

# Implementation of Evidence-based Alcohol Screening in the Veterans Health Administration

Katharine A. Bradley, MD, MPH; Emily C. Williams, MPH; Carol E. Achtmeyer, MN; Bryan Volpp, MD; Bonny J. Collins, PA-C, MPA; and Daniel R. Kivlahan, PhD

**Background:** Despite evidence-based guidelines, brief alcohol screening and counseling have not been routinely integrated into most primary care practices in the United States.

**Objective:** To describe the results of the implementation of evidence-based alcohol screening by the Veterans Health Administration (VA) in 2004, as the first step toward implementation of brief alcohol counseling.

**Study Design:** This observational study of outpatients from all 21 VA networks relied on the following 2 data sources from the VA Office of Quality and Performance: (1) Medical record reviews, designed to compare VA networks quarterly, evaluated whether established VA patients had documented screening for alcohol misuse and documented follow-up assessment for alcohol use disorders among those who screened positive for alcohol misuse (January-March 2005); and (2) Mailed patient satisfaction surveys from 2004, which oversampled patients new to the VA (response rate, >70%), included the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) questions and asked about past-year advice "to drink less or not to drink alcohol" from a VA provider.

**Results:** Based on 10 115 medical record reviews, 93% (range, 89%-96% across networks) of outpatients were screened for alcohol misuse, and 25% (range, 11%-36%) screened positive. Among screen-positive patients, 42% (range, 5%-84%) had documented follow-up assessment, but absolute numbers of screen-positive patients evaluated were small (27-80 patients per network). Based on 235 481 patient surveys, the prevalence of alcohol misuse was 22% (range, 15%-27% across networks), and 28% (range, 20%-36%) of screen-positive patients reported receiving alcohol-related advice. Alcohol-related advice increased as AUDIT-C scores increased.

**Conclusion:** The VA successfully implemented evidence-based alcohol screening, but the rate of follow-up among screen-positive patients remained low.

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Alcohol misuse is common and accounts for about as much death and disability globally as tobacco and hypertension.<sup>1</sup> More than 8% of the US population experience alcohol abuse or dependence,<sup>2</sup> and an additional 30% drink at risky levels (definitions of alcohol misuse are given in Table 1).<sup>3</sup> Alcohol screening followed by brief alcohol counseling has been demonstrated to be efficacious in randomized controlled trials<sup>4,5</sup> and has been identified as a national prevention priority,<sup>6-8</sup> but efforts at widespread implementation of these practices have not been successful.<sup>9</sup>

The Veterans Health Administration (VA) recently replaced a program of annual screening for alcohol use disorders<sup>10</sup> with a program of annual screening for alcohol misuse (risky drinking and alcohol use disorders) as the first step toward implementation of evidence-based brief alcohol counseling. This article describes the adoption and nationwide implementation of an alcohol misuse screening performance measure in 2004. Although no formal prospective evaluation of this program was conducted, we present results of performance monitoring regarding alcohol screening and follow-up for the 21 VA networks through March 2005, comparing results based on medical record reviews and patient surveys.

## THE SPECTRUM OF ALCOHOL MISUSE

Since the early 1980s, there has been increasing recognition that most individuals who experience alcohol misuse are not alcohol dependent. Before then, medical providers focused predominantly on the diagnosis and referral of patients with alcohol dependence. In 1990, a seminal report noted that, because patients with nondependent risky and problem drinking outnumber those who meet diagnostic criteria for alcohol depend-

From Health Services Research and Development (KAB, ECW, CEA, DRK) and Primary and Specialty Medical Care (KAB, CEA), VA Puget Sound Health Care System; Center of Excellence in Substance Abuse Treatment and Education (KAB, ECW, DRK); and Departments of Medicine (KAB, ECW), Health Services (KAB), and Psychiatry and Behavioral Sciences (DRK), University of Washington, Seattle; VA Northern California Healthcare System, Martinez (BV); and VA Office of Quality and Performance, Washington, DC (BJC).

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Address correspondence to: Katharine A. Bradley, MD, MPH, Health Services Research and Development (152), VA Puget Sound Health Care System, 1100 Olive Way, Ste 1400, Seattle, WA 98101. E-mail: willi@u.washington.edu.

