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Investigating documentation of alcohol and non-medical substance use in oncology treatment: an electronic health record review

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Abstract

Purpose—Little is known about non-tobacco substance use (SU) and its treatment in cancer patients. National guidelines address tobacco only, and assessment of SU in cancer patients is not standardized. It is not clear how oncology clinicians assess, document, and follow-up on SU.

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Author contribution

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Consent to participate All authors have read, reviewed, and approved of this manuscript for publication and agreed to participate as authors on the manuscript.

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Methods—We conducted an electronic health record review of patients enrolled in a smoking cessation trial at one large hospital site ($N=176$). Chart review of oncology treatment notes assessed whether SU assessment was documented, the content of the documentation/assessment (e.g., frequency of use), and details about documentation (e.g., where/who documented).

Results—Sixty-nine percent (121/176) of cancer patients had SU documented. Many patients (42%, 74/176) had only one substance documented; 66% (116/176) had alcohol use documented. For a substantial minority of patients (43/176; 24%), the provider did not specify the substance assessed (e.g., “drug use,” “illicits”). SU was primarily documented by physicians (84%, 102/121), in routine progress notes (56%, 68/121), in the “social history” section of the note (84%, 102/121). Only 4 patients had a documented SU follow-up plan. When examining the subset of patients who reported problematic alcohol use ($N=27$), the content of documentation was inconsistent (e.g., number of drinks/day vs. qualitative descriptors of use).

Conclusions—About 1/3 of oncology patients did not have SU assessment documented. SU other than alcohol use was infrequently documented, many clinicians documented SU but did not specify substance type, and few clinicians documented a follow-up plan for problematic SU. Oncology settings should utilize standardized assessment and referral for SU treatment.

Keywords

Cancer; Electronic health record; Chart review; Substance use; Substance use disorder; Non-medical substance use; Alcohol

Introduction

Unhealthy substance use (SU) and substance use disorders (SUDs) are associated with significant disease burden and mortality in the USA and are not uncommon among patients with a cancer diagnosis (2–35% prevalence)[1–4]. SU and SUDs in cancer patients are associated with a host of deleterious outcomes, including worsened cancer outcomes (e.g., decreased survival), treatment course (e.g., reduced treatment adherence), increased health services utilization (e.g., hospitalizations, outpatient visits), development of other medical comorbidities (e.g., hepatitis C) which negatively impact cancer treatment, and decreased overall quality of life [1, 5–8]. The only systematic review of non-tobacco SUDs in cancer patients to date, published in 2019[1], concluded that knowledge of substance use treatment and management in cancer patients is extremely limited and more research is needed. Additionally, methods for assessing SU in cancer patients are inconsistent and not standardized [1].

Addressing SU and SUDs in cancer patients begins by understanding current clinical practices for assessing SU in cancer patients, particularly in cancer treatment settings where patients are frequently seen. Clinical treatment settings often draw their practices and recommendations for assessment and treatment from national guidelines; however, for SU, there is a gap in clinical recommendations in cancer care. While national guidelines such as the National Comprehensive Cancer Network (NCCN) and the American Society of Clinical Oncology (ASCO) explicitly recommend assessing tobacco use in cancer patients and recommending smoking cessation counseling and pharmacotherapy for cancer patients

interested in quitting smoking [9, 10], there is little guidance on how to screen for and address non-tobacco SU in cancer care. NCCN guidelines outline that cancer patients should be encouraged to modify excessive alcohol consumption [9], but a framework for assessment and treatment is not provided, and guidelines do not address non-tobacco, non-alcohol substances.

Taken together, more research is needed to determine best practices for assessing and treating SU and SUDs in cancer patients. This is especially urgent now as there is an ongoing opioid epidemic with rates of opioid misuse, use disorder, and related overdoses on the rise, which may hold special relevance for cancer patients given their prevalence of acute and chronic cancer-related pain [11, 12]. As a first step in informing this line of research, data is urgently needed on existing clinical practices for asking about, assessing, and referring to treatment for non-tobacco substance use in cancer treatment settings.

