Routine Assessment of Symptoms of Substance Use Disorders in Primary Care: Prevalence and Severity of Reported Symptoms

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BACKGROUND: Most patients with substance use disorders (SUDs) never receive treatment and SUDs are underrecognized in primary care (PC) where patients can be treated or linked to treatment. Asking PC patients to directly report SUD symptoms on questionnaires might help identify SUDs but to our knowledge, this approach is previously untested.

OBJECTIVE: To describe the prevalence and severity of DSM-5 SUD symptoms reported by PC patients as part of routine care.

DESIGN: Cross-sectional study using secondary data.

PARTICIPANTS: A total of 241,265 adult patients who visited one of 25 PC sites in an integrated health system in Washington state and had alcohol, cannabis, or other drug use screening documented in their EHRs (March 2015–July 2018) were included in main analyses if they had a positive screen for high-risk substance use defined as AUDIT-C score 7–12 points, or report of past-year daily cannabis use or any other drug use.

MAIN MEASURES: The main outcome was number of SUD symptoms based on Diagnostic and Statistical Manual, 5th edition (DSM-5), reported on Symptom Checklists (0–11) for alcohol or other drugs: 2–3 mild; 4–5 moderate; 6–11 severe.

RESULTS: Of screened patients, 16,776 (5.7%) reported high-risk use of alcohol (2.4%), cannabis (3.9%), and/or other drugs (1.7%), and 65.0–69.9% of those completed Symptom Checklists. Of those with high-risk alcohol use, 52.5% (95% CI 50.9–54.0%) reported ≥ 2 symptoms consistent with mild-severe alcohol use disorders. Of those reporting daily cannabis use, 29.8% (28.6–30.9%) reported ≥ 2 symptoms consistent with mild-severe SUDs. Of those reporting any other drug use, 37.5% (35.7–39.3%) reported ≥ 2 symptoms consistent with mild-severe SUDs.

CONCLUSIONS AND RELEVANCE: Many PC patients who screened positive for high-risk substance use reported symptoms consistent with DSM-5 SUDs on self-report Symptom Checklists. Use of SUD Symptom Checklists could support PC providers in making SUD diagnoses and initiating discussions of substance use.

KEY WORDS: alcohol; cannabis; drug use; substance use; behavioral health; screening; primary care; addiction; substance use disorders.

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INTRODUCTION

An estimated 60.9 million Americans drink above recommended limits, and 27.1 million use other drugs.[1] With past-year prevalence rates of 13.9% for alcohol use disorders (AUDs)[2] and 3.9% for drug use disorders (DUDs),[3] substance use disorders (SUDs) account for significant public health burden in terms of morbidity, mortality, and cost.[1, 4–10] Disability and death due to opioid and alcohol use disorders have increased recently.[11]

Without screening, AUDs and other DUDs often remain unrecognized and untreated,[3, 12] despite availability of effective treatments that can be provided in primary care.[13–19] Efforts to improve identification and treatment of SUDs in primary care often start with brief screening questionnaires,[20–28] followed by a second screen for AUDs or other DUDs.[29–32] However, such an approach still requires the clinician to make a diagnosis before patients can be offered treatment (e.g., medications for AUD or opioid use disorders). An alternative approach[33] recommended recently[34] is to use Diagnostic and Statistical Manual of Mental Disorders (DSM)[35] criteria to identify and assess the severity of SUDs.[36, 37] However, little is known about how often patients with unhealthy substance use would report DSM symptoms of SUDs when results will be documented in their electronic health record (EHRs).

The aim of this study was to describe the prevalence and severity of symptoms of SUDs reported on Symptom Checklists by primary care patients who screened positive for high-risk substance use as part of routine care documented in the

EHR. A secondary aim was to describe the association between the quantity and/or frequency of alcohol or other drug use reported on brief screening questionnaires and the severity of reported SUD symptoms (mild, moderate, or severe).