**Table 1.** Definitions for the Spectrum of Alcohol Misuse

Alcohol use disorders	A chronic maladaptive pattern of alcohol use that meets diagnostic criteria for alcohol abuse or dependence
Problem drinking	Drinking despite experiencing adverse consequences of drinking (includes alcohol use disorders and milder problems due to drinking)
Risky drinking	Drinking above the recommended limits: Men: >14 drinks/wk or >4 drinks on 1 occasion Women: >7 drinks/wk or >3 drinks on 1 occasion
Alcohol misuse	The entire spectrum from risky drinking to alcohol use disorders

ence, adverse outcomes from the former group constitute a greater burden to society.<sup>11</sup>

### **Efficacy of Brief Alcohol Counseling in Primary Care**

In the 1980s and 1990s, recognition of the importance of addressing the full spectrum of alcohol misuse led to research aimed at decreasing risky and nondependent problem drinking. British researchers conducted the first randomized controlled trial to demonstrate the efficacy of brief alcohol counseling by primary care providers.<sup>12</sup> Later, Project TrEAT (Trial for Early Alcohol Treatment) replicated the study in the United States.<sup>13</sup> The counseling interventions in these trials consisted of 5 to 20 minutes of patient-centered counseling that typically included a detailed assessment of drinking and readiness to change, feedback linking alcohol use to health, explicit advice, negotiation of a drinking goal, and follow-up.<sup>4,6</sup> Project TrEAT demonstrated a significant 11.5% decrease in the proportion of patients with risky drinking 12 months after brief alcohol counseling and a significant decrease in subsequent hospital utilization.<sup>13</sup> After 4 years, for every \$1.00 spent on screening and brief alcohol counseling, \$4.30 on average were saved on inpatient and emergency care, whereas \$39.00 were saved from the societal perspective.<sup>14</sup> Meta-analyses have confirmed the efficacy of brief alcohol counseling for decreasing drinking among outpatients,<sup>4</sup> although some authors have noted that low levels of recruitment for these trials may limit the generalizability and broader benefits of brief alcohol counseling in practice.<sup>15</sup>

### **Implementation of Brief Alcohol Counseling in Trials**

Implementation of brief alcohol counseling in routine clinical settings has been hampered by the complexity of the procedures required to implement such counseling in randomized controlled trials. Primary care trials demonstrating its efficacy have used research staff to (1) screen for alcohol misuse and further assess patients who screen positive, (2) educate providers, and (3) ensure that patients who screened positive were offered appropriate counseling.

*Alcohol Misuse Screening and Assessment.* Trials have generally used the CAGE questionnaire (an acronym indicating cut down on drinking, annoyed by complaints about drinking, guilty about drinking, and had an eye-opener [drink] first thing in the morning) supplemented with 3 other questions<sup>12,13,16</sup> or with the World Health Organization's (WHO) 10-item Alcohol Use Disorders Identification Test (AUDIT).<sup>17</sup> The CAGE, a validated screening questionnaire for alcohol use disorders, has not been used alone in these trials because it does not screen for risky drinking. After screening, research staff further assessed patients who screened positive to confirm risky drinking and to exclude patients with severe problems indicating a need for more intensive interventions.

*Provider Education.* Many providers are unfamiliar with the broad target population for brief alcohol counseling.<sup>18,19</sup> Therefore, researchers have educated providers about the shift from a narrow focus on alcohol dependence to a broader focus on the whole spectrum of alcohol misuse, as well as about specific components of brief patient-centered alcohol counseling.<sup>18,19</sup>

*Ensuring That Brief Alcohol Counseling Occurred.* Researchers have often scheduled a special patient visit with the primary care provider for alcohol counseling.<sup>13</sup> Alternatively, patients have been referred to health counselors to ensure that brief alcohol counseling was offered to patients with alcohol misuse who were randomized to receive the intervention.<sup>20,21</sup>

### **Implementation Studies of Brief Alcohol Counseling**

Published studies<sup>22-35</sup> of efforts to implement brief alcohol counseling in nonresearch settings, most conducted outside the United States, have had disappointing results. Trials in England,<sup>22,24</sup> Finland,<sup>25</sup> Sweden,<sup>26</sup> and Australia<sup>27</sup> and the multicountry WHO study<sup>28</sup> have tried (1) marketing programs to providers, (2) educating and coaching providers, (3) screening patients and prompting providers with results (sometimes along with educational patient handouts), and (4) providing small financial incentives. Except for a study<sup>29</sup> combining the first 3 of these components, no strategy (to our

knowledge) has markedly increased the rates of screening and brief alcohol counseling.<sup>25-27</sup> In a large study,<sup>30</sup> implementation was so limited that 20% was considered a high level of alcohol screening and 10% a high level of brief alcohol counseling. Sustained implementation was rare once research studies ended.<sup>29</sup>

Implementation studies<sup>31-35</sup> of brief alcohol counseling in the United States have focused primarily on screening patients and on prompting providers with screening results or having other staff conduct brief alcohol counseling, and results have been marginal or negative. The most promising study<sup>16</sup> trained providers for 3 hours and placed a detailed algorithm on the medical record as a prompt when a patient screened positive for alcohol misuse. Unfortunately, such detailed paper algorithms are unlikely to be practical in nonresearch clinical settings with multiple preventive agendas.<sup>36</sup> A recent implementation study<sup>9</sup> in 5 managed care settings screened fewer than 25% (median, 54% [range, 0%-95%]) of patients and observed variability across sites in the rates of brief alcohol counseling among patients who screened positive for alcohol misuse.

