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Among patients with unhealthy alcohol use, those with HIV are less likely than those without to receive evidence-based alcohol-related care: A national VA study

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ABSTRACT

Background: Alcohol use has important adverse effects on people living with HIV (PLWH). This study of patients with recognized unhealthy alcohol use estimated and compared rates of alcohol-related care received by PLWH and HIV- patients.
Methods: Outpatients from the Veterans Health Administration who had one or more positive screen(s) for unhealthy alcohol use (AUDIT-C ≥ 5) documented in their medical records 10/2009-5/2013 were eligible. Primary and secondary outcomes were brief intervention documented ≤14 days after a positive alcohol screen, and a composite measure of any alcohol-related care (brief intervention, specialty addictions treatment or pharmacotherapy documented ≤365 days), respectively. Unadjusted and adjusted regression analyses compared alcohol-related care outcomes in PLWH and HIV- patients.
Results: The sample included 830,825 outpatients (3,514 PLWH), reflecting 1,172,606 positive screens (1–5 per patient). For PLWH, 57.0% (95% confidence interval 55.4–58.5%) of positive screens were followed by brief intervention, compared to 73.8% (73.7–73.9%) for HIV- patients [relative rate: 0.77 (0.75–0.79), p < 0.001]. After adjustment, comparable proportions were 61.0% (59.3–62.6%) for PLWH and 73.7% (73.6–73.8%) for HIV- patients [adjusted RR = 0.83 (0.80–0.85); p < 0.001]. Secondary outcome results were similar: for PLWH and HIV- patients, 67.1% (65.7–68.6%) and 77.7% (95% CI 77.7–77.8%) of positive screens, respectively, were followed by any alcohol-related care after adjustment [adjusted RR = 0.86 (0.85–0.88), p < 0.001].
Conclusions: In this large national sample of VA outpatients with unhealthy alcohol use, PLWH were less likely to receive alcohol-related care than HIV- patients. Special efforts may be needed to ensure alcohol-related care reaches PLWH.

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1. Introduction

Alcohol use is associated with over 60 medical conditions and adversely impacts health in diverse ways (Rehm et al., 2010). Alcohol screening followed by brief intervention for patients screening positive for unhealthy alcohol use are recommended for all adult primary care patients (National Institute on Alcohol Abuse and Alcoholism, 2007) and were designated as essential benefits under

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health care reform (HealthCare.gov, 2013a, 2013b) based on efficacy trials demonstrating decreased drinking among primary care patients (Jonas et al., 2012). For patients with the most severe unhealthy alcohol use—alcohol use disorders—specialty addictions treatment and/or pharmacotherapy are effective and recommended (National Institute on Alcohol Abuse and Alcoholism, 2007).

Human immunodeficiency virus (HIV) is now a chronic disease (Taddei et al., 2016) that is negatively influenced by alcohol use in multiple ways (Conigliaro et al., 2006; Williams et al., 2016b), including decreased engagement with and retention in HIV care (Hendershot et al., 2009; Monroe et al., 2016; Vagenas et al., 2015), complications of common comorbid conditions (Bryant et al., 2010; Freiberg et al., 2010; Gonzalez-Reimers et al., 2011; Neuman et al., 2012; Sarkar et al., 2015), increased frailty (Justice et al., 2016), and poorer survival (Justice et al., 2016). Further, evidence suggests that, at similar levels of drinking, alcohol use may have greater negative influences on patients living with HIV (PLWH) than HIV- patients, including such patients' being more likely to "feel a buzz" and having a higher risk for mortality and frailty (Justice et al., 2016; McGinnis et al., 2016). Therefore, receiving evidence-based alcohol-related care may be particularly important for PLWH.

Despite increased risks of unhealthy alcohol use for PLWH, little is known about whether unhealthy alcohol use is appropriately addressed among PLWH (Conigliaro et al., 2003; Metsch et al., 2008). While previous studies have suggested gaps in the quality of alcohol-related care provided to PLWH with unhealthy alcohol use (Conigliaro et al., 2003; Korthuis et al., 2011; Metsch et al., 2008; Strauss et al., 2009), they did not compare receipt of alcohol-related care among those with and without HIV. Moreover, they were conducted in small (Chander et al., 2016) and/or recruited (Chander et al., 2016; Conigliaro et al., 2003; Metsch et al., 2008) samples and in settings that had not yet implemented routine alcohol screening and brief intervention. However, even in settings with routine implementation of alcohol-related care for unhealthy alcohol use, PLWH may be less likely to receive recommended alcohol-related care than HIV- patients due to the complex care needs of PLWH and/or the possibility that HIV specialty care providers might be less prepared to address unhealthy alcohol use than generalist providers (Strauss et al., 2009). On the other hand, PLWH are recommended to have regular and frequent visits to manage their HIV (The White House, 2013; U.S. Department of Health and Human Services, 2016). Because frequent visits may offer increased opportunities to receive alcohol-related care, PLWH may be more likely to receive alcohol-related care than HIV- patients with less frequent visits.

