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Provider Training for Patient-Centered Alcohol Counseling in a Primary Care Setting

[Original Investigation]

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Abstract

Objective: To assess the impact of a brief training program on primary care providers' skills, attitudes, and knowledge regarding high-risk and problem drinking.

Design: Training plus pretesting and posttesting for program efficacy.

Setting: Ambulatory primary care clinic; academic medical center.

Participants: Fourteen attending physicians, 12 residents, and 5 nurse practitioners were randomized by clinical team affiliation to a Special Intervention or usual care condition of a larger study. We report the results of the training program for the Special Intervention providers.

Intervention: Providers received a 2-hour group training session plus a 10- to 20-minute individual tutorial session 2 to 6 weeks after the group session. The training focused on teaching providers how to perform patient-centered counseling for high-risk and problem drinkers.

Main Outcome Measures: Alcohol counseling skills; attitudes regarding preparedness to intervene and perceived importance and usefulness of intervening with high-risk and problem drinkers; and knowledge of the nature, prevalence, and appropriate treatment of alcohol abuse in primary care populations.

Results: After training, providers scored significantly higher on measures of counseling skills, preparedness to intervene, perceived usefulness and importance of intervening, and knowledge.

Conclusion: A group training program plus brief individual feedback can significantly improve primary care providers' counseling skills, attitudes, and knowledge regarding high-risk and problem drinkers.

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HELPING INDIVIDUALS to moderate alcohol use is one of the greatest challenges facing medical and public health care providers today. [1] Alcohol abuse and dependence are well-documented causes of major social, legal, economic, and health complications. One in every 10 deaths in the United States is related to alcohol and 20% of the total national health expenditure for hospital care is spent on alcohol-related illnesses. [2] Hypertension, cancers of various sites, and gastrointestinal, liver, and cardiac disease each have been linked to abusive alcohol use. [3] A direct relationship between the degree of abusive drinking and risk of fatal injury (eg, motor vehicle crashes, homicide, suicide, falls, or drownings) has been observed. [2] In addition, alcohol abuse is a common factor in marital conflict and family dysfunction and accounts for an estimated \$70 billion annually in time lost from work. [4]

There is evidence that socially stable, heavy-drinking medical patients respond to brief intervention strategies provided by a primary care physician or other health care provider. [5-7] The noted studies suggest that education, provider-delivered advice, monitoring of medical complications, and regular outpatient medical follow-up are effective in reducing alcohol-related morbidity and mortality. Therefore, alcohol intervention carried out in the outpatient setting by physicians and nurses can have a significant impact on the health of patients and has been recommended by the Institute of Medicine [1] for regular inclusion in routine health care. Further evidence that provider-delivered advice or counseling can change

harmful behaviors comes from trials involving smoking cessation [8,9] and dietary intervention. [10]

In addition to their effectiveness with patients, providers are an important regular point of contact because 80% of all adults in the United States have at least 1 contact per year with a physician's office. [11] Of the 15% to 20% of Americans who currently abuse alcohol, fewer than one third will seek formal counseling for their alcohol problem. [12] Given the frequency of contact and their potential effectiveness in helping patients improve health behaviors, physicians and physician extenders (ie, ancillary health care providers such as nurse practitioners, physician assistants, and nurses) have important roles as educators, facilitators, or counselors for patients with alcohol problems.

Despite their substantial potential for favorably influencing alcohol-related behaviors, and their almost universal belief that it is their responsibility to help their patients who have alcohol-related problems, [13,14] primary care physicians have paid scant attention to their patients' alcohol use. For example, in a large primary care clinic, physicians detected alcohol problems in fewer than half of their patients with current alcohol abuse or dependence (as defined by the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised). [15-17] In another study, [14] only 25% of patients found to be dependent on alcohol were warned of the health risks of drinking by their health care provider or advised to reduce or stop using alcohol and fewer than 1 in 10 were referred for alcohol treatment. [14]

