

Identifying Targeted Strategies to Improve Smoking Cessation Support for Cancer Patients

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Introduction: Although smoking causes adverse outcomes in cancer patients, most oncology providers do not regularly provide smoking cessation support. The purpose of this study was to identify key areas that can be targeted to improve delivery of evidence-based cessation support for cancer patients.

Methods: In 2012, the International Association for the Study of Lung Cancer surveyed members asking about tobacco assessment and cessation practices for cancer patients. Responses from 1153 physician level oncology providers were analyzed to evaluate the effects of respondent demographics, tobacco use perceptions, and perceived barriers to providing cessation support on practice patterns.

Results: Respondents from the United States generally reported higher rates of asking about tobacco use, advising patients to quit, and assisting patients in quitting smoking. Work setting, time since completing a terminal degree, percent of time devoted to clinical care, and history of tobacco use were generally associated with asking about tobacco use and advising patients to quit, but not associated with discussing medications or actively treating patients. The dominant multivariate barriers to providing cessation support were a lack of clinician education or experience and lack of available resources to refer patients for smoking cessation support. Patient resistance to treatment, inability for patients to quit smoking, or feeling that smoking was not an important part of cancer outcome or cancer care had less meaningful associations with providing support.

Conclusions: Improving clinician education and developing dedicated resources to provide cessation support were identified as ideal targets to address for improving cessation support for cancer patients.

Key Words: Smoking, Tobacco, Cancer, Oncologists, Lung, Thoracic, Cessation.

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Tobacco causes many cancers, and evidence now demonstrates that continued smoking by cancer patients after diagnosis causes adverse cancer treatment outcomes.¹ The 2014 Surgeon General's Report concludes that smoking by cancer patients and survivors increases overall mortality, cancer-specific mortality, and risk of developing a second primary cancer with further associations with increased cancer recurrence and cancer treatment toxicity.¹ As a result, addressing smoking by cancer patients is increasingly recognized as an essential part of cancer care.

Leading cancer organizations including the American Society for Clinical Oncology (ASCO), the American Association for Cancer Research, the Oncology Nursing Society, the International Association for the Study of Lung Cancer (IASLC), and the National Comprehensive Cancer Network (NCCN) have advocated for providing cessation support to cancer patients.^{2–6} Recent guidelines from the NCCN provide guidance for smoking cessation in cancer patients.⁶ However, repeated surveys of oncology providers demonstrate that while most clinicians ask their patients about tobacco use and advise patients to stop smoking, few discuss medications or actively provide tobacco cessation support.^{7,8} Methods that have been used to try and increase the delivery of tobacco cessation support have included disseminating self-help materials, training healthcare providers to assess and treat tobacco addiction, and developing systems to identify tobacco use and refer patients to dedicated trained tobacco cessation counselors.^{9–11} Unfortunately, these resources and interventions do not seem to have improved clinical interventions for cancer patients who smoke. The consistent delivery of cessation support remains the exception rather than the rule and there are limited data to suggest the optimal approach to increase cessation support activities by oncology providers.

In 2012, the IASLC administered a survey to members asking about tobacco assessment and cessation practices.⁷ Included were questions asking about perceived barriers to providing cessation support. The purpose of this study is to examine which demographic characteristics and perceived barriers were associated with physician reported differences in providing cessation support.

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MATERIALS AND METHODS

The study was approved by the Institutional Review Board at Roswell Park Cancer Institute (Buffalo, NY). The survey methods have been previously described.⁷ In brief, a questionnaire was developed and administered on-line to IASLC members, asking about tobacco assessment and cessation practices, perceptions of tobacco use in cancer patients, and barriers to implementing tobacco cessation support. Of 3719 IASLC members invited to participate, 1507 (40.5%) completed the survey.⁷ Among respondents, 87% were medical doctors, 29% were from Europe, 23% were from the United States, and 12% were from Japan. Among medical doctors, most (70%) practiced in a university or academic setting, 73% reported more than 10 years of practice experience, and 77% spent at least 50% of their time in clinical practice. This analysis was restricted to medical doctors (or equivalent) who responded to the survey, reported treating cancer patients, and reported medical oncology, pulmonary medicine, surgery, or radiation oncology as their primary practice. Respondents who were not medical doctors or who reported primary practice in other medical specialties (such as pathology or radiology) were excluded from this analysis because these respondents were felt to have less direct contact with patients where tobacco assessments and cessation support could be provided. Of 1304 respondents reported having a medical doctorate, 1153 (88.5%) reported primary practice in radiation oncology, medical oncology, surgery, or pulmonary medicine. All subsequent analyses were performed in these 1153 respondents.

