol screening tools were collinear with familiarity with the NIAAA guidelines and could be substituted in a less-parsimonious model.



FIGURE 1. By specialty, percentage of physicians who usually or always (left to right) ask whether a new outpatient drinks alcohol, assess the maximum alcohol consumption per occasion of patients who drink, or use formal alcohol screening questionnaires (such as CAGE, AUDIT, or MAST²²⁻²⁴) of patients who drink. Error bars indicate standard errors.

Intervention

The great majority of physicians reported that they usually or always recommend 12-step groups to their problem-drinking patients; fewer routinely offer referral to a chemical dependency treatment program (Fig. 2). However, 18% of physicians usually or always offer no intervention to such patients. Compared with family physicians, obstetrician-gynecologists were less likely, and psychiatrists were more likely, to offer intervention (Table 2). Other factors associated with intervention for alcoholism included younger physician age, female physician gender, board certification, greater confidence in self-assessed alcohol history taking, more familiarity with the NIAAA guidelines,⁹ less agreement that "patients don't want to be asked about substance use," and fewer Medicaid-insured outpatients.

DISCUSSION

In the last 30 years, several calls have been made for greater physician involvement in alcohol use disorders.²⁹⁻³¹ At a minimum, primary care physicians and psychiatrists should screen all patients for these disorders and offer referral to addiction treatment, 12-step groups, or other counseling services to patients with substance abuse or dependence. Despite several studies documenting that physicians agree such involvement is part of their responsibilities,^{16,20,21,32,33} physicians inconsistently screen, make the diagnosis, and offer treatment.^{13,34} In this nationally representative survey of primary care physicians and psychiatrists, the great majority of respondents inquired routinely about alcohol use. Fewer asked about maximum

	Odds Ratio (95% Confidence Interval) for Physician Usually or Always				
Explanatory Factor	Asks New Outpatients About Alcohol Use*	Asks About Maximum Amount per Occasion or Uses a Formal Screening Tool †	Intervenes in Diagnosed Alcoholism [‡]		
Specialty					
Family medicine	Referent	Referent	Referent		
Internal medicine	2.40 (1.17, 4.91) [§]	1.38 (0.92, 2.09)	1.02 (0.55, 1.90)		
Obstetrics and gynecology	1.29 (0.72, 2.32)	0.61 (0.40, 0.94)	0.52 (0.30, 0.90)§		
Psychiatry	2.31 (0.99, 5.40)	1.89 (1.17, 3.06)∥	2.55 (1.03, 6.35)§		
Age (per 10 y)	0.70 (0.57, 0.86)	1.09 (0.94, 1.27)	0.83 (0.68, 1.00)		
Female gender	1.60 (0.86, 2.97)	$1.49 (1.04, 2.13)^{\$}$	1.95 (1.12, 3.42) [§]		
Board certified	1.04 (0.62, 1.76)	0.54 (0.39, 0.76) [∥]	1.84 (1.14, 2.98)§		
Physician self-assessment [¶]					
Very confident in alcohol					
use history taking	$2.13 (1.60, 2.83)^{\parallel}$	1.79 (1.46, 2.20)	1.37 (1.05, 1.77)§		
Very familiar with the	1.60 (1.94, 9.99)	1 20 (1 00 1 42)8	1 40 (1 07 1 94)8		
NIAAA guidelines"	1.69 (1.24, 2.32)	1.20 (1.00, 1.43) ^s	1.40 (1.07, 1.84) ^s		
barriers to screening [¶]					
"Patients don't want to be	0.78 (0.69, 0.00)8	0.78 (0.67, 0.01)	0.80 (0.65, 0.08)8		
Outpatient practice characteristics (per 10% change)	0.78 (0.62, 0.99) ^s	0.78 (0.67, 0.91)	0.80 (0.65, 0.98)		
Reported percentage of patients with Medicaid insurance	**	_**	0.91 (0.83, 0.998) [§]		

Table 2. Factors Associated with Screening and Intervention for Alcohol Problems

*From logistic regression models comparing physicians who usually or always ask new outpatients whether they drink alcohol with those who do so rarely, sometimes, or never.

[†]From logistic regression models comparing physicians who usually or always assess the maximum number of drinks on an occasion or use an alcohol screening tool (such as CAGE, AUDIT, or MAST²²⁻²⁴) in new outpatients who drink, with physicians who do so rarely, sometimes, or never.

[‡]From logistic regression models comparing physicians who usually or always intervened in at least one of the following ways in patients with diagnosed alcoholism versus physicians who did not intervene usually or always: recommended a 12-step program, offered referral to a social worker or mental health professional, offered referral to a chemical dependency treatment program, or counseled the patient oneself without other consultation or referral.

 $^{\$}P < .05.$

||P < .01.

^{\P} From 5-point Likert scales of agreement where 1 = strongly disagree and 5 = strongly agree.

*National Institue of Alcoholism and Alcohol Abuse's "Physician's Guide to Helping Patients with Alcohol Problems."9

** Explanatory factors left the model at significance level P < .05. The table does not display variables shown in Table 1 that left all three explanatory models.

amounts of alcohol consumption or used formal alcohol screening tools (such as CAGE, AUDIT, or MAST).⁹ A substantial minority did not offer any intervention on a regular basis to patients with diagnosed alcohol problems.