The discrepancy between what physicians do and what they see as their responsibility suggests that there are several barriers to physicians intervening with patients who have alcohol problems. These barriers include lack of training; lack of confidence in alcohol intervention skills; discouragement based on past negative experiences treating alcohol problems; lack of reinforcement or incentives for participating in alcohol screening and intervention; and concern about limited time and practice resources (A.A., unpublished data, 1993). [16,18-21] Surveys indicate that physicians who feel prepared and competent to offer alcohol counseling are more likely to intervene with patients who abuse alcohol. [22] This likelihood is supported by large clinical trials in smoking and dietary intervention that have incorporated programs to teach and remind physicians to conduct brief patient-centered counseling. These trials have demonstrated significant improvement in physicians' smoking intervention practices [23] and dietary intervention practices, [10] as well as significant effects on the behavior of smokers [24] and patients with hypercholesterolemia. [10]

The noted studies and other clinical trials clearly demonstrate that education for the development of intervention skills is necessary although not sufficient for increasing physicians' preventive counseling practices. [25] Therefore, providing education to increase competence is important in efforts to facilitate provider-delivered alcohol intervention. However, medical schools, residency training, and continuing medical education programs do little to promote the skills needed in alcohol counseling. [21] The limitations on health care providers' time and practice resources underline the importance of providing brief and efficacious interventions and using ancillary staff to intervene with patients.

We describe an educational program consisting of a 2-hour group training session and 1 to 2 short (10-20 minutes) individual skill-training sessions for teaching primary care providers a structured alcohol counseling intervention directed at high-risk and problem drinkers seen in a primary care clinic. It reports short-term (1-2 months) effects of this program on providers' knowledge about the nature, prevalence, consequences, and treatment of high-risk and problem drinking; attitudes concerning the use of alcohol intervention as part of primary care provision; self-efficacy in providing alcohol intervention; and alcohol intervention skills. The training was part of a randomized trial whose goals were to demonstrate that health care providers can develop knowledge, attitudes, and skills that can improve their patient-centered alcohol counseling and to determine the effect of this intervention and an office practice management

system on short-term and long-term alcohol behavior in a general medical population.

METHODS

PROVIDER GROUPS

There were 31 Special Intervention providers consisting of 14 attending board-certified internists, 12 residents, and 5 nurse practitioners. They were relatively evenly split across gender and were predominantly white. There were varying levels of alcohol training with some providers (30%) having prior training in alcohol counseling, half having prior instruction in how to assess alcohol dependency, and 1 physician having supervisory experience treating patients with alcohol problems. All providers practiced in a primary care clinic based in a large academic medical center and were assigned randomly by clinical team affiliation to the usual care (ie, control) or Special Intervention condition. The current study reports the results of the training program for the Special Intervention providers.

TRAINING PROGRAM

Overview

The project health provider-delivered intervention was developed at the University of Massachusetts Medical School, Worcester, to teach providers a counseling intervention and how to use a brief motivational interviewing approach to negotiate change in alcohol consumption. The training focuses on alcohol counseling skills as reflected in the use of role-plays, an important method of learning often neglected in traditional continuing medical education programs that emphasize knowledge. [26-28]

The counseling intervention is similar to, but more complex than, other patient-centered interventions developed by our research team for smoking [26] and for elevated lipid levels. [27] Similar to these lifestyle interventions, the alcohol intervention is grounded in 3 theories: information processing theory [29]; the health belief model [30,31] and social learning theory. [32,33] It also is similar to some aspects of stages of change theory [34,35] and Miller's motivational interviewing (ie, the 3 e's: e xpress concern, e xplore circumstances, e ncourage and assess motivation). [36,37] Patient-centered counseling for alcohol intervention uses a series of questions to elicit information and feelings from the patient, with the primary goals of facilitating motivation and self-efficacy and developing a plan for change. The change in orientation required to be able to work with problem-drinking issues (where the goal may be reduction in drinking) vs alcohol dependence (where the goal is abstinence) was emphasized throughout the training.

Content of Training

Alcohol intervention algorithms for initial ([Figure 1](#)) and follow-up counseling were developed with input from groups of internal medicine and family medicine physicians not involved with the research project. These algorithms educate providers about conditions for which they should refer alcohol-dependent patients for more intensive services and guide them in their counseling efforts, emphasizing the development of cognitive behavioral change plans appropriate to the patient's readiness to change.