METHODS

Study Setting, Design, Sample, and Data Sources

Annual behavioral health screening, followed by routine assessment of high-risk alcohol or other drug use, was implemented as part of Behavioral Health Integration in all 25 primary care clinics of Kaiser Permanente Washington, a large health system in the Pacific Northwest,[38, 39] between March 3, 2015, and July 31, 2018. Implementation was staggered with 2–4 primary care clinics launching behavioral health screening every 4 months, as part of the randomized stepped-wedge pragmatic Sustained Patient-centered Alcohol-related Care (SPARC) trial.[38, 39] After screening was launched at each clinic, adult primary care patients ≥18 years were asked to complete a 7-item annual paper screen for depression, alcohol, cannabis, and other drug use (eFigure 1, online). The screen consisted of the two-item Patient Health Questionnaire (PHQ-2) for depression,[40] the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) for alcohol,[28, 41, 42] and two single-item screens for the frequency of past-year cannabis and other drug use.[23, 43] The screen was given to patients at check-in or by medical assistants (MAs) before their appointment and entered into the EHR by MAs as part of routine care. If a patient screened positive for high-risk alcohol or other drug use (defined below), the EHR prompted MAs to give them an Alcohol and/or Substance Use Symptom Checklist, a paper questionnaire which included eleven questions for DSM-5 AUD or other DUD symptoms. MAs entered results of the Symptom Checklist(s) into EHRs, usually before patients were seen by their primary care providers.

This cross-sectional study relied entirely on secondary data obtained from the Kaiser Permanente Washington's EHR and insurance claims. Adult patients were included if they had an in-person visit with a primary care provider at a Kaiser Permanente Washington clinic after behavioral health screening was implemented (Fig. 1).]–>

The study received a waiver of informed consent and HIPAA authorization from the Kaiser Permanente Washington Health Research Institute Institutional Review Board.

Measures

Alcohol, Cannabis, and Other Drug Screenings. The AUDIT-C is a three-item screen that asks about frequency and quantity of typical past-year drinking (0–4 points each question), validated in diverse primary care populations.[24, 28, 41, 42, 44–46] AUDIT-C scores range 0–12 points and sex-specific screening thresholds validated for unhealthy alcohol use are ≥3 for women and ≥4 for men. For descriptive purposes, AUDIT-C scores were categorized as 0, 1–2 female/1–3 male, 3–4 female/4 male, 5–6, 7–8, and 9–12 in this study. Frequency of past-year cannabis use was assessed, regardless of purpose (e.g., medical or non-medical use), with a single-item that asked about cannabis use: "*How often in the past year have you used marijuana?*" using response options from AUDIT-C question no. 3: never = 0, less than monthly = 1, monthly = 2, weekly = 3, daily or almost daily = 4 (eFigure 1, online).[43, 47] Frequency of past-year other drug use was also assessed with a single-item with the same response options, "*How often in the past year have you used an illegal drug (not marijuana) or used a prescription medication for non-medical reasons?*" adapted from a validated screen (eFigure 1, online).[23, 43, 47] Each patient's first complete screen documented in the EHR was used.

High-Risk Alcohol, Cannabis, and Other Drug Use. Patients were considered to screen positive for high-risk substance use ("high-risk use" hereafter) if they had AUDIT-C scores 7–12, reported daily cannabis (score 4), or any other drug use (scores 1–4). These cutoffs for high-risk substance use were chosen because of the following: alcohol consumption increases markedly above AUDIT-C scores of 7 along with symptoms of AUDs;[46] the risk of cannabis use disorder (CUD) is highest among people who use daily;[48, 49] and other drugs (e.g., opioids, stimulants) have high addictive potential with any use.[50]

DSM-5 Symptoms of SUDs Reported on Symptom Checklists. When primary care patients screened positive for high-risk alcohol and/or other substance use, an EHR prompt indicated the patient was to receive a paper-based Symptom Checklist for alcohol and/or other substance use (eFigures 2–3, online). The Alcohol Symptom Checklist has 11 questions (yes/no) based on DSM-5 AUD criteria;[35] the Substance Use Symptom Checklist has 11 questions (yes/no) based on DSM-5 criteria for non-alcohol SUDs. For both Symptom Checklists, the number of endorsed symptoms (0–11) was categorized as 0, 1, 2–3, 4–5, and 6 or more symptoms, consistent with DSM-5 criteria for mild (2–3 symptoms), moderate (4, 5), and severe (6 or more) SUDs. Symptom Checklists were considered complete if documented in the EHR with at least two questions answered. The first Symptom Checklist in the EHR on the day of the visit or in the following year of a corresponding positive screen for high-risk substance use was included in analyses.