No study, to our knowledge, has confirmed the effectiveness of alcohol screening and counseling integrated with other recommended preventive screening and counseling in a nonresearch setting, because no such program has been successfully implemented.<sup>37</sup> Electronic medical record systems and computerized clinical reminders have been proposed<sup>38</sup> but not evaluated as a means to implement routine alcohol screening and counseling. Finally, we know of no study that has evaluated a stepped approach to implementation, sequentially implementing alcohol screening, provider education, and incentives for follow-up brief alcohol counseling.

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SYSTEMS FOR IMPLEMENTING  
PREVENTIVE CARE IN THE VA

**VA Computerized Patient Record System (CPRS)**

CPRS has been implemented at all 21 VA networks, each made up of 3 to 10 VA facilities and up to 47 community-based outpatient clinics, which are often free-standing (non-VA) clinics that contract to also provide care for VA outpatients. CPRS includes results reporting, note writing, and order entry components, as well as computerized clinical reminders. A version of CPRS software is being made available to non-VA practices.

**CPRS Clinical Reminders**

Computerized clinical reminders in CPRS prompt clinicians to provide evidence-based care, and some also

incorporate decision support, educating clinicians and guiding them through evidence-based algorithms. These reminders insert prespecified text into the clinician's electronic progress note, thereby documenting that the desired care has been provided. Actions taken in one clinical reminder (eg, documenting a positive screen for alcohol misuse) can trigger another reminder (eg, following up on brief alcohol counseling).

The VA's current clinical reminder system is passive: reminders do not pop up automatically. Instead, providers must be motivated to open a "reminders" button after they open a progress note in CPRS to view all clinical activities that are due. Reminders remain due until a required clinical action turns it off. Although some VA clinical reminders have been developed and disseminated nationally, most have been developed locally or adapted from reminders developed at other facilities. At some facilities, completion of clinical reminders is required for all providers; at others, clinical reminders have been implemented as an optional tool or are used predominantly by nursing staff.<sup>39</sup>

**VA Performance Measures**

Since 1996, the VA has established mandatory performance measures for all VA networks. A national Performance Measures Work Group recommends to the VA's Under Secretary for Health which performance measures should be implemented each year, based on the importance of the condition in the VA population, the magnitude of the gap between current and "best" practices, the strength of supporting evidence for a practice, and the feasibility of nationwide monitoring. The Under Secretary for Health determines which measures will be included in the performance contracts of VA executives. The directors and key top managers of the 21 regional VA networks and 157 VA medical centers have personal salary incentives that are contingent on performance. All VA facilities, including 696 community outpatient clinics, must then implement practices to meet performance targets.

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VA IMPLEMENTATION OF EVIDENCE-BASED  
ALCOHOL SCREENING

**Identifying Alcohol Screening as a Priority**

Based on the prevalence of alcohol use disorders among VA populations and on research showing that alcohol misuse is seldom recognized by primary care providers without screening, a 1997 VA performance measure required annual alcohol screening with any validated screening questionnaire. Following baseline performance of 2% in 1996, 40% of patients were

**Table 2.** Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) Questionnaire: Scoring System

How often have you had a drink containing alcohol in the last year? Consider a "drink" to be a can or bottle of beer, a glass of wine, a wine cooler, or one cocktail or shot of hard liquor (like scotch, gin, vodka).

- Never (0 points)
- Monthly or less (1 point)
- 2-4 Times a month (2 points)
- 2-3 Times a week (3 points)
- $\geq 4$  Days a week (4 points)

How many drinks containing alcohol did you have on a typical day when you were drinking in the last year?

- Do not drink (0 points)
- 1-2 Drinks (0 points)
- 3-4 Drinks (1 point)
- 5-6 Drinks (2 points)
- 7-9 Drinks (3 points)
- $\geq 10$  Drinks (4 points)

How often in the last year have you had 6 or more drinks on one occasion?

- Never (0 points)
- <Monthly (1 point)
- Monthly (2 points)
- Weekly (3 points)
- Daily or almost daily (4 points)

screened by the end of 1997. By 2000, the rates of alcohol screening were high (85%), but most sites were only screening for alcohol use disorders using the CAGE questionnaire.<sup>40</sup> Although this screening resulted in increased identification of patients with alcohol use disorders,<sup>10</sup> only a minority of patients with alcohol misuse reported receiving any alcohol-related advice.<sup>41</sup> The VA Office of Quality and Performance became especially concerned by survey data indicating that, among patients who wanted help with their drinking, only 12% of heavy drinkers and 17% of very heavy drinkers reported receiving it.<sup>42</sup>

### Educating Quality Managers

In response to the observed deficits, the VA Office of Quality and Performance consulted with researchers and organized 2 video presentations in early 2003 to educate national and facility quality managers regarding evidence-based alcohol screening and brief alcohol counseling. These presentations noted the following 2 deficits in current VA performance: (1) the CAGE questionnaire alone was being used and (2) brief alcohol counseling was offered predominantly to severely affected patients or to those with medical contraindications to

drinking. Patients with milder misuse who benefit from brief alcohol counseling were not being identified or receiving counseling.<sup>41</sup> In addition, the presentation introduced managers to a validated 3-item screening questionnaire for alcohol misuse, the AUDIT-Consumption (AUDIT-C) questions (Table 2).<sup>43,44</sup> Screening for alcohol misuse was proposed as the essential first step<sup>9</sup> toward implementation of evidence-based brief alcohol counseling.