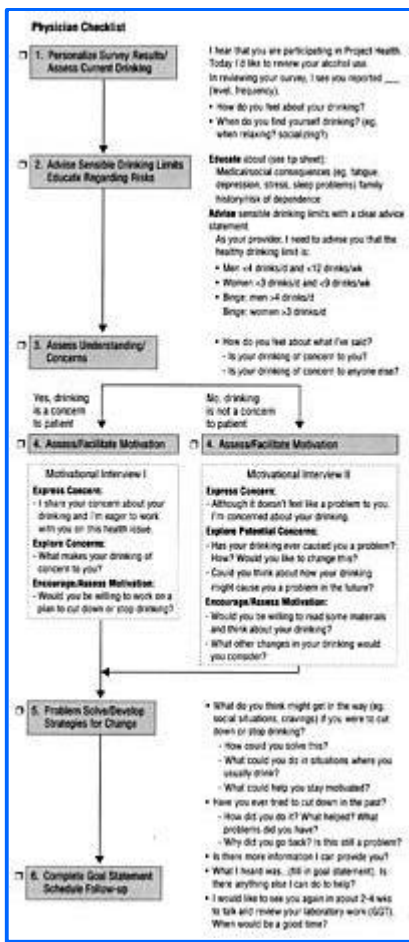


Figure 1. Provider-delivered alcohol intervention algorithm. GGT indicates gamma-glutamyltransferase.

[Help with image viewing]

The intervention training and the algorithm use a patient-centered counseling approach that elicits active patient involvement in behavior change through initially nondirective, open-ended questioning (eg, "How do you feel about your drinking?" "How might you go about cutting down?"). This contrasts with the traditional provider-centered model in which the provider assumes a greater degree of control, communicating risk information to the patient repeatedly, advising the patient what to do, or questioning the patient in a directive fashion without eliciting his or her thoughts or feelings (eg, "Do you think you have a drinking problem?" "You need to stop drinking"). The intervention algorithm for the initial visit (Figure 1) is a sequence of 6 steps that focuses on cognitions and behaviors. In response to the reality of short outpatient encounters and large patient panel sizes, the training demonstrated that patient-centered approaches in which the patient and provider mutually agree on specific alcohol-related cognitive or behavioral changes actually require less time overall than traditional provider-centered approaches.

The providers also were taught to use patient educational materials (ie, tip sheets) and a goal statement that enables patients to identify problems interfering with alcohol behavior change and identify solutions that are realistic for their circumstances and past experiences. Intervention packets that contain these materials, as well as the algorithms, standard drink information, the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, [15] criteria for diagnosing alcohol dependence, and a referral list for alcohol-dependent patients, were given to each provider in the training and they received instruction on how to introduce them to patients.

Structure of the Training Program

The training generally occurred in 2 sessions—a 2-hour small-group session and a 10- to 20-minute

individual tutorial session 2 to 6 weeks after the group session. In addition, at the beginning of the recruitment period research assistants generally gave a brief (1-2 minutes) refresher orientation to providers about their use of the intervention tools (ie, goal statement, tip sheets) just before a study patient was seen. In total, providers received about 2.5 to 3 hours of training.

The small-group sessions ranged in size from 4 to 15 participants and included the following: (1) a didactic component that taught the definition and prevalence of high-risk drinkers, problem drinkers, and dependent drinkers in the primary care setting and reviewed early stage intervention studies; (2) discussion of a videotape that demonstrated patient-centered alcohol intervention for initial and follow-up visits; (3) role-playing with simulated patients using scripted vignettes; and (4) a description of the patient-screening process and logistics of the study. An average of 1.5 hours of the group training program was dedicated to teaching and practicing the counseling intervention. The individual tutorial session also focused on counseling skills through reviewing the counseling materials (ie, algorithm, goal statement, and tip sheets) and role-playing an initial counseling intervention with a patient simulator who then provided immediate feedback to the provider.

ASSESSMENT ⁺

Overview ⁺

To evaluate the influence of the training program, identical assessments were administered to the Special Intervention providers before and 1 month after the completion of the training program.