Other Measures

Demographic characteristics as well as other behavioral health screen results (PHQ-2 and any documentation of past-year tobacco use) were obtained from the EHR. The PHQ-2 includes two questions each scored 0–3 and was considered positive for depression if either question was scored 2 or 3 (eFigure 1, online).[51] Past-year diagnoses of mental health disorders and SUDs, based on International Classification of

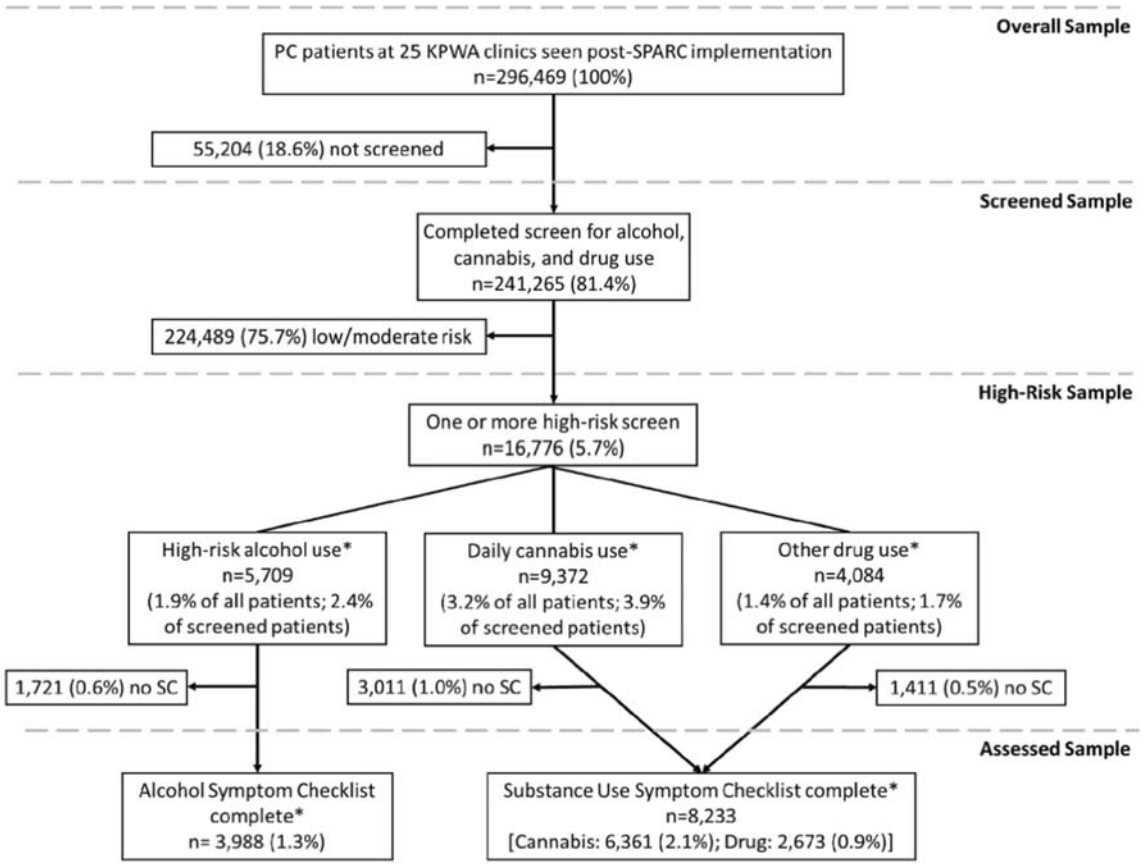

Fig. 1 Study sample. Percentages indicate proportion of total primary care patients seen during the study period, except where indicated. *Overlapping sample, not mutually exclusive (see Fig. 2). SC = Symptom Checklist. High-risk alcohol use = AUDIT-C score 7–12 points.

Disease (ICD) 9th and 10th edition, were obtained from the EHR and insurance claims in the year prior to the screen date. Mental health disorder diagnoses included past-year depression (including major depression and dysthymia), anxiety (including panic, phobias, post-traumatic stress-disorder, and other anxiety disorders), and serious mental illness (including bipolar disorder and schizophrenia). AUD, CUD, and other DUDs (opioid, cocaine, hallucinogen, sedative/hypnotic/anxiolytic, inhalant, other stimulants, and other psychoactive SUDs) were defined by ICD codes used for widely used quality metrics.[52]

Analyses

All analyses were conducted at the patient level. The prevalence of substance use screening among patients who visited primary care, as well as the characteristics of screened patients, and those with any high-risk use, was described. The prevalence and overlap of high-risk alcohol, cannabis, and other drug use among patients with any high-risk use were estimated. Secondary analyses compared screened patients with and without documented high-risk use, using chi-square tests of independence.