### Adopting the New Performance Measure

In June 2003, after reviewing the evidence for screening validity and efficiency, the VA adopted the AUDIT-C as the only brief screen to meet the alcohol misuse screening performance measure. Sites that wanted additional screening information could add questions from the CAGE questionnaire or use the full AUDIT. At that time, 91% of alcohol screening nationwide in the VA used the CAGE questionnaire, and VA facilities had until December 2003 to switch to an acceptable screen for alcohol misuse.

### Educating Clinicians

The announcement in July 2003 generated many questions about the rationale for this performance measure and created almost instant, unanticipated interest in education regarding evidence-based alcohol screening and counseling. Informal consultations indicated that local clinical leaders did not understand the "paradigm shift" to the broader spectrum of alcohol misuse. For example, some sites substituted the AUDIT-C for the CAGE questionnaire in electronic clinical reminders and mistakenly initiated referral to specialized alcohol treatment for all patients who screened positive. Given that more than 20% of VA patients screen positive on the AUDIT-C at the recommended thresholds for VA ( $\geq 4$  points for men and  $\geq 3$  points for women), clinicians in addiction treatment programs became concerned about the anticipated high volume of inappropriate referrals.

The VA's Substance Use Disorders Quality Enhancement Research Initiative, Center of Excellence in Substance Abuse Treatment and Education, and VA Office of Quality and Performance collaborated to address these educational needs. Initially, responses were made individually via e-mail correspondence, conference calls, or sharing of the original presentations with quality managers. After distributing a frequently-asked-questions document and revising the performance measure technical manual to explain the change, requests for technical assistance subsided. The frequently-asked-questions document addressed the paradigm shift from screening for alcohol dependence to

screening for the spectrum of risky drinking to alcohol use disorders. In addition, a strategy for risk-stratifying patients based on prior alcohol treatment or AUDIT-C scores of 8 or higher<sup>45</sup> was included to help providers and managers identify patients most likely to have alcohol use disorders.

### **CPRS Clinical Reminder for Alcohol Screening**

The VA programmers revised a self-scoring clinical reminder for the AUDIT-C in the fall of 2003 and provided it to a national VA clinical reminder developer and opinion leader, who made it available nationwide. Many clinicians believed that screening nondrinkers with the 3-item AUDIT-C would be too burdensome, so the clinical reminder included a “skip out” question for nondrinkers: “In the past 12 months, has the patient had any drinks containing alcohol?”

### **Implementing the New Performance Measure**

Implementation of the performance measure for annual alcohol misuse screening was delayed until December 2003 to allow facilities to install the CPRS self-scoring AUDIT-C clinical reminder. The target screening rates were set at 82% (successful) and 89% (exceptional) of primary care patients within each network. Patients who had consistent documentation of no alcohol use or who had evidence of involvement in substance use disorder treatment were not required to be screened.

Many clinicians and quality managers questioned the recommended screening threshold for the AUDIT-C. Interview studies<sup>43,44</sup> among VA and national samples found that 4 points or higher on the AUDIT-C is the optimal screening threshold for alcohol misuse in men and 2 to 3 points or higher in women. However, patients can screen positive for alcohol misuse at these thresholds even when they report drinking below recommended limits. Specifically, patients who report drinking 1 to 2 drinks per day or 3 to 4 drinks 2 to 3 days per week have positive AUDIT-C scores of 4 (Tables 1 and 2). Some of these patients have false-positive screening test results, but interview studies<sup>43,44</sup> have shown that many are underreporting their typical alcohol use and actually drink at risky levels or meet criteria for alcohol use disorders.

Ongoing educational efforts have sought to inform clinicians and managers about these issues. Specifically, education has stressed that the AUDIT-C score (range, 0-12) is a valid screening measure, although responses to the AUDIT-C are often underestimations of actual alcohol consumption. Therefore, many patients with AUDIT-C scores of 4 to 5 who report drinking below recommended limits on the AUDIT-C will meet crite-

ria for risky drinking or alcohol use disorders based on in-depth interviews. Concerns about the AUDIT-C screening threshold were addressed in the frequently-asked-questions document, which encouraged providers to assess screen-positive patients’ alcohol use and to provide explicit education about recommended drinking limits (Table 1).<sup>5</sup> For patients who screened positive on the AUDIT-C but who appeared not to misuse alcohol, providers were advised to explicitly educate patients about recommended drinking limits and to encourage them to stay below those limits.