Counseling Skills ⁺

To assess counseling skills, each provider was audiotaped before and (approximately 1 month) after training while delivering an alcohol intervention to a simulated patient. The audiotapes were then scored using a 9-item instrument that reflected the content of the counseling algorithm ([Figure 1](#)) and ([Table 1](#)). Each item (ie, step) was rated on a 0- to 3-point scale, with higher scores representing greater use of patient-centered interventions, resulting in a maximum possible score of 27. Each audiotape was scored by 1 of 2 evaluators blinded to intervention condition and pretraining or posttraining status. Using the generalized kappa for ordinal data, [\[38\]](#) the mean agreement on all intervention steps was 0.78 (range, 0.76-0.91), demonstrating good interrater reliability.

Content Area†	Mean Score		Mean Change Score
	Before Training	After Training	
Assess current drinking level	2.0	2.1	0.1
Advise sensible drinking	0.4	2.1	1.7‡
Educate regarding risks of alcohol use	1.8	2.8	1.0‡
Explore patient feelings and concerns	1.9	2.6	0.7‡
Ask if patient's drinking is a concern to others	0.9	0.6	-0.3
Explore barriers to cutting down	0.1	0.9	0.8‡
Ask about past experiences cutting down	0.6	0.7	0.1
Problem solve and develop strategies for change	0.4	1.1	0.7‡
Negotiate goals	0.5	1.8	1.3‡

*N=31. Paired t test for the null hypothesis: the mean change score is equal to 0.
 † The range for each content area item is 0 to 3.
 ‡ The t test is significant (P<.05).

Table 1. Changes in Provider Counseling Skills From Prealcohol to Postalcohol Intervention Training*

[\[Help with image viewing\]](#)

Attitudes ⁺

Although the major focus of the training program was on the development of counseling skills, attitudes also were assessed to determine the impact of an increase in skills on providers' attitudes toward

intervening with their patients and toward alcohol abuse. Providers' confidence (self-efficacy) in their ability to intervene with problem drinkers, as well as perceived importance of doing so, was assessed using a 13-item questionnaire adapted from previously developed scales measuring these constructs in smoking and lipid intervention trials (Table 2). [26,27] Responses were scored on 10-point Likert scales that ranged from definitely not confident and not important to definitely confident and extremely important. The test-retest reliability had been established previously for these scales in dietary intervention [27] and was assumed not to differ significantly from prior values. As a further measure of self-efficacy, providers were asked to rate the percentage of their patients who would modify their drinking as a result of the provider's counseling.

Item†	Mean Score	
	Before Training	After Training
1. Provide information on healthy benefits of sensible drinking	6.8	8.4
2. Help patients identify benefits of cutting down	6.8	8.4
3. Help patients learn from prior attempts to cut down	5.4	7.9
4. Help patients solve problems in cutting down	5.0	7.8
5. Help patients identify social supports	5.0	7.3
6. Help patients identify potential areas of difficulty in cutting down	5.5	8.0
7. Help patients develop a personal plan for cutting down	4.7	8.1
8. Incorporate patient's input into treatment planning	5.6	8.6
9. Use open-ended questioning with even unmotivated or defensive patients	5.6	8.0
10. Help patients identify triggers for relapse	5.7	7.8
11. Distinguish between alcoholic patients and high-risk drinkers	5.7	7.6
12. Arrange appropriate follow-up to help patients cut down	4.9	7.3
13. Tailor intervention to patient's motivation level	5.0	7.8
Summary score‡	5.6	7.9

*N=31. All P values are <.001.
 †The range for each item is 0 to 10.
 ‡Paired t test for the null hypothesis: the mean change score after and before is equal to 0.
 §The summary score is calculated as the mean of items 1 through 13.

Table 2. Changes in Self-efficacy From Prealcohol to Postalcohol Intervention Training*

[Help with image viewing]

The assessment of providers' attitudes regarding characteristics and treatment of problem drinkers included 11 statements that were adapted from the Substance Abuse Attitude Survey. [39] Each statement was scored on a 6-point Likert scale that reflected the degree to which the provider agreed or disagreed with an attitudinal statement. Five of the 11 items were adapted from the Treatment Optimism Subscale of the Substance Abuse Attitude Survey and reflect the provider's level of optimism that problem drinkers can be helped to change their drinking habits. The remaining 6 items were adapted from subscales assessing providers' stereotypes regarding alcohol misuse and treatment, eg, "having alcohol problems is associated with a weak will" and "physicians who diagnose alcohol problems early improve the chances of behavior changes." Perceived responsibility for alcohol counseling was assessed using 3 questions, each scored on a 6-point Likert scale that ranged from no responsibility to major responsibility. Providers were asked how much they felt responsible for (1) routine screening for drinking problems; (2) counseling patients and their families about drinking problems; and (3) intervening with problem drinkers.