The prevalence (95% confidence intervals [CIs]) of symptoms of DSM-5 SUDs reported on Symptom Checklists, and symptoms consistent with SUDs, is described among those with high-risk use who completed the Checklists. Additionally, among these same patients, the association was assessed between screening scores for alcohol and other drug use and (1) the mean number of DSM-5 AUD or DUD symptoms; (2) the percent of patients with at least 2 DSM-5 AUD or DUD symptoms; and (3) the prevalence of symptoms consistent with mild, moderate, and severe AUDs or DUDs. Finally, the prevalence of each individual patient-reported AUD or DUD symptom was described. To examine possible bias in the sample who completed Symptom Checklists, secondary analyses compared patients with high-risk use who completed Symptom Checklists to those who did not, using chi-square tests of independence.

Stata MP Version 15.0 software was used for all analyses.

RESULTS

Demographic, Screening, and Behavioral Health Characteristics

During the study period, 241,265 (81.4% of eligible primary care patients) completed screening for alcohol, cannabis, and other drug use (Fig. 1). Among screened patients, 2.4% (2.3–2.4%) reported high-risk alcohol use, 3.9% (3.8–4.0%) daily cannabis use, and 1.7% (1.6–1.7%) any other drug use.

Table 1 Demographic, Screening, and Clinical Characteristics of the Sample of Primary Care Patients Who Completed Screening, and Those with Screens Indicating High-Risk Alcohol, Cannabis, and/or Other Drug Use

	All screened patients ($n = 241,265$)		High-risk screens ($n = 16,776$)	
	n	(%)	*n*	(%)
Age				
18–29	36,090	(15.0)	5200	(31.0)
30–49	71,610	(29.7)	6059	(36.1)
50–64	93,800	(38.9)	4770	(28.4)
65+	39,700	(16.5)	736	(4.4)
Sex				
Female	142,611	(59.1)	6717	(40.0)
Male	98,654	(40.9)	10,059	(60.0)
Hispanic or Latino	13,516	(5.6)	1100	(6.6)
Race				
Asian	23,897	(9.9)	659	(3.9)
Black	11,661	(4.8)	940	(5.6)
Hawaiian/Pacific Islander	2234	(0.9)	169	(1.0)
Multiracial	6255	(2.6)	658	(3.9)
Native American/Alaska Native	1753	(0.7)	159	(0.9)
Other/unknown	18,676	(7.7)	1577	(9.4)
White	176,789	(73.3)	12,614	(75.2)
Past-year tobacco use	24,293	(10.1)	4924	(29.4)
AUDIT-C score				
0	68,569	(28.4)	1720	(10.3)
1–2 women/1–3 men	105,615	(43.8)	4586	(27.3)
3–4 women/4 men	45,030	(18.7)	2617	(15.6)
5–6	16,342	(6.8)	2144	(12.8)
7–8	4063	(1.7)	4063	(24.2)
9–12	1646	(0.7)	1646	(9.8)
Cannabis use screen score				
0 (never)	195,189	(80.9)	3532	(21.1)
1 (less than monthly)	21,893	(9.1)	1965	(11.7)
2 (monthly)	6988	(2.9)	828	(4.9)
3 (weekly)	7823	(3.2)	1079	(6.4)
4 (daily)	9372	(3.9)	9372	(55.9)
Drug use screen score				
0 (never)	237,181	(98.3)	12,692	(75.7)
1 (less than monthly)	3060	(1.3)	3060	(18.2)
2 (monthly)	426	(0.2)	426	(2.5)
3 (weekly)	222	(0.1)	222	(1.3)
4 (daily)	376	(0.2)	376	(2.2)
PHQ-2 depression screen				
Positive	32,680	(13.5)	2994	(17.8)
Past-year mental health diagnoses				
Depression	41,823	(17.3)	4288	(25.6)
Anxiety	31,209	(12.9)	3492	(20.8)
Serious mental illness	3158	(1.3)	461	(2.7)
Past-year substance use disorder diagnoses				
Any SUD (except tobacco)	7480	(3.1)	3438	(20.5)
Alcohol use disorder	4326	(1.8)	1991	(11.9)
Cannabis use disorder	1778	(0.7)	1229	(7.3)
Non-cannabis drug use disorder	2161	(0.9)	681	(4.1)

Percentages may not add to 100 due to missing or unreported data. Past-year mental health and substance use diagnoses based on ICD-9 and ICD-10 codes in the year prior to screening (see "METHODS")