The objective of this study was to estimate and compare rates of alcohol-related care received by PLWH and HIV- patients with recognized unhealthy alcohol use. We conducted this study in the Veterans Health Administration (VA), which is the largest provider of HIV care in the U.S. (Department of Veterans Affairs, 2010; Fultz et al., 2006) and has been recognized as a leader among healthcare systems in implementing alcohol screening and brief intervention (Moyer and Finney, 2010; Williams et al., 2011). Results of this study can help determine whether special efforts are needed to reach PLWH with unhealthy alcohol use when health systems implement screening and brief interventions for unhealthy alcohol use.

2. Methods

2.1. Setting, data source, and sample

The nationwide VA includes 139 large facilities and over 900 clinics nationally. Using national performance measures that are linked to financial incentives for network directors (Kerr and Fleming, 2007), VA implemented alcohol screening in 2004 (Bradley et al., 2006) and brief intervention for patients screening positive for unhealthy alcohol use in 2007 (Lapham et al., 2012). VA's performance measures require annual screening with the validated Alcohol Use Disorders Identification Test Consumption (AUDIT-C) questionnaire (Bradley et al., 2006) and brief intervention consisting of advice to reduce or abstain from drinking and feedback linking alcohol use to health documented within 14 days of a positive screen for all patients with AUDIT-C scores $\geq$5 (Lapham et al., 2012). To support facilities' meeting performance measures, clinical decision support tools embedded in the electronic health record (EHR) prompt VA providers to offer alcohol screening and brief interventions. Prompts for screening become "active" 9 months after the last AUDIT-C to catch patients whose annual appointments occur earlier than 12 months and prompts for brief interventions become active immediately following a positive screen (Bradley et al., 2006; Lapham et al., 2012; Williams et al., 2014). Consistent with the epidemiology of HIV in the U.S., PLWH at VA are disproportionately distributed across regions in the VA, but are included among patients receiving care at all VA medical centers (U.S. Department of Veteran Affairs, 2009).

VA EHR data from VA Informatics and Computing Infrastructure (VINCI) –a national VA data repository that contains clinical, enrollment, financial, administrative, pharmacy, and utilization data, Veteran benefits information, and more—were extracted for all patients who had any outpatient appointment between 10/1/09 and 5/30/13 and had one or more positive alcohol screens documented in the EHR at any time during the study period. Positive screens were defined as AUDIT-C scores $\geq$ 5, consistent with the VA's performance measure for brief intervention (Lapham et al., 2012; Williams et al., 2014). To maximize generalizability, patients could contribute multiple positive screens during the study period. However, only positive screens that were not preceded by another screen in the 9 months prior were included in order to obtain a sample of positive screens resulting from routine annual screening. Each positive screen was followed for up to one year (until 5/30/14) to assess outcomes. The study protocol, including waivers of written consent and HIPAA authorization, was approved by the VA Puget Sound Institutional Review Board.

2.2. Measures

2.2.1. Primary independent variable. HIV status was based on diagnostic codes from the International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) in the 0–730 days prior to a positive AUDIT-C. Consistent with prior research (Fultz et al., 2006), patients who had 2 outpatient or 1 inpatient diagnosis code(s) for AIDS (042) and/or HIV infection (V08) were considered to be PLWH.

2.2.2. Outcomes. The primary outcome of interest was receipt of brief intervention in the 0–14 days following a positive screen consistent with the VA's performance measure for brief intervention. Brief intervention was measured based on text data that is generated when care is documented in response to an EHR clinical reminder (McGinnis et al., 2011). Consistent with our previous studies, (Bradley et al., 2013; Lapham et al., 2015; Williams et al., 2014) documentation of any advice to reduce and/or abstain from drinking in the 0–14 days following a positive screen was considered receipt of brief intervention. Advice to reduce and/or abstain from drinking is a key component of evidence-based brief intervention that is incentivized by the VA's performance measure for brief intervention (Lapham et al., 2015; Whitlock et al., 2004).

Secondary outcomes were measured in the 0–365 days following a positive screen and included receipt of specialty addictions