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### **COMPARISON OF 2 METHODS FOR MONITORING PERFORMANCE**

Two complementary systems have been used by the VA Office of Quality and Performance to monitor network performance on alcohol screening and follow-up, namely, medical record reviews and patient surveys. Herein, we describe these systems and report the results in the first 15 months after the new performance measure was implemented.

### **Nationwide Medical Record Reviews**

The VA contracts with an outside agency to conduct standardized medical record reviews of outpatients. The External Peer Review Program (EPRP) selects patients who have been receiving VA care for more than 1 year based on a complex sampling strategy that has been refined over time. In general, patients are sampled from each facility monthly to permit quarterly estimates of network performance. The eligible sample for each EPRP measure is also explicitly defined (footnotes to Table 3).

All 21 VA networks met the new alcohol screening performance measure based on medical record review in 2004, and the self-scoring CPRS clinical reminder for AUDIT-C screening was used more than 1.5 million times. Whereas the screening prevalence of alcohol use disorders had been 4.2% with the CAGE questionnaire,<sup>10</sup> as expected the screening prevalence of alcohol misuse with the AUDIT-C or the full AUDIT was much higher. Winter 2005 was the first quarter in which only screening with the AUDIT-C or the full AUDIT satisfied the performance measure, and Table 3 shows high rates of meeting the screening performance measure based on medical record reviews. The national prevalence of positive screens for alcohol misuse based on EPRP was 25% (range, 11%-36% across networks).

EPRP also monitored medical record documentation of follow-up assessment for patients who screened positive for alcohol misuse as a “supporting indicator.”

**Table 3.** Results of Alcohol Misuse Screening and Various Measures of Follow-up Based on Medical Record Reviews (EPRP) and Mailed Surveys (SHEP)\*

Network <sup>‡</sup>	EPRP Medical Record Reviews Winter 2005 <sup>‡</sup>			SHEP Patient Satisfaction Surveys 2004 <sup>‡</sup>			Network Rankings	
	Alcohol Misuse Screening Performance Measure Satisfied <sup>§</sup>	Alcohol Misuse Screen Positive <sup>  </sup>	Follow-up Assessment Documented in CPRS <sup>‡</sup>	Respondents	AUDIT-C Screen Positive <sup>‡</sup>	Patients Report Alcohol-related Advice <sup>**</sup>	% Alcohol Misuse Screen Positive Based on Different EPRP and SHEP Samples and Measures (1 = Highest; T = Ties) <sup>††</sup>	
	No. (%)	No. (%)	No. (%)		No. (%)	No. (%)	EPRP	SHEP
A	462 (96)	52 (29)	16 (48)	14 304	3561 (25)	961 (28)	7	T-5
B	489 (96)	33 (21)	16 (84)	7262	1280 (18)	452 (36)	17	T-18
C	674 (96)	51 (15)	20 (50)	14 435	2602 (18)	897 (35)	20	T-18
D	487 (95)	46 (25)	7 (27)	14 095	2370 (17)	657 (28)	T-13	20
E	488 (95)	54 (26)	13 (33)	9123	2111 (23)	644 (31)	T-10	T-8
F	561 (94)	80 (33)	27 (44)	10 174	2752 (27)	908 (34)	T-3	T-1
G	470 (94)	67 (36)	17 (30)	12 639	2793 (22)	553 (20)	1	11
H	446 (94)	47 (28)	24 (56)	9840	2451 (25)	611 (25)	T-8	T-5
I	473 (94)	53 (33)	20 (56)	10 137	2079 (21)	570 (28)	T-3	T-12
J	491 (93)	60 (26)	24 (52)	16 381	3433 (21)	942 (28)	T-10	T-12
K	486 (93)	51 (20)	9 (33)	17 124	4504 (26)	1161 (26)	18	T-3
L	451 (93)	63 (31)	20 (39)	12 678	3413 (27)	874 (26)	5	T-1
M	468 (93)	67 (35)	34 (74)	9679	2474 (26)	584 (24)	2	T-3
N	466 (92)	47 (30)	13 (46)	10 651	2268 (21)	583 (26)	6	T-12
O	463 (92)	27 (17)	10 (53)	11 148	2083 (19)	696 (34)	19	17
P	462 (92)	47 (25)	2 (8)	7922	1820 (23)	559 (31)	T-13	T-8
Q	465 (91)	27 (26)	6 (30)	9965	1473 (15)	447 (31)	T-10	21
R	447 (91)	49 (28)	22 (59)	9444	1874 (20)	609 (33)	T-8	16
S	469 (91)	46 (25)	2 (5)	10 380	2410 (23)	610 (25)	T-13	T-8
T	459 (90)	39 (11)	5 (14)	5673	1209 (21)	358 (30)	21	T-12
U	438 (89)	50 (22)	15 (39)	12 427	2977 (24)	830 (28)	16	7
<b>Total No.</b>	<b>10 115 (—)</b>	<b>1056 (—)</b>	<b>322 (—)</b>	<b>235 481</b>	<b>51 937 (—)</b>	<b>14 506 (—)</b>	—	—
Mean	482 (93)	50 (25)	15 (42)	11 213	2473 (22)	691 (28)	—	—

\*EPRP indicates External Peer Review Program; SHEP, Survey of Healthcare Experiences of Patients; CPRS, Computerized Patient Record System; AUDIT-C, Alcohol Use Disorders Identification Test-Consumption questionnaire.