Table 1 shows characteristics of the screened population and the 16,776 patients with screening indicating high-risk use—6.9% (95% CI 6.9–7.0%) of those screened. Of those patients with any high-risk use, 13.0% (12.5–13.5%) reported high-risk use of more than one substance (Fig. 2). Patients with high-risk alcohol, cannabis, or other drug use differed from those without (eTable 1). Compared with patients without, patients with high-risk alcohol, cannabis, or other drug use were also considerably more likely than those without to have a documented past-year diagnosis of AUD, CUD, and DUD: 29.0% versus 1.0%, 11.5% versus 0.2%, and 13.7% versus 0.6%, respectively (p value 0.001; eTable 1).]–>

Prevalence of Reported SUD Symptoms on Symptom Checklists

Overall, 65.0–69.9% of eligible patients completed Symptom Checklists (Fig. 1). Alcohol Symptom Checklists were completed by 3988 (69.9%; 68.7–71.0%) of eligible patients, and Substance Use Symptom Checklists were completed by 6361 (67.9%; 66.9–68.8%) of patients with daily cannabis use and 2673 (65.4%; 63.9–66.8%) of those reporting any other drug use. The magnitude of differences between eligible patients who did and did not complete Symptom Checklists was generally small (eTable 2).

Among patients with high-risk alcohol use who completed Alcohol Symptom Checklists, 52.5% (50.9–54.0%) reported ≥ 2 symptoms consistent with a DSM-5 AUD (Table 2). Of patients with daily cannabis use who completed a Substance Use Symptom Checklist, 29.8% (28.6–30.9%) reported ≥ 2 SUD symptoms (Table 2). Among patients with any other drug use who completed a Substance Use Symptom Checklist, 37.5% (35.7–39.3%) reported ≥ 2 SUD symptoms.

Association Between Screening Scores and DSM-5 Symptoms

Among patients with high-risk alcohol or other non-cannabis drug use who completed the respective Alcohol or Substance Use Symptom Checklists, there was a strong association between screen scores and the prevalence and number of reported AUD or SUD symptoms (Fig. 3; eTable 3). The prevalence of ≥ 2 symptoms of AUD increased from 40.5% (38.2–42.8%) for patients with AUDIT-C scores of 7 to 91.4% (85.3–95.1%) for those with scores of 12. For patients who used other drugs, the prevalence of ≥ 2 SUD symptoms increased from 26.6% (24.7–28.7%) for patients reporting less than monthly other drug use to 79.0% (73.7–83.5%) for those reporting daily or almost daily use. Similarly, the prevalence of 6 or more symptoms—consistent with severe AUD or SUD—increased markedly across the range of high-risk screen scores: from 8.2 (7.0–9.6%) to 77.7% (69.9–83.9%) for alcohol and 7.3 (6.2–8.5%) to 62.5% (56.5–68.2%) for other drugs (Fig. 3). The mean number of AUD symptoms reported increased from 1.8 (1.7–1.9) with AUDIT-C score of 7 to 7.7 (7.1–8.3) with AUDIT-C score of 12 (eTable 3). For SUD symptoms, the mean number of symptoms increased from 1.3 (1.3–1.4) for those reporting less than monthly use of other drugs (score of 1) to 6.6 (6.1–7.1) for those with daily use (score of 4).]–>

The most commonly reported DSM-5 symptoms of AUD or other SUDs on the Symptom Checklists varied somewhat