Although the CAGE questionnaire was developed more than 25 years ago and the Institute of Medicine encouraged addressing the broad spectrum of alcohol problems a decade ago,⁸ screening and intervention practices remain inadequate in many medical settings. Investigations into alcohol screening practices have consistently found that most physicians ask patients about consumption, but few go beyond an initial inquiry.^{13,15,35} For example, a study of 134 primary care physicians from four western states and Alaska found that the majority of physicians asked standardized patients an initial question about alcohol use, but few followed up with more probative questions such as those in the CAGE questionnaire. Consequently, fewer than 50% of the physicians included alcohol abuse in the differential diagnosis for the patients scripted to consume four or more drinks per day.¹⁵ Physicians who ask superficially about alcohol use and do not assess consequences and pattern of use in a valid manner cannot distinguish between safe drinking, hazardous drinking, and alcohol abuse. Inadequate screening practices will necessarily limit opportunities for intervention.

These results suggest a complex relationship among specialty, substance abuse training, attitudes, and practices. Although internists were more likely to inquire about alcohol use, they were no more likely to intervene than family physicians.^{17,32} Obstetrician-gynecologists were less likely to offer intervention to patients with diagnosed alcohol problems. This latter finding is disturbing because alcohol use has risen in recent years among women of childbearing age, and women experience health



FIGURE 2. By specialty, percentage of physicians who usually or always (left to right) recommend a 12-step program such as Alcoholics Anonymous, offer referral to a mental health professional or social worker, offer referral to a chemical dependency treatment program, or counsel the patient without other consultation or referral, for alcoholism. Error bars indicate standard errors.

consequences from problem drinking after briefer or less-intense exposure than do men. 36,37

This cross-sectional study cannot discern the causal direction between psychiatrists' better practices, their greater confidence in their skills, their greater training in substance abuse issues, and less-stigmatizing attitudes. Confidence in skills and familiarity with the NIAAA guidelines9 here contributed to better screening and intervention practices. Substance abuse training may contribute to greater confidence, greater familiarity with expert recommendations, and more positive attitudes toward patients with these disorders,38 but studies of the direct influence of training on screening and treatment practices have been equivocal.13,39 Stigmatizing attitudes, long theorized to contribute to inadequate practice toward substance-abusing patients,19 here displayed little independent association with physicians' alcohol screening and intervention practices. Several studies have found that physicians with more-positive attitudes toward problem drinkers were more actively involved in their care, 38,40,41 while others have not found an influence of attitudes on treatment intention.³⁹ Further research is needed to sort out the direct and indirect influences of training and attitudes on screening and intervention practices.⁴²

Physicians' concerns about alienating patients, either through prying into an area about which "patients don't want to be asked" or through substance-abusing patients' rejection of the diagnosis, were associated with less-optimal screening and intervention practices. Although several studies suggest that few patients are perturbed when their physicians ask about emotional or substance use problems,⁴³⁻⁴⁶ these findings appear to need greater dissemination among physicians. In addition, physicians' concerns about patients' objections may reflect on the physicians' own ambivalence regarding these issues. Finally, unlike previous work examining time pressure as a barrier to preventive practices,⁴⁷ perceived time constraints and calculated minutes spent per patient had no detectable association with these practices.

Younger physician age, which is highly correlated with more recent graduation from medical school, was here associated with routine screening and intervention in alcohol problems. Other studies have also suggested that more recent graduation from medical school is associated with greater confidence in skills, more optimistic attitudes about treatment, and a greater willingness to intervene.^{17,21,33} In light of a previous report that female physicians have less-positive attitudes toward working with substance-abusing patients,48 our finding that female physicians had more-optimal screening and intervention practices raises further questions about the connection between attitudes and practices. Finally, the finding that physicians who serve more Medicaid-insured patients were less likely to offer intervention for diagnosed alcohol problems is of some concern. Low reimbursement or poor access to specialty alcoholism treatment might cause such physicians to spend less time discussing available treatment options.

The major strengths of this study are its national representation and a response rate comparable to other physician surveys.49 Still, it has several limitations. It examines reported, not actual, barriers and practices. Social desirability bias might exaggerate reports of adherence to recommended practices, but such bias would strengthen our findings about suboptimal levels of screening and intervention. Nonetheless, the lack of validation of our measures against actual barriers and practices renders our findings exploratory. In addition, although perceived waiting times for alcohol treatment did not enter our models, we have no information on the availability of treatment services. We also have no information on whether and how these physicians confirm the diagnosis of alcohol abuse or dependence in patients who screen positive, and thus cannot discern whether diagnostic uncertainty poses another barrier to treatment.

Although it is difficult to change physicians' practices regarding alcohol problems,^{50,51} the dissemination of brief interventions and the development of effective pharmacotherapies promise to bring these disorders into the mainstream. Our findings imply that initiatives to promote physician involvement with alcohol use disorders should include strategies to increase their confidence managing these problems,¹⁷ to improve their familiarity with expert recommendations, and to dispel concerns about patients' sensitivity around substance issues. These initiatives should examine different types of interventions such as education and training of physicians, chart reminders, and feedback regarding adherence to recommended practices,35 practice guidelines, and focused incentives. Multidisciplinary interventions, including greater access to behavioral health professionals and alcohol treatment services, and a structured office support system,⁵² might

also improve the quality of diagnosis and intervention for alcohol problems in generalist settings.

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