Using an electronic health record chart review of recently diagnosed cancer patients who smoke cigarettes enrolled in a larger, randomized-controlled trial in a large healthcare system (i.e., the SmokeFree Support Study [SSS])[13], the aims of the present investigation were threefold: (1) to determine whether alcohol and non-medical, non-tobacco SU assessment is documented in cancer patient's oncology treatment notes, (2) to investigate how SU is documented (e.g., where use is documented, by whom, any standardization of documentation, presence of a follow-up plan for those endorsing problematic use), and (3) to explore the content of the SU assessment documentation including what substances are documented and what details of SU are assessed/documented (e.g., frequency, quantity of use).

Methods

Parent study design

The present study is a secondary analysis of data from the Smokefree Support Study 1.0 (SSS1) randomized-controlled trial [13], a two-site (Massachusetts General Hospital (MGH), Boston, MA; Memorial Sloan Kettering Cancer Center (MSKCC), New York, NY) smoking cessation trial for recently diagnosed cancer patients who smoke. Study methodology has been previously published [13, 14].

Briefly, SSS1 participants were English or Spanish-speaking, adult (> 18 years old), current cigarette smokers (> 1 cigarette in the past 30 days), recently diagnosed with cancer (within 3 months of thoracic, breast, genitourinary, gastrointestinal, head/neck, lymphoma, melanoma, or gynecological cancer diagnosis), beginning cancer treatment at MGH or MSKCC, and willing to consider trying to quit smoking. Eligible participants were randomly assigned to one of two smoking cessation treatment groups with differing durations of cessation support. All participants received 4 weekly telephone-based counseling sessions and FDA-approved smoking cessation medication referrals and advice, and participants assigned to the group with a higher level of support received additional telephone-based smoking cessation counseling and free cessation pharmacotherapy for 3 months. All cessation counseling notes were documented in the patient's electronic health record (EHR) by the counselor. Participants completed a baseline survey following informed

consent and prior to the first counseling session, and follow-up surveys were completed at 3 and 6 months. Enrollment took place between November 2013 and July 2017 with surveys completed by the end of February 2018.

Electronic health record chart review procedure

We completed an EHR chart review of SSS1.0 patients enrolled at the MGH study site. MGH uses EPIC as their EHR. Given the differing EHR platforms across sites, we were unable to include MSKCC in the present secondary analysis. We searched the patient's EHRs 3 months prior and 6 months after their initial SSS smoking cessation counseling note to broadly align with patient's course of participation in the SSS study [13]. We only searched the patient's oncology treatment notes as the purpose of our chart review project was to investigate SU documentation specifically within the cancer center.

Measures

SSS baseline survey measures

Sociodemographic measures assessed gender, age, race, ethnicity, and the level of education. At baseline, participants also reported the average number of cigarettes smoked per day and the average number of alcoholic drinks they drank per week. Those who reported drinking at least 1 alcoholic drink/week were asked about binge drinking (4 drinks on drinking occasions) as well as the 4-item CAGE questionnaire which assessed history of alcohol use, excessive drinking, and impairment [15]. We computed a composite variable (alcohol use status) based on these SSS baseline alcohol measures with 3 levels (no current alcohol use, moderate alcohol use [current drinking without excessive drinking or impairment], and problematic alcohol use [current drinking with binge drinking or impairment reported]) [16].

EHR chart review measures

We extracted EHR data on whether SU assessment was documented in the patient's cancer treatment (yes/no), the type of note where substance use was documented (e.g., consultation note, progress note), the section of the note where SU assessment was documented (e.g., social history, medical history section), how many substances were documented, which substances were documented (e.g., alcohol, opioids, stimulants), whether the assessment documentation specified the patient's report of using or not using the substance (i.e., patient endorsed use, denied use, unknown), and the specialty (e.g., MD, NP) of the clinician who was documenting use (i.e., the note writer). We also extracted data on whether a follow-up plan (e.g., referral to treatment) for substance use was documented in the EHR (yes/no) and, if so, the section of the note where the plan was documented (e.g., assessment, plan section). We focused on alcohol and non-tobacco, non-medical SU, and thus, we did not extract data on tobacco use documentation as the integration of tobacco screening and referral in cancer care has been thoroughly investigated [13, 17–19].