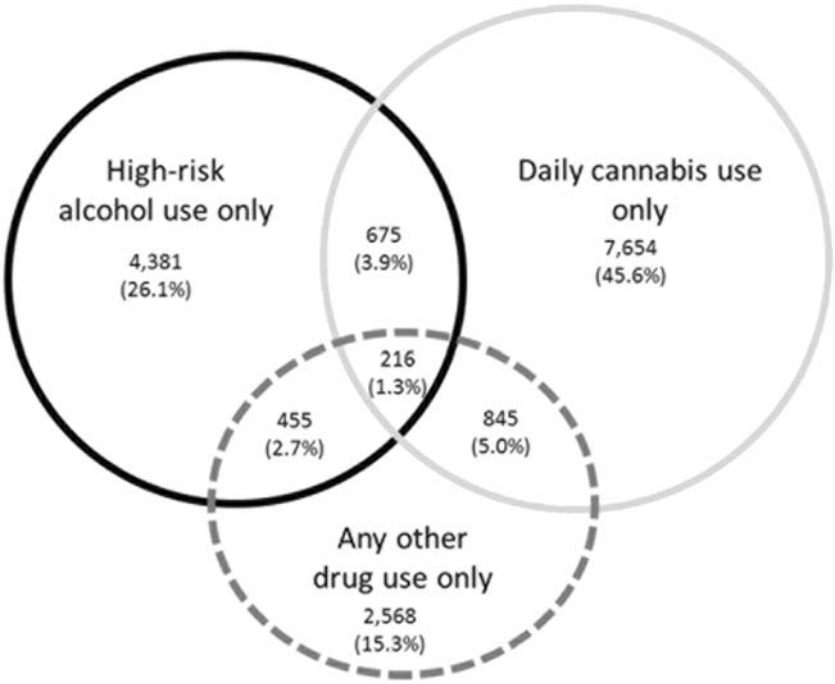

Fig. 2 Overlap between high-risk alcohol, cannabis, and other drug use. Of 16,776 patients with high-risk use of alcohol, cannabis, or other drugs (5709 reporting high-risk alcohol use, 9372 reporting high-risk cannabis use, 4084 reporting high-risk use of other drugs), 2173 reported high-risk use of more than one substance. Area of circles is proportional to the sample size.

for those with high-risk alcohol, cannabis, or other drug use. However, continued use despite knowing it was causing mental or physical problems and report of strong desires or cravings to use were common in all 3 groups (eFigure 4, online).

DISCUSSION

This study evaluated patient-reported symptoms of SUD documented in EHRs as part of routine primary care for patients who reported high-risk substance use. Results show that over

Table 2 Prevalence of AUD or SUD Symptoms Among Those Who Screened High-Risk and Completed Symptom Checklists

	Alcohol Symptom Checklist High-risk alcohol use ($n = 3988$)	
DSM-5 AUD symptoms	**%**	**(95% CI)**
None	30.1	(28.7–31.6)
1	17.4	(16.2–18.6)
2–3 (mild)	21.3	(20.0–22.6)
4–5 (moderate)	12.0	(11.1–13.1)
6 or more (severe)	19.2	(18.0–20.4)
Consistent with mild-severe DSM-5 AUD*	52.5	(50.9–54.0)
	Substance Use Symptom Checklist Daily cannabis use ($n = 6361$)	
DSM-5 SUD symptoms	**%**	**(95% CI)**
None	49.9	(48.7–51.1)
1	20.4	(19.4–21.4)
2–3 (mild)	17.9	(17.0–18.8)
4–5 (moderate)	6.4	(5.8–7.0)
6 or more (severe)	5.5	(5.0–6.1)
Consistent with mild-severe DSM-5 CUD*	29.8	(28.6–30.9)
	Any other drug use ($n = 2670$)	
DSM-5 SUD symptoms	**%**	**(95% CI)**
None	48.5	(46.6–50.4)
1	14.0	(12.7–15.3)
2–3 (mild)	14.5	(13.1–15.8)
4–5 (moderate)	6.7	(5.8–7.8)
6 or more (severe)	16.3	(15.0–17.8)
Consistent with mild-severe DSM-5 DUD*	37.5	(35.7–39.3)

High-risk alcohol use = AUDIT-C score 7–12 points
**Note that the Symptom Checklist did not assess whether symptoms were recurrent and—for the SUD Symptoms Checklist—whether symptoms were due to cannabis and/or other drugs. Therefore, a diagnosis of AUD, CUD, or DUD required assessment by a clinician*

