

## ORIGINAL RESEARCH

# Patient-Reported Offers of Alcohol Treatment for Primary Care Patients at High-Risk for an Alcohol Use Disorder

Sean Grant, DPhil, Katherine E. Watkins, MD, MSHS, Andy Bogart, MS, Susan M. Paddock, PhD, and Kimberly A. Hepner, PhD

**Background:** This study assessed patient-reported alcohol treatment offers by health care providers following routine annual screening for alcohol use in primary care.

**Methods:** A telephone interview within 30 days of the annual screen assessed demographics, alcohol and other drug use, mental health symptoms, and offers of formal treatment for alcohol by a Veterans Affairs health care provider. We included male patients ( $n = 349$ ) at high risk for an alcohol use disorder (AUD) who had not received alcohol treatment in the past 3 months. We assessed self-reported receipt of any offers of formal treatment for alcohol use and associations of offers of formal treatment for alcohol with demographic and clinical variables.

**Results:** A total of 145 patients (41.5%) reported an offer of at least 1 type of formal treatment for alcohol use. More severe alcohol misuse (odds ratio, 1.07; 95% confidence interval, 1.03–1.11) and younger age (odds ratio, 0.97, 95% confidence interval, 0.95–0.99) were associated with reporting an offer of formal treatment.

**Conclusion:** Most primary care patients at high risk for an AUD were not offered treatment following annual screening. Our results highlight the importance of training primary care providers in what constitutes appropriate medical treatment for this population and the most effective ways of offering treatment. (J Am Board Fam Med 2016;29:682–687.)

**Keywords:** Alcohol Drinking, Alcohol-Related Disorders, Demography, Health Personnel, Mental Health, Primary Health Care, Self-Report, Telephone

Alcohol use disorders (AUDs) are prevalent, disabling, and have significant negative consequences<sup>1</sup>; nonetheless, fewer than 20% of those who at some point in their life meet criteria for an AUD in the United States ever receive treatment.<sup>2</sup> The avail-

ability of evidence-based treatments has become a health policy priority as a result of reforms focused on better access to and quality of behavioral health services.<sup>3</sup> Alcohol treatment offered by health professionals during a primary care visit provides an opportunity to make evidence-based treatments more available to those with AUDs<sup>4–6</sup> and may be a precursor to primary care patients accessing alcohol treatment when needed.<sup>7,8</sup>

Health professionals in primary care settings are likely to encounter patients who demonstrate high risk for an AUD, such as those scoring  $\geq 8$  on the Alcohol Use Disorders Identification Test–Consumption (AUDIT-C) or have an AUD diagnosis yet are not receiving treatment.<sup>9–12</sup> Clinical practice guidelines recommend offering these patients treatment for their AUD, such as referring them to specialty care, monitoring their drinking, and offering addiction-focused pharmacotherapy.<sup>13</sup> Be-

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**Corresponding author:** Sean Grant, DPhil, RAND Corporation, 1776 Main St, PO Box 2138, Santa Monica, CA 90407-2138 (E-mail: [sgrant@rand.org](mailto:sgrant@rand.org)).

cause patients with an AUD generally do not visit primary care to seek alcohol misuse-related treatment,<sup>14</sup> it is important to examine whether clinicians offer treatment when high risk for an AUD is identified during screening, even if patients do not mention or ask for it.<sup>15</sup> Health professionals in primary care settings may not be aware of the various evidence-based pharmacological or behavioral treatment options for patients with AUDs.<sup>16</sup> Consequently, the type of treatment offered should also be examined to ensure that appropriate care is recommended.<sup>17,18</sup>

Patient-reported measures are useful for examining alcohol misuse-related treatment offers in primary care settings.<sup>19</sup> Information on alcohol misuse-related treatment offered during clinical encounters is typically not captured in administrative data, may not be documented accurately by providers,<sup>20</sup> and is expensive to examine via medical record review.<sup>21</sup>

## Objectives

This study examined patient-reported receipt of alcohol misuse-related treatment offered by health care providers to patients identified as being at high risk for an AUD following routine annual screening for alcohol misuse in primary care. We assessed (1) the proportion of patients who reported receipt of an offer of formal treatment for alcohol use, (2) the types of treatment offers reported, and (3) the predictors of patient-reported treatment offers.