Given the data available on problematic alcohol use in the SSS baseline survey as described above [16], we collected additional data on alcohol use documentation from oncology notes in the EHR among the subset of MGH patients who endorsed problematic alcohol use on the SSS baseline survey ($N = 41/176$) and whom also had SU documented in their EHR

($N = 27/41$; 69%). Specifically, we extracted data on the documented time frame of alcohol use (current use, past use, unknown timeframe) and extracted free text of the descriptions of alcohol use by providers to examine the content of provider documentation of problematic alcohol use and what specific characteristics of alcohol use providers were documenting on (e.g., frequency of use, type of SU). Important to note is that there was no standardized non-tobacco SUD assessment or templates utilized in the MGH cancer center.

Finally, cancer characteristics were also extracted from the EHR, including cancer stage and diagnosis.

Statistical methods

Participant characteristics and SU documentation characteristics were examined using descriptive statistics in STATA v16 (College Station, TX, StataCorp LLC, StataCorp, 2017).

Free-text fields examining problematic alcohol use documentation were analyzed using a document analysis coding framework and using two data sources (i.e., SSS1 survey and EHR review) to increase overall data credibility [20]. Specifically, for the patients who had endorsed problematic alcohol use on the SSS1 baseline survey, we reviewed their EHR alcohol use documentation in depth by extracting and examining the provider's free-text documentation of alcohol use to identify themes in documentation and patterns.

Results

Participant characteristics

The characteristics of the 176 MGH SSS patients are presented in Table 1. Briefly, participants have a mean of 59 years of age, 53% were female, and 94% were identified as white race.

Substance use documentation and characteristics

Sixty-nine percent (121/176) of patients had any SU assessment documented in their EHR. Alcohol use (66%), cannabis use (3%), opioid use (2%), and other SU (24%) was documented for 116/176, 5/176, 4/176, and 43/176 patients, respectively. Patients were categorized as having "other" substance use assessment documented when the clinician did not specify the type of SU (e.g., "drug use," "illicits"). Forty-two (74/176) percent of patients had a single substance documented (vs. 27% had more than one substance documented).

Of the patients with SU documented in their EHR, physicians were the primary documenters of SU (102/121; 84%), and SU was generally documented in routine progress notes (68/121; 56%), in the "social history" section of the note (102/121; 84%) (Table 2). Only four patients (3%), three of whom had endorsed using alcohol, had a follow-up plan documented, and only three of the four patients had a follow-up plan documented that was related to substance use treatment vs. a medical follow-up plan. Specifically, when examining the free text of the follow-up plans, three of the four follow-up plans consisted of encouraging the patient to abstain from use or maintain abstinence ("encouraged continued abstinence"), and one follow-up plan described a medical follow-up plan for a potential liver transplant due

to alcohol-related problems but did not include any alcohol treatment follow-up plan. No follow-up plans discussed referral to SU/SUD treatment.

Documentation of problematic alcohol use

Among the 27 patients who endorsed problematic alcohol use according to the SSS baseline alcohol use status measure, 5 (19%) and 26 (96%) had documented in their EHR that their alcohol use was in the past or current, respectively, with 4/27 (15%) endorsing both past and current use. Only 2/27 (7%) patients had a follow-up plan documented for their problematic alcohol use, both of which detailed the provider encouraging the patient to not drink (e.g., “encouraged her to stay off of alcohol”).

When examining the free-text documentation of problematic alcohol use assessment by providers in the document analysis, mostly alcohol use was assessed by the quantity of alcoholic drinks consumed per day or per week using numerical descriptors (e.g., “5–7/week”) or frequency of drinking using qualitative descriptors such as “daily,” “occasionally,” “rare,” or “socially.” Some patients also had the type of alcohol documented (e.g., “beer,” “vodka,” “red wine”). Only one of 27 patients with problematic alcohol use had documented how their alcohol use related to their cancer diagnosis, and this provider described that the patient drank heavily until he learned of his cancer diagnosis and then stopped drinking as a result.