Comparative analyses were performed to evaluate the association between demographic factors (country of practice, work setting, years passed since completion of terminal degree, time spent in clinical practice, and tobacco use) and tobacco assessment practices (asking about tobacco use, asking if patients will quit, advising patients to stop tobacco use, discussing medications, and actively treating patients for tobacco use). Further analyses were performed to evaluate the association between perceived barriers to providing cessations support to identify potential barriers that may be effective targets for intervention to improve tobacco cessation activities provided by oncology providers.

All the analyses were done using SAS 9.4. To evaluate the effects of covariates on practice patterns, a logistic regression model was fitted. For each question, the probability of a positive answer (always/most of the time) was considered. Odds ratio estimates with 95% Wald confidence interval estimates were obtained comparing odds of a positive answer for each level of the covariates. The effect of perceptions was evaluated adjusting for the demographics that were already shown to be significant.

RESULTS

Demographic Characteristics, Practice Patterns, and Perceived Barriers by Physician Respondents

The characteristics of 1153 physician respondents are shown in Table 1. Most respondents reported practice in Europe (29.7%), the United States (22.2%), or Japan (12.2%)

TABLE 1. Demographic and Practice Characteristics of Respondents (n = 1153)

Demographic	Variable	Number (%)
Country/continent	Europe	343 (29.7)
	United States	256 (22.2)
	Japan	141 (12.2)
	Asia	100 (8.7)
	South America	75 (6.5)
	Australia	61 (5.3)
	China	49 (4.2)
	Canada	49 (4.2)
	United Kingdom	43 (3.7)
	Other	36 (3.1)
Work setting	University or academic	818 (70.9)
	Hospital based nonacademic	274 (23.8)
	Other	61 (5.3)
Years passed since completion of terminal degree	<5 yr	110 (9.5)
	6–10 yr	210 (23.8)
	11–20 yr	374 (32.4)
	20+ yr	459 (39.8)
Time devoted to patient care	1–24%	56 (4.9)
	25–49%	171 (14.8)
	50–74%	508 (44.1)
	75–100%	418 (36.3)
Tobacco use history	Never	820 (71.1)
	Former	272 (23.6)
	Current	55 (4.8)
	Other	6 (0.5)

with fewer than 10% of respondents from any other country or continent. Most practiced in a university or academic setting (70.9%), most were in practice for more than 10 years (72.2%), and most spent more than 50% of their time in clinical practice (80.3%). Although 71.1% reported never having used tobacco, 4.8% reported current tobacco use.

Respondents were analyzed according to whether they reported “always” or “most of the time” providing a patient activity and according to whether they “strongly agreed” or “agreed” with potential barriers (Tables 2 and 3). In the 1153 physician respondents, nearly all (97.2%) asked about tobacco use, 85.3% of respondents asked patients if they would stop using tobacco, and 87.0% advised patients who smoked to stop. However, only 44.0% discussed medication options and 42.2% actively treated or referred patients for cessation treatment. More than 90% of respondents believed that smoking impacted cancer treatment outcomes and that tobacco cessation should be a standard part of cancer treatment. However, only 34.5% reported having adequate training in tobacco cessation interventions.