Knowledge‡

The knowledge questionnaire contained 11 multiple choice items focusing on the nature, prevalence, and medical consequences of high-risk drinking and problem drinking, alcohol dependence, and sensible drinking limits for men and women. Each correct response contributed 1 point, resulting in a score range of 0 to 11 points. Content validity was determined by having the questions reviewed and modified by an

expert panel (ie, educators, physicians, and behavioral scientists) who reached consensus that the instrument constituted a representative sampling of the knowledge base necessary to facilitate alcohol change.

STATISTICAL METHODS [↑](#)

Frequency distributions and univariate statistics were generated [40] for categorical and continuous variables, respectively. The definitive analysis is based on paired data for each provider, representing measures taken both before and after training. A change score was calculated by subtracting the pretraining score from the posttraining score. A paired t test was used to evaluate the change in scores for each provider characteristic, ie, knowledge, attitude toward alcohol change, self-reported intervention practices, and skills. This analytic approach reduces the total variance in the measure because it controls intraperson sources of variability.

Additional analyses were conducted to determine whether there were any changes in our outcome measures based on gender or provider type. Differences by gender were examined using Student t test [40] and for provider type (eg, attending physicians, residents, and nurse practitioners) using 1-way analysis of variance. This was accomplished using the personal computer version of SAS statistical software. [40]

RESULTS [↑](#)

COUNSELING SKILLS [↑](#)

Paired t tests computed for pretraining and posttraining counseling skill scores (before training [mean], 8.6; after training [mean], 15.3; ie, the sum of the pretraining and posttraining mean scores for the content areas in ([Table 1](#))) revealed a highly significant overall increase in these skills ($P<.001$). Pretraining and posttraining differences were statistically significant within all provider categories as well as for attending physicians (before training [mean], 10.5; after training [mean], 17.9), residents (before training [mean], 6.4; after training [mean], 16.0) and nurse practitioners (before training [mean], 9.2; after training [mean], 20.8).

Paired comparisons performed for each skill separately showed significant improvement in 6 of the 9 skill items ([Table 1](#)). The greatest change in skills occurred in the areas of personalizing advice regarding sensible drinking limits; problem solving and developing strategies for change; negotiating goals; and providing personalized information on risks of the patient's level of alcohol use. Little or no improvement was seen in the areas asking about past experience with cutting down on alcohol intake and inquiring as to others' concerns about the patients' drinking, despite initially low scores on these items. Providers' baseline scores in the area of assessing their patients' current drinking patterns were high and did not improve significantly following training.

There was a significant difference between male and female providers on negotiating goals. Women were significantly more skilled at negotiating personalized goals than men, both before training (male [mean], 0.3; female [mean], 0.9; $P<.05$) and after training (male [mean], 1.4; female [mean], 2.4; $P<.01$). However, there was no intervention effect. Both groups improved about the same as a result of training. No other gender differences were found for the skills items.

ATTITUDES [↑](#)

Each of the 13 items of the self-efficacy assessment independently showed significant pretraining and posttraining differences (all P values $<.001$) ([Table 2](#)). The greatest level of change was seen on item 7, which assesses providers' confidence that they can develop an individualized plan for alcohol moderation

or abstinence, which is somewhat reflective of the initially low levels of self-efficacy for this item. Additional items showing a high-level pretraining and posttraining change reflected providers' perceived ability to engage in effective and collaborative problem solving (item 4), tailor their intervention to incorporate the patient's input (item 8), and help patients learn from prior attempts to cut down (item 3). In addition, providers' estimates of the percentage of patients who would modify their drinking as a result of the providers' counseling almost doubled after training. Mean estimates before training were 20%, whereas mean estimates after training were 38% ($P=.001$).