Discussion

There is a paucity of research on the assessment and treatment of SU and SUDs in cancer patients, despite a substantial prevalence of SU and SUDs in those with cancer and associated deleterious health outcomes including worsened survival. In this chart review of oncology treatment records of smokers enrolled in a randomized smoking cessation clinical trial, we investigated whether alcohol and non-medical non-tobacco SU assessment was documented including examining the content of the documentation of SU and how substance use was documented. We found that (1) almost one third of oncology patients did not have SU assessment documented in their electronic health record, (2) SU outside of alcohol use was infrequently assessed, (3) many providers documented a SU assessment without documenting the type of SU assessed (e.g., “drug use”), and (4) very few clinicians documented a follow-up plan for unhealthy substance use and no clinicians documented a referral to SUD treatment.

The US Preventive Services Task Force and the US Public Health Service recommend that screening and brief intervention (SBI) be delivered as an evidence-based and cost-effective preventive service for quitting alcohol use and cigarette smoking, respectively, in primary care settings [21, 22], but little is known about use of SBI paradigms for alcohol use or other non-tobacco SU in oncology settings. As the 5As (ask, advise, assess, assist, and arrange follow-up) have been successfully implemented in oncology settings for smoking cessation treatment [23, 24], future research should consider adapting this brief screening and referral model for non-tobacco SU in oncology treatment settings as a first step towards standardizing assessment and referral for SU [25]. Although our data showed that physicians were the primary provider assessing and documenting SU, it could be useful to consider

screening and brief intervention models (including adding these screening questions to a note-writing or other standardized template in the EHR) to be delivered by other oncology clinicians, in addition to physicians, such as nurses who have routine contact with patients.

The low rates of documented follow-up and referral for problematic SU and the lack of evidence-based referral recommendations (e.g., “encouraged abstinence”) are alarming and inconsistent with personalized and patient-centered care models of treatment in oncology which emphasize individualized medicine that delivers the right care at the right time and is associated with clinical improvements and reductions in healthcare costs [26]. Our findings are unfortunately consistent with a telephone-based survey conducted with patients across the USA assessing their healthcare experiences for various medical and health disorders which concluded that persons with alcohol dependence only received 10.5% of the recommended care (SUDs other than alcohol were not assessed) [27]. These findings further suggest a need for medical and nursing education and clinician training to include curricula on screening for, assessing, and when appropriate, referring to evidence-based treatment for SU and SUDs in cancer patients, including implementation of standardized templates for SUDs assessment and triage for use by providers. Education and training would also benefit from including recommendations for providers on suggested language to use in documentation to avoid non-stigmatizing language (e.g., illicit drug use, drug abuse) [28]. Thus, a multipronged approach at the provider and health systems level is likely needed to improve assessment and referral for SU treatment in oncology treatment settings.

Our study was limited in that we only included data from one hospital with a racially and ethnically homogenous sample and all of our participants were current smokers based on parent study inclusion criteria; thus, our findings cannot be generalized to other demographic subgroups such as non-smokers. Additionally, all of our data are based on provider documentation of assessment, and it is possible that providers assessed SU but did not document their assessment (i.e., documentation may not be synonymous with assessment). It is also possible that providers carried forward information into their note from other provider’s notes in the EHR (e.g., from primary care doctor’s notes) that were not based on their own assessment (or confirmed with patient at the time of the visit), thus resulting in potentially inflated rates of documentation of SU assessment in the present investigation. We did not have data from clinical assessments to identify unhealthy substance use or SUDs vs. healthy/non-problematic use of substances for substances other than alcohol nor any biochemical data to validate chart review findings on substance use. Finally, due to the limited documentation of non-alcohol substances (e.g., opioids), we had an insufficient sample size to conduct more comprehensive analyses or in-depth data extraction on substances other than alcohol (e.g., time frame of use).

Limitations notwithstanding, this was the first study to investigate oncology clinician documentation of the assessment of alcohol and non-medical non-tobacco substance use. Findings are strengthened by the inclusion of data from a large hospital system in an urban area and a diverse sample of cancer patients with a range of cancer stages. In this electronic health record chart review project, we found that about 1/3 of oncology patients did not have SU assessment documented, SU other than alcohol was infrequently assessed, many clinicians did not specify substance type, and few clinicians documented a follow-up plan

for problematic SU with no clinicians documenting referral to SUD treatment. Oncology treatment settings should consider implementing standardized substance use screening and referral to treatment models.