<sup>‡</sup>Sampling for EPRP and SHEP. There are sampling differences between EPRP and SHEP. The EPRP data represent January through March 2005. Before then, screening with other questionnaires (eg, the CAGE questionnaire) could satisfy the EPRP performance measure for alcohol screening. While the EPRP and SHEP samples are randomly selected from among patients with a clinic visit during the past month, EPRP excluded new patients. The SHEP sampling varied during the year reported. During the first half of 2004, SHEP included only established primary care patients and purposely included all patients who were in EPRP sample. However, midway through 2004, SHEP changed its sampling to a stratified approach, in which primary care patients new to the VA, established primary care patients, and established specialty care patients were represented equally.

<sup>‡</sup>VA networks. Letters used to denote the networks were assigned according to network rankings based on network performance on the alcohol misuse screening performance measure (January-March 2005).

<sup>§</sup>EPRP alcohol misuse screening performance measure. Number of eligible patients who satisfied the alcohol misuse screening performance measure. The performance measure for alcohol misuse screening was satisfied if a patient's medical record documented any of the following: (1) engagement in alcohol treatment or Alcoholics Anonymous (AA) in the past year, (2) consistent evidence that the patient had not consumed any alcohol in the past year, or (3) documented alcohol screening score with the AUDIT-C questions or the full AUDIT. Eligible patients (number not shown) included all patients whose medical records were reviewed by the EPRP (excluding patients who had a terminal illness or who were in palliative care).

<sup>||</sup>EPRP prevalence of positive misuse screens. Number of eligible patients who had a positive screen for alcohol misuse (on the AUDIT-C or on the full AUDIT)

(Footnotes continued on following page)

Supporting indicators are used to evaluate gaps in the quality of care and often lead to adoption of future performance measures. To satisfy the supporting indicator for follow-up for alcohol misuse, medical records of patients who screened positive for alcohol misuse at least 6 weeks before an EPRP review were required to document assessment for alcohol abuse or dependence. In the first 3 months of 2005, the rates of documented follow-up assessment for alcohol use disorders ranged from 5% to 84% among eligible patients who screened positive for alcohol misuse. However, these estimates were based on a small number of screen-positive patients in each network (27-80 patients per network), some of whom were not eligible for the follow-up measure (footnotes to Table 3). The EPRP medical record reviews are not designed to provide precise estimates for such selective subgroups of patients. Moreover, because alcohol counseling and follow-up assessment might be incorporated into clinical care but not documented for a number of reasons, medical record review may underestimate the actual rates of follow-up assessment.

#### National Patient Satisfaction Surveys

In 2004, the VA also used patient satisfaction surveys to assess alcohol misuse and 1 element of brief alcohol counseling. Each month, the VA mails a patient satisfaction survey, the Survey of Healthcare Experiences of Patients (SHEP), to a random sample of about 29 000 patients who had a VA clinic visit in the previous month (response rate, >70%). SHEP sampling varied over time in 2004 (footnotes to Table 3), and unlike EPRP sampling (which did not include new patients) SHEP included patients new to the VA. Four alcohol-related questions were included in SHEP in 2004. These included the AUDIT-C to identify patients who screened positive for alcohol misuse and the following question to assess brief alcohol counseling: "In the past 12 months has a VA doctor or other VA health care provider advised you about your drinking (to drink less or not to drink alcohol)?" Similar questions about alcohol-related advice have been used in previous research,<sup>41</sup> because

advice has been a consistent component of efficacious brief alcohol counseling,<sup>4,6</sup> recollection of physician advice is associated with improved outcomes for patients in alcohol treatment,<sup>46</sup> and 5 minutes of advice is as effective as longer brief alcohol counseling.<sup>20</sup> However, such questions may not capture all alcohol counseling, for example, when counseling does not include explicit advice or if patient embarrassment or social desirability leads to underreporting. Therefore, the SHEP survey may also underestimate brief alcohol counseling.