Pretraining ratings of importance (data not shown) of each of the 13 items listed in ([Table 2](#)) to assist patients to modify their alcohol intake were high (before training [mean], 8.4). Nevertheless, pretraining and posttraining differences in importance mean scores were significant (after training [mean], 9.0; $P<.001$), and 10 of the 13 items independently showed significant pretraining and posttraining differences.

We also examined how the self-reported rating of importance improved among the 3 provider categories and between male and female providers. Attending physicians and residents had similar pretraining levels with values of 8.2 and 8.1, respectively. While there was little improvement among the attending physicians, the residents experienced a significant improvement of 1 point ($P=.002$). The nurse practitioners' mean rating of importance was at the maximum of 10.0 both before and after training, indicating the high value they place on assisting their patients to modify their alcohol intake. Male providers had a statistically significant ($P=.05$) improvement in their rating of importance compared with female providers (men, 0.8; women, 0.3). However, this finding is confounded because 5 of the 13 female providers were nurse practitioners whose initial high ratings precluded any improvement.

Measurement of attitudes reflecting the degree of treatment optimism and stereotypic beliefs held by providers toward patients with alcohol-related problems demonstrated significant pretraining to posttraining differences (before training [mean], 4.8; after training [mean], 5.0; $P<.03$). These results also reflect that even before training, providers were not locked into negative attitudes toward patients with alcohol-related problems. Prior to receiving training, providers believed that treating alcohol-related problems was the responsibility of a primary care provider and no posttraining improvement was seen (before training [mean] and [mean] after training, 4.8).

KNOWLEDGE [+](#)

Significant overall improvement was demonstrated in pretraining to posttraining scores on the 11-item questionnaire assessing knowledge of prevalence and consequences of alcohol abuse (before training [mean], 7.5; after training [mean], 8.4; $P<.01$). On questions assessing providers' knowledge of sensible drinking limits for men and for women, marked improvement was observed. Initially, only 48.4% of providers could correctly identify sensible drinking limits for men and 45.2% could identify these limits for women. Following training, 96.8% of providers correctly identified sensible drinking limits for men and 100% of providers did so for women.

COMMENT [+](#)

This study documents the successful development and implementation of a training program that focuses on teaching health care providers alcohol counseling skills. The training program is efficient, requiring a maximum of only 3 hours and accommodating a number of providers simultaneously. It significantly improved attending physicians', residents', and nurse practitioners' counseling skills and sense of competence to intervene with high-risk drinkers. Specifically, providers learned how to provide personalized information and advice regarding their patients' drinking behavior, help patients identify sources of motivation for decreasing alcohol usage, explore barriers to change, and develop strategies for change based on the patients' own strengths, resources, and past experiences. A parallel increase in

perceived preparedness to intervene also was observed.

The focus on counseling skills in this training program contrasts with the traditional emphasis in medical schools and continuing medical education programs on knowledge of medical sequelae of alcoholism. When the goal is to prevent medical problems through facilitating lifestyle change, knowledge alone is inadequate and counseling skills are of primary importance. For example, teaching physicians specific counseling interventions has been shown to be efficacious in helping patients stop smoking [23,24] and decreasing the fat in their diets. [10] It is likely that teaching providers counseling skills also would be useful in facilitating other preventive lifestyle changes, such as decreasing alcohol intake, increasing exercise, decreasing psychological stress, dealing with depression, and improving medication compliance.

Another important distinction between our training program and traditional continuing medical education or medical school curricula is the emphasis on intervening with high-risk and problem drinkers, ie, patients who abuse alcohol to a degree that places them at risk for negative medical and social consequences but who are not psychologically or physiologically dependent. This population, which is much larger than the population of alcohol-dependent drinkers, often is able to modify drinking behavior without completely abstaining. [41] Our training program therefore emphasizes sensible drinking limits and teaches providers how to help patients move toward this goal, rather than focusing on alcoholism per se and recommending a goal of abstinence. Surprisingly, before training, remarkably few providers were aware of or conveyed to their patients information regarding sensible (healthy) drinking limits. This improved significantly after the training program.