## Methods

### Research Procedures

Between February 2013 and February 2014 we conducted a telephone survey within 30 days of all patients screening positive for alcohol misuse (a score  $\geq 5$  on the AUDIT-C based on Veterans Affairs [VA] administrative data) during routine annual screening.<sup>9</sup> Patients received alcohol screening in 1 of several outpatient clinics at the VA Greater Los Angeles Health Care System (GLA). The RAND Human Subjects Protection Committee and the GLA Institutional Review Board approved this study.

### Eligibility Criteria

We restricted these analyses to the subset of male patients at high risk for an AUD, that is, patients receiving a score  $\geq 8$  on the AUDIT-C during the

annual screen or with an AUD diagnosis on the screening date (clinician-recorded administrative claims data using International Classification of Diseases, 9th Revision, codes) who had not received alcohol treatment in the past 3 months.<sup>10–12</sup> The VA Clinical Practice Guideline recommends these criteria to identify individuals who should be referred to specialty care for a substance use disorder.<sup>13</sup> Further eligibility criteria included age  $\geq 18$  years, no cognitive impairment (measured via administrative claims data using International Classification of Diseases, 9th Revision, codes), engagement in care at GLA, a telephone number recorded in the VA system, and completion of the interview within 30 days of the annual screen.

## Measures

### Demographics

We collected self-reported race/ethnicity, marital status, education level, employment status, income, insurance coverage outside VA, and whether participants received all or most of their care through VA or an outside provider. We obtained information on age and sex from VA administrative records, and all other information from the survey.

### Clinical Measures

The full AUDIT<sup>22</sup> was used to assess the severity of alcohol misuse. Participants were also asked whether they had used any illegal drug in the past 30 days. Depression symptoms were assessed using the 9-item Patient Health Questionnaire,<sup>23</sup> and anxiety symptoms were assessed using the 7-item Generalized Anxiety Disorder Assessment.<sup>24</sup> Items from the 12-item Short Form Health Survey were used to assess overall physical and mental health.<sup>25</sup> Stage of change was assessed using the Readiness to Change questionnaire.<sup>26</sup>

### Treatment Offers

Participants reported whether a VA doctor or other health care provider offered, in the past 30 days, the following specifically for their alcohol use: (1) therapy or counseling, (2) medication (eg, acamprosate, disulfiram, naltrexone), (3) referral to an intensive outpatient treatment or a residential program, or (4) unspecified medical treatment. We then derived a binary indicator for receiving an offer of at least 1 type of formal treatment.

## Statistical Analyses

We calculated descriptive statistics for all measures. We then conducted a multivariable logistic regression to assess associations of any formal treatment offer with demographic and clinical variables<sup>27</sup>; we chose model adjustment variables based on scientific grounds, before estimation, with the intent to control for potential confounding. We did not use any automated variable selection procedures.

## Results

Of 1922 patients who were approached, 112 (5.8%) were ineligible, 435 (22.6%) could not be reached, 324 (16.9%) declined to participate, and 19 (1.0%) could not participate because of a health condition. Therefore only 973 (50.6%) participated in our survey. Logistic regressions did not indicate non-response bias by age, sex, income, marital status, or period of military service. Of all participants in our survey, 349 (35.9%) were eligible for the analysis: 146 (41.8%) met only the AUDIT-C criterion, 116 (33.2%) met only the AUD diagnosis criterion, and 87 (24.9%) met both criteria. Of this sample, 342 (98.0%) participants were seen in primary care, and the remaining participants were seen in other outpatient settings. The average age was 55 years (standard deviation, 15 years); the majority was white (52.7%), was not married or living as married (62.8%), completed at least some college education (60.8%), received all or most of their medical care through the VA (84.3%), and was not using illegal drugs in the past month (89.1%) (Table 1).