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Data availability

Not applicable.

References

1. Yusuf M, Braun IM, Pirl WF (2019) A systematic review of substance use and substance use disorders in patients with cancer. *Gen Hosp Psychiatry* 60:128–136 [PubMed: 31104826]
2. Ho P, Rosenheck R (2018) Substance use disorder among current cancer patients: rates and correlates nationally in the Department of Veterans Affairs. *Psychosomatics* 59(3):267–276 [PubMed: 29452704]
3. Alcohol Facts and Statistics | National Institute on Alcohol Abuse and Alcoholism (NIAAA) (2021). Available from: <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics>. Accessed 1 Sept 2021
4. Abuse NI on D Death. National Institute on Drug Abuse (2020). Available from: <https://www.drugabuse.gov/drug-topics/health-consequences-drug-misuse/death>. Accessed 22 May 2021
5. Bhattacharya R, Shuhart MC (2003) Hepatitis C and alcohol: interactions, outcomes, and implications. *J Clin Gastroenterol* 36(3):242–252 [PubMed: 12590237]
6. Passik SD, Portenoy RK, Ricketts PL (1998) Substance abuse issues in cancer patients. Part 1: prevalence and diagnosis. *Oncology Williston Park* 12(4):517–21 (524) [PubMed: 9575525]
7. Chang C-K, Hayes RD, Broadbent M, Fernandes AC, Lee W, Hotopf M, Stewart R (2010) All-cause mortality among people with serious mental illness (SMI), substance use disorders, and depressive disorders in southeast London: a cohort study. *BMC Psychiatry* 30(10):77
8. Chhatre S, Metzger DS, Malkowicz SB, Woody G, Jayadevappa R (2014) Substance use disorder and its effects on outcomes in men with advanced-stage prostate cancer. *Cancer* 120(21):3338–3345 [PubMed: 25042396]
9. Pfister DG, Spencer S, Adelstein D, Adkins D, Anzai Y, Brizel DM, Bruce JY, Busse PM, Caudell JJ, Cmelak AJ, Colevas AD, Eisele DW, Fenton M, Foote RL, Galloway T, Gillison ML, Haddad RI, Hicks WL, Hitchcock YJ, Jimeno A, Leizman D, Maghami E, Mell LK, Mittal BB, Pinto HA, Ridge JA, Rocco JW, Rodriguez CP, Shah JP, Weber RS, Weinstein G, Witek M, Worden F, Yom SS, Zhen W, Burns JL, Darlow SD (2020) Head and Neck Cancers, Version 2. 2020, NCCN Clinical Practice Guidelines in Oncology. *J Natl Compr Canc Netw* 18(7):873–98 [PubMed: 32634781]
10. Hanna N, Mulshine J, Wollins DS, Tyne C, Dresler C (2013) Tobacco cessation and control a decade later: American Society of Clinical Oncology policy statement update. *J Clin Oncol* 31(25):3147–3157 [PubMed: 23897958]
11. Azizoddin DR, Knoerl R, Adam R, Kessler D, Tulsy JA, Edwards RR, Enzinger AC (2021) Cancer pain self-management in the context of a national opioid epidemic: experiences of patients with advanced cancer using opioids. *Cancer* 127(17):3239–3245 [PubMed: 33905550]
12. Opioid use disorder: epidemiology, pharmacology, clinical manifestations, course, screening, assessment, and diagnosis - UpToDate (2021). Available from: <https://www.uptodate.com/contents/opioid-use-disorder-epidemiology-pharmacology-clinical-manifestations-course-screening-assessment-and-diagnosis>. Accessed 1 Sept 2021