The training program emphasizes the need to develop a specific plan for moving toward sensible drinking behavior, including the use of written goals between the provider and patient. Preprogram results indicate that the use of such formalized plans was nonexistent in this provider population, while posttraining results indicate that use of these plans was almost universal. It is of interest that female providers were significantly more skillful at negotiating personalized behavioral goals with their patients than were male providers, both before and after training. The ability to engage patients in a discussion of specific steps that they may be willing to take to change their behavior, including the development of a behavioral plan, is an extremely important aspect of any behavioral intervention. In this regard, the female providers were consistently more patient centered than the male providers who were more provider centered (ie, more inclined to set goals unilaterally and tell patients what to do). This finding is consistent with current sociocultural research that suggests that females are socialized to be more relationally oriented than males. [42] Further research examining gender differences in provider-patient relationships and the impact of possible relational differences on patient outcomes may therefore be useful.

Before training, providers endorsed the perception that treating alcohol-related problems was the responsibility of the primary care provider, and our training did not alter that perception. However, we know from prior studies that perceived responsibility for the treatment of a particular health problem does not guarantee that a provider will intervene with patients who have that problem. Providers also must believe that treatment can be effective and that they are capable of providing this treatment. [43-45] Providers are notoriously low in self-efficacy regarding counseling their patients about behavior change. A key finding of this study is that after one training session providers reported significant improvement in self-efficacy as well as perceived importance and usefulness of their interventions. It is likely that this increased confidence is linked to the providers' belief that they had sufficiently mastered counseling skills during the training program and that these providers would be more likely to engage in alcohol counseling interventions with their patients.

There also was significant improvement in pretraining to posttraining scores on items assessing

knowledge of prevalence and consequences of alcohol abuse. Knowledge objectives for this training were limited and focused on defining the range of alcohol problems seen in primary care and identifying alcohol-related symptoms and medical problems commonly found in primary care settings and outlining simple recommendations for sensible drinking. Unlike the standard lecture on medical complications of late-stage alcoholism, this knowledge base provided key information for the primary care provider to use in providing personalized advice and patient-centered counseling for high-risk and problem-drinking patients (ie, linking the patients' health issues to their alcohol use), as well as for the alcohol-dependent patient.

Given the seriousness and prevalence of high-risk and problem drinking and the need for health care providers to assume a greater role in addressing this problem, it is important to develop brief yet efficacious training to assist providers in intervening with this population. The results reported herein demonstrate that a group training program plus brief individual feedback can positively affect providers' attitudes and skills in delivering patient-centered alcohol intervention-crucial determinants of whether providers address health-risk behavior change in their patients. [22,46,47] It is likely that similar lifestyle interventions also could be developed for other health-risk behaviors and that these could be learned and used by other health care personnel (eg, nurses or health educators) in a busy office practice. However, use of such personnel in a primary care setting for alcohol intervention remains to be tested.

Current trends in the economics of health care further underline the importance of facilitating health-promoting lifestyle changes. For example, capitated health insurance, in which providers are allocated a fixed amount of money for all the health care needs of a particular cohort of patients, has become increasingly prevalent in recent years and will likely continue to do so. Under capitated coverage, it is in the interests of providers and medical institutions to keep patients healthy rather than perform expensive tests, procedures, and treatments once medical problems have developed. Teaching providers to deliver brief counseling interventions regarding health-promoting changes thus becomes even more important as capitation increases its reach.

In the medical environment there often is little opportunity for learning communication skills, behavioral intervention, and alcohol assessment; physicians focus on the presenting problem with little attention paid to unhealthy lifestyle behaviors that contribute to it. Goals for medical education need to include the development of skills that physicians can use to facilitate health-promoting behaviors among their patients. Alcohol intervention is an area that needs attention in medical education. We teach the patient-centered counseling model to all our medical students, as well as to our residents in internal medicine and family medicine, and it is generally well accepted. [26] Development of intervention skills that physicians can use to help patients promote their health also must be a goal in continuing medical education followed by the subsequent reinforcement of those skills in the practice setting. The results of this 3-hour training program suggest that physicians and nurse practitioners in a primary care setting are interested in learning, and are responsive to the teaching of, specialized skills deemed important for promoting change in alcohol-related behavior.

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