Overall, 145 (41.5%) patients reported receiving an offer of at least 1 type of formal treatment for alcohol misuse from a VA health care provider in the previous 30 days. Patients were offered 1 or more of the following: therapy/counseling (n = 121; 34.2%), medication (n = 18; 5.1%), referral to intensive outpatient treatment or a residential program (n = 19; 5.4%), or unspecified medical treatment (n = 20; 5.7%). Only 17 patients (5%) reported both an offer of therapy or counseling and referral to either a residential program or intensive outpatient treatment program. Only more severe alcohol misuse (ie, higher full AUDIT scores) (odds ratio, 1.07; 95% confidence interval, 1.03–1.11) and younger age (odds ratio, 0.97; 95% confidence interval, 0.95–0.99) were associated with reporting an offer of at least 1 type of formal treatment (Table 2).

**Table 1. Participant Demographics (n = 349)**

Variable	Participants
Age (years), mean (SD)	54.9 (15.2)
Married or living as married	129 (37.2)
Highest education completed	
Not complete high school	18 (5.2)
High school or GED	119 (34.1)
Some college	159 (45.6)
College graduate or beyond	53 (15.2)
Ethnicity/race	
Hispanic	92 (26.4)
Non-Hispanic white	184 (52.7)
Other	73 (20.9)
Insurance coverage and medical care	
Insurance coverage outside the VA	133 (38.3)
All/most medical care through VA	291 (84.3)
High risk for alcohol use disorder	
AUDIT-C score $\geq 8$ only	146 (41.8)
AUD diagnosis code at screening visit only	116 (33.2)
Both AUDIT-C $\geq 8$ and AUD diagnosis at index date	87 (24.9)
AUDIT score, mean (SD)	14.4 (7.3)
Mental health symptoms, mean (SD)	
PHQ-9 score	5.9 (6.0)
GAD-7 score	4.8 (5.5)
SF-12, mean (SD)	
Physical health score	46.5 (11.0)
Mental health score	50.9 (11.9)
Readiness to change	
Precontemplation	40 (11.7)
Contemplation	182 (53.2)
Action	120 (35.1)
Drug use in the past month	38 (10.9)

Data are n (%) unless otherwise indicated.

AUD, alcohol use disorder; AUDIT-C, Alcohol Use Disorders Identification Test–Consumption; GAD-7, 7-item Generalized Anxiety Disorder Assessment; GED, General Educational Development; PHQ-9, 9-item Patient Health Questionnaire; SD, standard deviation; SF-12, 12-item Short Form; VA, Veterans Affairs.

## Discussion

In our sample of patients at high risk for an AUD, over half (58.5%) did not report being offered formal treatment for alcohol misuse following routine annual screening for alcohol misuse in primary care. This result conforms with research demonstrating low rates of offering patients information about formal treatment following alcohol screening.<sup>19</sup> When offered, therapy/counseling was most prevalent, whereas offers of medication and referral to intensive outpatient treatment or a residential

**Table 2. Multivariate Logistic Regression of Formal Treatment Offer Receipt on Demographic and Clinical Variables**

Variables	Any Formal Treatment Offer
AUDIT score	1.07 (1.03–1.11)*
Age at screening visit	0.97 (0.95–0.99)*
Married or living as married	1.61 (0.96–2.71)
Non-Hispanic white race	0.98 (0.60–1.59)
At least some college	0.72 (0.44–1.17)
Employment category	
Employed	1 (Referent)
Unemployed	1.30 (0.63–2.67)
Out of labor force	1.08 (0.58–2.04)
All/most care received at VA	1.63 (0.78–3.37)
Readiness to change category	
Precontemplation	1 (Referent)
Contemplation	2.34 (0.93–5.88)
Action	2.33 (0.89–6.10)
SF-12 measures	
PCS	0.98 (0.96–1.00)
MCS	1.00 (0.98–1.02)
Illegal drug use or prescription misuse	1.66 (0.79–3.49)

Data are odds ratio (95% confidence interval).

\*We used continuous measures for age and Alcohol Use Disorders Identification Test (AUDIT; full version) score ( $P < .05$ ). MCS, mental health score; PCS, physical health score; SF-12, 12-item Short Form; VA, Veterans Affairs.

program were rare. Moreover, although, as expected, patients' severity of alcohol misuse was significantly associated with patient-reported offers of medical treatment, we also found that older populations—the least likely age group to seek alcohol treatment<sup>28,29</sup>—were less likely to report being offered treatment.