Although EPRP medical record reviews and SHEP surveys use different sampling methods and measures (footnotes to Table 3), so that statistical comparison of results of the 2 systems is not appropriate, descriptive comparisons of findings indicate some of the strengths and limitations of each system. Based on SHEP for 2004, 22% of respondents screened positive on the AUDIT-C, with less variation across networks compared with the rates based on EPRP for January-March 2005 (Table 3). Although rankings of the 21 networks based on the prevalence of positive AUDIT-Cs from EPRP and SHEP were generally similar, some differed markedly (eg, network K in Table 3 ranked 18th on EPRP vs 3rd on SHEP). Moreover, the difference between the prevalence rates based on EPRP and SHEP was large for some networks (eg, network T [11% vs 21%]). These observed differences may be related to differences in eligible samples, sample sizes, data sources (medical record documentation vs mailed survey), or other factors. When VA networks were divided into terciles based on rankings of the prevalence of alcohol misuse according to the 2 systems (EPRP and SHEP), only 2 networks were in the top tercile in one system and in the bottom tercile in the other system for the prevalence of alcohol misuse (data not shown).

Direct comparison of findings from EPRP and SHEP for evidence that clinicians addressed alcohol misuse is more difficult because of large differences in samples and measures (Table 3). Moreover, because EPRP samples were not designed to assess subgroups of patients,

documented in the medical record. Eligible patients (number not shown) included all patients who were screened for alcohol misuse with the AUDIT-C or with the full AUDIT, excluding patients who had a terminal illness, were in palliative care, or had documented evidence of engagement in alcohol treatment or AA in the past year (ie, some patients who satisfied the performance measure in the column to the left were not eligible).

<sup>†</sup>**Follow-up assessment for alcohol use disorders documented.** Number of eligible patients who had documented evidence of follow-up assessment in the medical record after a positive alcohol misuse screen. Follow-up assessment was defined as assessment for alcohol use disorders via clinician interview or standard administration of diagnostic criteria. Eligible patients (number not shown) included all patients who screened positive for alcohol misuse more than 6 weeks before the medical record review, excluding patients who had a terminal illness or who were in palliative care. The requirement for 6 weeks since the positive screen for alcohol misuse resulted in a smaller number of patients eligible for the follow-up measure than the number who screened positive in the column to the left.

<sup>‡</sup>**Prevalence of positive AUDIT-C on SHEP.** Number of eligible SHEP respondents who had positive AUDIT-C scores (4-12 points for men and 3-12 points for women). Eligible patients included SHEP respondents who completed the AUDIT-C. SHEP modified its sampling midway through 2004. (See <sup>†</sup> above.)

<sup>\*\*</sup>**Prevalence of patient report of alcohol-related advice on SHEP.** Number of patients who reported that they had been advised to decrease drinking or not to drink among SHEP respondents who screened positive on the AUDIT-C.

<sup>††</sup>**Rankings of networks by the prevalence of alcohol misuse.** Compares rankings of networks based on the prevalence of positive screens for alcohol misuse for medical record documentation of AUDIT-C or full AUDIT scores (EPRP) and AUDIT-C screening results on surveys (SHEP): 1 indicates the highest prevalence; T, ties in rankings. Eligible patients among the EPRP and SHEP samples differed. (See <sup>†</sup>, <sup>||</sup>, and <sup>‡</sup> above.)

small numbers may limit the reliability. Therefore, the network rates of alcohol-related advice reported by patients who screened positive for alcohol misuse on SHEP were less variable (20%-36%) than the network rates of documented assessment for alcohol use disorders on EPRP (5%-84%). As in previous research,<sup>39</sup> the rates of advice reported by patients on surveys increased as the severity of alcohol misuse increased (for an AUDIT-C score of 3-4 points, 13% were advised; for 5-7 points, 32% were advised; and for 8-12 points, 56% were advised). The low rate of alcohol-related advice among patients with the lowest positive AUDIT-C scores (4 points for men and 3-4 points for women) may reflect the fact that some patients with these low scores report drinking within recommended limits and might have false-positive alcohol screening results.

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### SUMMARY AND FUTURE DIRECTIONS

To summarize, the VA successfully implemented a new evidence-based alcohol screening program in more than 800 outpatient clinical sites nationwide in 2004, as the essential first step toward implementing brief alcohol counseling.<sup>9</sup> Lessons from these initial implementation efforts have several implications for other systems.

First, the decision to implement the performance measure requiring all VAs to screen for the whole spectrum of alcohol misuse, including risky drinking and alcohol use disorders, was made by the highest leadership in the VA, motivated by the prevalence of alcohol misuse and patients' reports that they were not receiving the help they needed for their drinking.<sup>47</sup> Moreover, leaders in each network and facility were held personally accountable for implementing screening for alcohol misuse. However, the implementation did not include active collaboration with each site, unlike many recent implementation efforts that use the more intensive quality improvement collaborative methods.<sup>48</sup> The national performance measure effectively created demand for education about brief alcohol counseling. Moreover, deimplementation of screening for alcohol use disorders with the CAGE questionnaire alone and implementation of AUDIT-C screening occurred rapidly, more by diffusion than active dissemination.<sup>49</sup> Such leadership commitment, incentives, and system readiness are essential components of successful implementation of new technologies,<sup>49</sup> which may have been lacking in previous efforts to implement brief alcohol screening and counseling.<sup>9,22,30</sup>

Second, timely availability of a self-scoring electronic clinical reminder for screening with the AUDIT-C, used more than 1.5 million times in the first year,

appeared to facilitate diffusion. We suspect that this optional electronic clinical reminder was widely adopted because (1) it was developed and disseminated by a national VA clinical reminder opinion leader before the performance measure took effect and (2) it incorporated an efficient feature (self-scoring of the AUDIT-C) that could not be easily programmed locally. The fact that an office-based version of CPRS will be widely available suggests that such a system may soon be within reach of providers outside the VA.