13. Park ER, Perez GK, Regan S, Muzikansky A, Levy DE, Temel JS, Rigotti NA, Pirl WF, Irwin KE, Partridge AH, Cooley ME, Friedman ER, Rabin J, Ponzani C, Hyland KA, Holland S, Borderud S, Sprunck K, Kwon D, Peterson L, Miller-Sobel J, Gonzalez I, Whitlock CW, Malloy L, de León-Sanchez S, O'Brien M, Ostroff JS (2020) Effect of sustained smoking cessation counseling and provision of medication vs shorter-term counseling and medication advice on smoking abstinence in patients recently diagnosed with cancer: a randomized clinical trial. *JAMA* 324(14):1406–1418 [PubMed: 33048154]
14. Park ER, Ostroff JS, Perez GK, Hyland KA, Rigotti NA, Borderud S, Regan S, Muzikansky A, Friedman ER, Levy DE, Holland S, Eusebio J, Peterson L, Rabin J, Miller-Sobel J, Gonzalez I, Malloy L, O'Brien M, de León-Sanchez S, Whitlock CW (2016) Integrating tobacco treatment into cancer care: study protocol for a randomized controlled comparative effectiveness trial. *Contemp Clin Trials* 50:54–65 [PubMed: 27444428]
15. Ewing JA (1984) Detecting alcoholism The CAGE questionnaire. *JAMA* 252(14):1905–1907 [PubMed: 6471323]
16. Streck JM, Hyland KA, Regan S, Muzikansky A, Rigotti NA, Ponzani CJ, Perez GK, Kalkhoran S, Ostroff JS, Park ER (2021) Examining the effects of problematic alcohol use on cigarette abstinence in recently diagnosed cancer patients enrolled in a cessation trial: a secondary analysis. *Addict Behav* 115:10679
17. Zeng L, Yu X, Yu T, Xiao J, Huang Y (2019) Interventions for smoking cessation in people diagnosed with lung cancer. *Cochrane Database Syst Rev* 13(6). Available from: 10.1002/14651858.CD011751.pub3/full?cookiesEnabled. 2021 Apr 13
18. Gali K, Pike B, Kendra MS, Tran C, Fielding-Singh P, Jimenez K, Mirkin R, Prochaska JJ (2020) Integration of tobacco treatment services into cancer care at Stanford. *Int J Environ Res Public Health* Mar 17(6). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7143650/>. 2021 Apr 13
19. Kaiser EG, Prochaska JJ, Kendra MS (2018) Tobacco cessation in oncology care. *Oncology* 95(3):129–137 [PubMed: 29920482]
20. Bowen GA (2009) Document analysis as a qualitative research method. *Qual Res J* 9(2):27–40
21. Moyer VA, Preventive Services Task Force (2013) Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. preventive services task force recommendation statement. *Ann Intern Med* 159(3):210–8 [PubMed: 23698791]
22. Clinical Practice Guideline Treating Tobacco Use and Dependence (2008) Update Panel 2008 A clinical practice guideline for treating tobacco use and dependence: 2008 update. *Am J Prev Med* 35(2):158–76 [PubMed: 18617085]
23. Neil JM, Price SN, Friedman ER, Ponzani C, Ostroff JS, Muzikansky A, Park ER (2020) Patient-level factors associated with oncology provider-delivered brief tobacco treatment among recently diagnosed cancer patients. *Tob Use Insights* 13:1179173X20949270
24. Park ER, Gareen IF, Japuntich S, Lennes I, Hyland K, DeMello S, Sicks JD, Rigotti NA (2015) Primary care provider-delivered smoking cessation interventions and smoking cessation among participants in the National Lung Screening Trial. *JAMA Intern Med* 175(9):1509–1516 [PubMed: 26076313]
25. Choflet A, Hoofring L, Cheng Z, Katulis L, Narang A, Appling S (2020) Substance use screening protocol: implementation of a system for patients with cancer. *Clin J Oncol Nurs* 24(5):554–560 [PubMed: 32945788]
26. Kalia M (2013) Personalized oncology: recent advances and future challenges. *Metabolism* 62(Suppl 1):S11–14 [PubMed: 22999010]
27. McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A, Kerr EA (2003) The quality of health care delivered to adults in the United States. *N Engl J Med* 348(26):2635–2645 [PubMed: 12826639]
28. Adams ZM, Fitzsousa E, Gaeta M (2021) “Abusers” and “addicts”: towards abolishing language of criminality in US medical licensing exam step 1 preparation materials. *J Gen Intern Med* 36(6):1759–1760 [PubMed: 33511566]