In another article we found that some patients reported receiving advice to drink less or abstain from drinking ( $n = 262$ ),<sup>30</sup> or a referral to a self-help group ( $n = 70$ ) (unpublished data). Although such interventions are likely not sufficient for individuals at high risk for an AUD, these findings suggest that, even when providers did not offer formal treatment, most were aware that the patient was drinking at unhealthy levels and provided some type of intervention. Our results highlight the importance of training primary care providers in what constitutes appropriate medical treatment for this population, and then in the most effective ways of making a treatment offer.<sup>7,31</sup>

Patient-reported measures can be used in conjunction with medical records and administrative data for

a more complete assessment of treatment offers.<sup>32</sup> A limitation of these measures, however, is retrospective recall bias. It is possible that patients' inability to remember recent treatment offers indicates the need for providers to better engage patients during treatment encounters about their alcohol use. A potential limitation regarding the generalizability of this study involves the number of approached patients who could not be reached via phone (22.6%) or who declined to participate in the phone survey (16.9%). While analyses indicated that nonresponse did not seem related to key demographic variables, future research may wish to involve sampling and survey methods other than phone calls.

Reimbursement for formal treatment will be important to consider in future research as well, given that reimbursement varies by payer. For instance, reimbursement limitations may be an issue particularly for patients with unhealthy alcohol use that does not meet formal diagnostic criteria and therefore may not qualify for reimbursement depending on the health insurance provider. Future research could also examine additional predictors of patient-reported treatment offers (eg, provider- and setting-level variables), the degree to which patient-reported measures differ from other data sources (eg, medical records),<sup>27,33,34</sup> and the impact of different criteria for a new treatment episode than the criterion used in this study (ie, no AUD treatment in the previous 3 months). Such research would inform efforts to provide timely, quality treatment for AUDs that is in accord with patients' treatment preferences.<sup>16,35</sup>

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## References

1. US Burden of Disease Collaborators. The state of US health. *JAMA* 2013;310:591–608.
2. Grant BF, Goldstein RB, Saha TD, et al. Epidemiology of DSM-5 Alcohol Use Disorder: Results From the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry*. 2015;72:757–66.
3. McCrady BS. Health-care reform provides an opportunity for evidence-based alcohol treatment in the USA. *Addiction* 2013;108:231–2.