Third, implementation of alcohol screening is only the first step, and screening alone has not dramatically increased brief alcohol counseling.<sup>41</sup> Although this could be viewed as an unsuccessful effort to implement brief alcohol counseling, it can also be viewed as a highly successful effort at implementing this essential prerequisite to brief alcohol counseling, namely, screening for alcohol misuse with a validated questionnaire. Moreover, even with implementation of alcohol misuse screening alone, 28% of those who screened positive for alcohol misuse (7% of the screened sample) reported brief advice in the past year. This suggests that the low estimates of the proportion of primary care patients who can benefit from brief alcohol counseling that have been extrapolated from the recruitment rates for clinical trials (eg, 2.5% in the study by Beich et al<sup>15</sup>) may underestimate the number of patients who could benefit from brief alcohol counseling even with screening alone. In fact, the wisdom of the VA Office of Quality and Performance in initiating screening as a distinct step, before implementation of brief alcohol counseling, may ultimately allow it to succeed where other efforts have failed. This may be one of the greatest lessons of this implementation effort for other organizations wishing to implement brief alcohol counseling.

Further implementation of brief alcohol counseling will likely require a performance measure reflecting appropriate follow-up for alcohol misuse. Previous research findings suggest that primary care providers will require education about the efficacy of brief alcohol counseling and training in the development of effective skills for brief alcohol counseling.<sup>50</sup> The most feasible approach to developing these provider skills might be a crosscutting educational program that addresses behavior change counseling in general (eg, for smoking cessation and obesity), including skills in motivational interviewing<sup>51</sup> and other common components of behavior change counseling.<sup>6,52</sup> However, counseling about alcohol misuse may also present primary care providers with unique challenges that require training specifically focused on brief alcohol counseling.<sup>53-55</sup> As the VA moves ahead with further implementation of brief alcohol counseling, much

could be learned from a formal prospective evaluation of that process.

Fourth, performance measures create powerful incentives, intended and unintended. For example, the alcohol misuse screening performance measure created an incentive for documented alcohol screening but no incentive for maximizing the validity of that screening. The differences in the estimated prevalence of alcohol misuse based on medical record documentation and patient survey, if confirmed by analyses among a single cohort, suggest that the next generation of the alcohol misuse screening performance measure should include incentives to maximize screening validity (eg, by ensuring privacy, asking screening questions verbatim, and using standardized assessments for nondrinkers and any other exclusion criteria).<sup>56</sup>

Fifth, the sample and method used for any future performance measure of brief alcohol counseling will need to be carefully considered and pilot tested. The current program of medical record reviews was not designed to include adequate numbers of patients with alcohol misuse to provide precise estimates of follow-up at the facility level. Therefore, if medical record review is used to measure performance for follow-up brief alcohol counseling, the EPRP sampling strategy would need to change. Mailed patient satisfaction surveys or nationally mandated electronic clinical reminders that send results to a central data repository may offer alternative approaches for national monitoring of follow-up for alcohol misuse. Ultimately, as noted in a recent Institute of Medicine report,<sup>57</sup> performance measurement of alcohol screening and brief alcohol counseling will be facilitated by the development of *International Classification of Diseases* codes for risky drinking, to complement existing codes for alcohol abuse and dependence.<sup>57</sup> In addition, the development of practical *Current Procedural Terminology* and Centers for Medicare & Medicaid Services Healthcare Common Procedure Coding System codes for alcohol screening and brief alcohol counseling could further improve nationwide performance measurement for alcohol screening and brief alcohol counseling,<sup>57</sup> complementing the system of recently developed performance measures for alcohol use disorders diagnosis and treatment.<sup>58</sup>

To conclude, the VA has successfully initiated screening for risky drinking and for alcohol use disorders as the essential first step toward implementing brief alcohol counseling. This collaboration between implementation researchers and quality improvement leaders relied predominantly on an incentive system and on an electronic medical record, combined with technical and educational support, to promote alcohol misuse screening. However, the ultimate goal is far more ambitious,

namely, to create incentives and systems of care that will decrease alcohol misuse, thereby preventing alcohol-related morbidity and mortality. Therefore, the next challenge is to implement effective follow-up for alcohol misuse in this large multisite healthcare system.

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