Table.1Participant characteristics of MGH SmokeFree Support Study patients ($N= 176$)

	<i>N</i> (%)
Demographics	
Age, M \pm SD	59 \pm 10
Gender	
Male	83 (47%)
Female	93 (53%)
Race	
White	165 (94%)
Black	8 (5%)
Other ^a	3 (2%)
Hispanic/Latino ^b	2 (1%)
Education	
high school/GED	60 (35%)
Some college	67 (39%)
college degree	46 (27%)
Alcohol and nicotine use	
Alcohol use status	
No use	80 (45%)
Moderate	55 (31%)
Problematic	41 (23%)
Nicotine use	
Smoked ≥ 1 cigarette in past 30 d	176 (100%)
Cigarettes/day	15 \pm 9
Past 30d e-cigarette use	34 (19%)
Tobacco-related disease ^c	92 (52%)
Tobacco-related cancer ^d	110 (63%)
Advanced cancer stage	69 (39%)

Note. Tabled values represent N (%) unless otherwise indicated. All participants are current cigarette smokers (≥ 1 cigarette smoked in the past 30 days) based on MGH SmokeFree Support Study inclusion criteria [13]. d, days

^aOther race included American Indian or Alaskan Native ($n = 2$) and other race ($n = 1$)

^b5 patients did not have data available for this item

^cIncluded emphysema/chronic obstructive pulmonary disease, stroke, hypertension, and myocardial infarction

^dIncluded cancer known to be caused by smoking (i.e., anal, bladder, cervical, colorectal, esophageal, gastric, head and neck, kidney, liver, lung, pancreatic, and small intestine)

Table.2

Characteristics of non-medical non-tobacco substance use documentation from electronic health record chart review of current cigarette smokers ($N=176$)

	<i>N</i> (%)
Non-tobacco substance use (SU) was documented in health record	
Yes	121/176 (69%)
No	55/176 (31%)
Type of non-tobacco SU documented ^a	
Alcohol	116/176 (66%)
Patient endorsed use	76/176 (43%)
Patient denied use	36/176 (20%)
Unknown/not listed in chart	4/176 (2%)
Cannabis	5/176 (3%)
Patient endorsed	4/176 (2%)
Patient denied or unknown	1/176 (< 1%)
Opioids	4/176 (2%)
Patient endorsed	2/176 (1%)
Patient denied	1/176 (< 1%)
Unknown/not listed	1/176 (< 1%)
Other (e.g., "other drugs," "illicit," "drug abuse," "IVDU") ^b	43/176 (24%)
Patient endorsed use	4/176 (2%)
Patient denied use	33/43 (77%)
Unknown/not listed	6/176 (3%)
Number of non-tobacco substances documented	
1	74/176 (42%)
2	42/176 (24%)
3 or 4	5/176 (3%)
Among those with SU documented	121/176 (69%)
Who documented SU	
Physician	102/121 (84%)
Physician Assistant/Nurse Practitioner	12/121 (10%)
Nurse	5/121 (4%)
Other (i.e., social worker, dietician)	2/121 (2%)
Note type where SU documented	
Consultation note	52/121 (43%)
Progress note	68/121 (56%)
Inpatient/hospitalist	1/121 (1%)
Note section where SU documented	
Social history	102/121 (84%)
Past medical history	6/121 (5%)
Habits/risk factors	7/121 (6%)

	<i>N</i> (%)
Interval history	2/121 (2%)
Psychiatric/behavioral health	1/121 (1%)
History of present illness	1/121 (1%)
Medical problems	2/121 (2%)
Follow-up plan documented for SU	4/121 (3%)
Where documented	
Plan section	3/121 (75%)
Attending addendum	1/121 (25%)

^aProviders could document multiple substances of use for a single patient; thus, SU types are not mutually exclusive categories

^bProviders documented the following other substance use: “drug use, illicit”; “illicit substances”; “illic- its”; “IVDA/IVDU”; “drug abuse”; “drug use”; “drug use, IV drug use”; “drugs”; “other drugs”; “past narcotic”; “recreational drugs”; “substance use history”

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