4. Babor TF, McRee BG, Kassebaum PA, Grimaldi PL, Ahmed K, Bray J. Screening, Brief Intervention, and Referral to Treatment (SBIRT): toward a public health approach to the management of substance abuse. *Subst Abus* 2007;28:7–30.
5. Jonas DE, Garbutt JC, Brown JM, et al. Screening, behavioral counseling, and referral in primary care to reduce alcohol misuse. Comparative effectiveness review no. 64. Rockville, MD: Agency for Healthcare Research and Quality; 2012.
6. Moyer VA. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: US Preventive Services Task Force recommendation statement. *Ann Intern Med* 2013;159:210–8.
7. Fiellin DA, Reid MC, O'Connor PG. New therapies for alcohol problems: application to primary care. *Am J Med* 2000;108:227–37.
8. Cucciare MA, Coleman EA, Timko C. A conceptual model to facilitate transitions from primary care to specialty substance use disorder care: a review of the literature. *Prim Health Care Res Dev* 2014;16:492–505.
9. Bradley KA, Williams EC, Achtmeyer CE, Volpp B, Collins BJ, Kivlahan DR. Implementation of evidence-based alcohol screening in the Veterans Health Administration. *Am J Manag Care* 2006;12:597–606.
10. Bush K, Kivlahan DR, McDonell MB, Fihn SD, Bradley KA. The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking. *Arch Intern Med* 1998;158:1789–95.
11. Dawson DA, Grant BF, Stinson FS, Zhou Y. Effectiveness of the derived alcohol use disorders identification test (AUDIT-C) in screening for alcohol use disorders and risk drinking in the US general population. *Alcohol Clin Exp Res* 2005;29:844–54.
12. Kriston L, Hölzel L, Weiser AK, Berner MM, Härter M. Meta-analysis: are 3 questions enough to detect unhealthy alcohol use? *Ann Intern Med* 2008;149:879–88.
13. The Management of Substance Use Disorders Working Group. VA/DoD clinical practice guideline for management of substance use disorders (SUD). Washington, DC: Department of Defense, Department of Veterans Affairs; 2009.
14. Saitz R. Alcohol screening and brief intervention in primary care: absence of evidence for efficacy in people with dependence or very heavy drinking. *Drug Alcohol Rev* 2010;29:631–40.
15. Cherpitel CJ, Bernstein E, Bernstein J, Moskalewicz J, Swiatkiewicz G. Screening, brief intervention and referral to treatment (SBIRT) in a Polish emergency room: challenges in cultural translation of SBIRT. *J Addict Nurs* 2009;20:127–31.
16. Bradley KA, Kivlahan DR. Bringing patient-centered care to patients with alcohol use disorders. *JAMA* 2014;311:1861–2.
17. Jonas DE, Amick HR, Feltner C, et al. Pharmacotherapy for adults with alcohol use disorders in outpatient settings: a systematic review and meta-analysis. *JAMA* 2014;311:1889–900.
18. National Collaborating Centre for Mental Health. Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence (no. 115). London, UK: Royal College of Psychiatry Publications; 2011.
19. Glass JE, Bohnert KM, Brown RL. Alcohol screening and intervention among United States adults who attend ambulatory healthcare. *J Gen Intern Med* 2016;31:739–45.
20. Schoenwald SK, Garland AF, Southam-Gerow MA, Chorpita BF, Chapman JE. Adherence measurement in treatments for disruptive behavior disorders: pursuing clear vision through varied lenses. *Clin Psychol (New York)* 2011;18:331–41.
21. Hepner KA, Paddock SM, Watkins KE, Solomon J, Blonigen DM, Pincus HA. Veterans' perceptions of behavioral health care in the Veterans Health Administration: a national survey. *Psychiatr Serv* 2014;65:988–96.
22. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction* 1993;88:791–804.
23. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001;16:606–13.
24. Spitzer RL, Kroenke K, Williams JB, Lowe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006;166:1092–7.
25. Ware J Jr, Kosinski M, Keller SD. A 12-item short-form health survey: construction of scales and preliminary tests of reliability and validity. *Med Care* 1996;34:220–33.
26. Heather N, Rollnick S, Bell A. Predictive validity of the Readiness to Change Questionnaire. *Addiction* 1993;88:1667–77.
27. Burman ML, Kivlahan D, Buchbinder M, et al. Alcohol-related advice for Veterans Affairs primary care patients: Who gets it? Who gives it? *J Stud Alcohol* 2004;65:621–30.
28. Cohen E, Feinn R, Arias A, Kranzler HR. Alcohol treatment utilization: findings from the National Epidemiologic Survey on Alcohol and Related Conditions. *Drug Alcohol Depend* 2007;86:214–21.
29. Proudfoot H, Teesson M. Who seeks treatment for alcohol dependence? Findings from the Australian National Survey of Mental Health and Wellbeing. *Soc Psychiatry Psychiatr Epidemiol* 2002;37:451–6.
30. Farmer CM, Stahlman S, Hepner KA. "You should drink less": frequency and predictors of discussions between providers and patients about reducing alcohol use. In press.
31. England MJ, Stith Butler A, Gonzalez ML, eds; Committee on Developing Evidence-Based Stan-

- dards for Psychosocial Interventions for Mental Disorders; Board on Health Sciences Policy; Institute of Medicine. Psychosocial interventions for mental and substance use disorders: a framework for establishing evidence-based standards. Washington, DC: National Academies Press; 2015.
32. Angier H, Gold R, Gallia C, et al. Variation in outcomes of quality measurement by data source. *Pediatrics* 2014;133:e1676–82.
33. Kaner EF, Heather N, Brodie J, Lock CA, McAvoy BR. Patient and practitioner characteristics predict brief alcohol intervention in primary care. *Br J Gen Pract* 2001;51:822–7.
34. Arndt S, Schultz SK, Turvey C, Petersen A. Screening for alcoholism in the primary care setting. *J Fam Pract* 2002;51:41–50.
35. Kizer KW, Jha AK. Restoring trust in VA health care. *N Engl J Med* 2014;371:295–7.