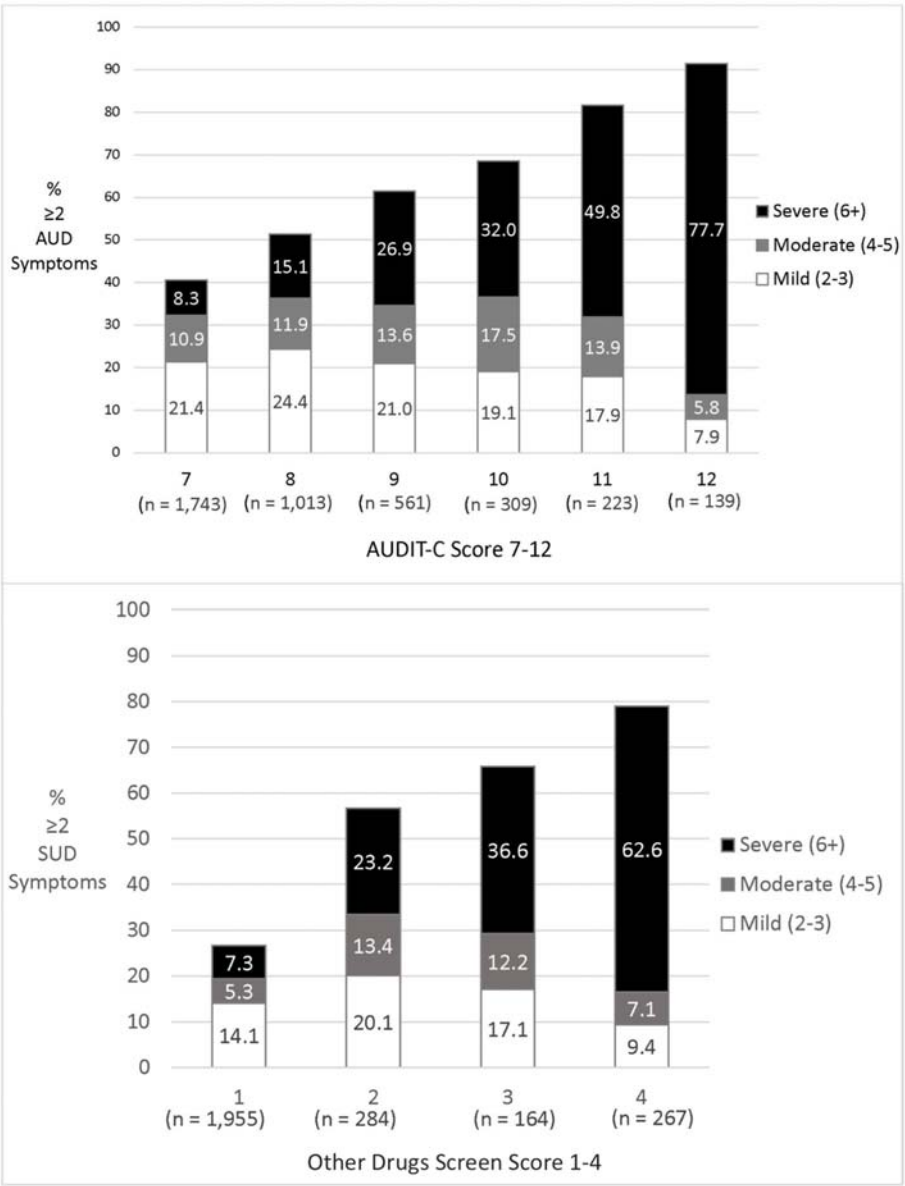

Fig. 3 Proportion of patients with at least 2 AUD or DUD symptoms across high-risk alcohol and other (non-cannabis) drug screening scores. The number of symptoms from the Alcohol Symptom Checklist is shown across AUDIT-C scores 7–12 (top), and the number of symptoms from the Substance Use Checklist is shown across any other drug screen score (bottom). Combined bar height indicates proportion of sample with 2 or more AUD or DUD symptoms. (*n*=) indicates number of patients at each screening score who completed the Symptom Checklist.

half of patients with high-risk alcohol use reported ≥ 2 DSM-5 symptoms of AUD, consistent with at least mild AUD, whereas 30% and 38% of those with high-risk cannabis or other drug use, respectively, reported ≥ 2 DSM-5 DUD symptoms. Moreover, the higher the screening scores, the greater the prevalence and number of DSM-5 symptoms.

No prior study to our knowledge has reported the prevalence and severity of DSM-5 symptoms of AUD or SUD among primary care patients who screen positive for high-risk substance use. Findings are consistent with prior research regarding the AUDIT-C in the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC),[46] but the mean number of AUD symptoms at any given AUDIT-C score was higher in the present study's clinical sample. At the highest alcohol and other drug screen scores, 78% and 63% respectively reported ≥ 6 DSM-5 symptoms consistent with severe SUDs. Results suggest that often SUDs were not previously recognized by patients' providers. Among patients with high-risk alcohol, cannabis, or other drug use who completed Symptom Checklists, the prevalence of AUD, CUD, or DUD diagnoses documented in the past year was 32%, 12%, and 16%, respectively (eTable 2), while the prevalence of 2 or more patient-reported DSM-5 symptoms was 53%, 30%, and 38%, respectively (Table 2). Primary care patients who screen positive for unhealthy alcohol or substance use fall on a spectrum: some have asymptomatic unhealthy use of alcohol, cannabis, and other drugs, while others have mild to severe symptoms of AUD or other SUDs. The former might benefit

from brief preventive counseling—shown to decrease drinking in patients with unhealthy alcohol use[20, 21]—whereas those with AUD or other DUDs benefit from treatment.[14–17, 19] Therefore, identification of AUDs and DUDs among those who screen positive on brief substance use screening questionnaires may be a crucial step towards improving treatment of SUDs.[12, 30, 31, 53–55] However, no consensus exists about the optimal approach to identifying those with AUD and DUD among the much larger group of patients with unhealthy substance use. Previously recommended approaches for identifying SUDs include secondary screens, ranging from 2 to 10 items for alcohol.[29–32] Even if secondary screens suggest SUDs, primary care providers may want a definitive diagnosis before offering treatment.[14, 56, 57] While some health systems use a telephonic Behavioral Health Lab to diagnose SUDs,[16] most patients are not referred and those who are referred for assessment often do not accept referral to subsequent specialty treatment,[16, 58] consistent with limitations in the reach of referral generally.[59–61]

In contrast, this study showed that integration of routine DSM-5 Symptom Checklists into primary care resulted in high rates of assessment, with many patients reporting symptoms consistent with DSM-5 SUDs. This simplified the process for primary care providers to make a diagnosis: once patients completed the questions on paper and MAs had entered DSM symptoms into the EHR, providers only needed to confirm the symptoms and their recurrence to make a diagnosis. Moreover, providers could enter the exam room knowing whether they were going to offer preventive counseling or explore AUD symptoms and offer shared decision-making[62] and treatment.[14, 56, 57] Providers could then treat AUDs or opioid use disorders with medications, and/or offer "warm handoffs" to social workers or other integrated behavioral health clinicians for further motivational interviewing, shared decision-making, or evidence-based counseling, as appropriate. Future research will evaluate whether this process increases diagnosis and treatment of SUDs.

Use of DSM Symptom Checklists for SUDs provides another important advantage in primary care: supporting patient-centered discussions of alcohol and other substance use and associated symptoms, and thereby potentially helping to destigmatize SUDs and their treatment. The Symptom Checklist can make it easier for primary care providers to initiate comfortable conversations about a stigmatized topic in a non-judgmental manner. A provider can refer to the Symptom Checklist and say, "You indicated that you suspected your alcohol use may cause or worsen mental or physical problems. Can you tell me more about that?" While some symptoms like tolerance may not bother patients, other symptoms like "wanted to or tried to cut back or stop… but have been unable" indicate patients may be open to shared decision-making about treatment options. Patients' symptoms could then be monitored over time.[34]

This study had several limitations. First, under-reporting of substance use and DSM-5 symptoms of SUDs is expected due to stigma. However, despite this, we found that many patients reported substance use and SUD symptoms, and self-report on paper screens and Symptom Checklists may minimize social desirability bias.[63] Moreover, more AUD symptoms were reported at a given AUDIT-C score than in a study using detailed, confidential interviews,[46] potentially reflecting differences in populations or a greater tendency of patients to report high-risk substance use when they are having symptoms. Another limitation was that the single items for cannabis and drug use and the Symptom Checklists (eFigures 1–3, online) have not been validated. However, these screens were based on validated questions,[23, 31, 64] and other validated DSM diagnostic instruments for SUDs have used a single item for each DSM criterion.[58, 65] Also, Symptom Checklists were not documented in the EHR for all primary care patients with high-risk use, and there was variation in Symptom Checklist completion across age and sex (eTable 2). It is not known whether this is due to patient refusal, lack of time, or primary care staff discomfort. Some anecdotes suggested MAs were uncomfortable assessing substance use in certain patients (e.g., older patients). Finally, the Kaiser Permanente Washington primary care population may not reflect other primary care populations, especially uninsured patients.

For many individuals with SUDs, primary care may be their only health care contact,[12, 66, 67] placing primary care providers in a prime position to identify, assess, and treat SUDs.[16, 68, 69] A coordinated and systematic approach using a brief paper-based screen for substance use, followed by Symptom Checklists for those with high-risk use, offers a patient-centered approach to identifying and engaging patients. This study showed that such an approach is feasible and that many patients reported 2 or more symptoms on the DSM-5 Symptom Checklists, with increasing severity of SUDs as screen scores increased.

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