Correlates of Tobacco Assessment and Cessation Practices

The associations of geographic location, work setting, years passed since completion of a terminal degree, percentage of time providing care for cancer patients, and tobacco use

TABLE 2. Practice Patterns and Perceptions of Respondents

Activity	Percent of respondents who reported “always” or “most of the time” (%)
Ask your patients if they smoke	1121 (97.2)
Ask patients who smoke if they will quit	983 (85.3)
Advise patients who smoke to stop	1003 (87.0)
Discuss medication options	507 (44.0)
Actively treat or refer patients	487 (42.2)

history with tobacco assessment and cessation practices at initial patient encounter are shown in Table 4. In general, practice in the United States was associated with a higher likelihood of asking patients about tobacco use and addressing tobacco use overall. Additional positive associations for asking about tobacco use included practice at a university or academic center, a longer time in practice, devoting more time to patient care, and not reporting a current smoking habit. Similar patterns were noted for asking patients if they will quit smoking and advising patients who smoke to stop. Notably, work setting, time in practice, percent of time devoted to patient care, and smoking habit were not significantly associated with discussing medications or actively treating patients.

Respondents were asked about their opinions regarding tobacco use in cancer patients and were asked to rate several potential barriers to assessing tobacco use and providing tobacco cessation support. The associations of these barrier perceptions with tobacco cessation action, adjusted for the demographic factors described in Table 4, are described in Table 5.

Several provider level questions were asked about tobacco assessment and cessation practices. Believing that smoking affects treatment outcome was positively associated with asking patients if they smoke. However, believing smoking cessation should be a standard of care for cancer patients positively predicted for asking patients to quit, advising people to quit, and actively treating patients. Patient resistance to treatment was not associated with any tobacco assessment or cessation practice. However, a perception that smoking cessation was a waste of time was negatively associated with discussing medications and actively treating patients.

A few questions were asked regarding education and experience in providing cessation support. A clinician's perception that he or she has adequate training was positively associated with asking patients if they will quit, discussing medication options, and actively treating patients. In contrast, a lack of training was negatively associated with discussing medications. Responding that clinicians need more cessation support training was positively associated with asking patients if they will quit smoking and for discussing medication options.

Several systems level questions were also asked. A perceived lack of time for counseling was not associated with asking about tobacco use, asking patients to quit, or advising patients to quit. However, a lack of time was negatively associated with discussing medications and actively treating patients. Reimbursement was not associated with any tobacco assessment or cessation practice. A lack of available resources was negatively associated with actively treating patients but not with any other tobacco assessment or cessation practice.

DISCUSSION

Although the first step in addressing tobacco use by cancer patients is asking about tobacco, effectively addressing tobacco use requires discussing medication options and actively providing tobacco cessation support. In this restricted analysis of 1153 medical oncologists, radiation oncologists, surgeons, and pulmonologists where 97.2% reported regularly asking about tobacco use, results show that lack of time for counseling, lack of cessation training or experience, and lack of tobacco cessation resources were the primary factors associated with decreased cessation support. Notably, these factors were not associated with tobacco assessment or advice to quit smoking. Reimbursement and perceived patient resistance to treatment were also not associated with decreased cessation support activities. Although the perception that cessation does not affect outcome was associated with decreased cessation support activity, more than 90% of respondents felt that current smoking affected cancer treatment outcome, and that cessation should be a standard part of cancer care. Collectively, these data suggest that developing dedicated cessation support resources and clinician education are optimal targets to improve tobacco cessation activities by physicians who care for cancer patients.

TABLE 3. Perceptions and Barriers to Providing Cessation Support for Cancer Patients

Perceptions and barriers	Respondents who reported “strongly agree” or “agree” (%)
Current smoking or tobacco use impacts treatment outcomes in cancer patients	1065 (92.4)
Tobacco cessation should be a standard part of cancer treatment interventions	1042 (90.4)
Waste of time—cessation does not affect outcomes in cancer patients	139 (12.1)
Inability to get patients to quit tobacco use	685 (59.4)
Patient resistance to cessation treatment	793 (68.8)
I have had adequate training in tobacco assessment and cessation interventions	398 (34.5)
Lack of training or experience in tobacco cessation interventions	544 (47.2)
Clinicians need more training in tobacco assessment and cessation interventions	961 (83.3)
Lack of time for counseling or to set up a referral	533 (46.2)
None or limited provider reimbursement	365 (31.7)
Lack of available resources or referrals for cessation interventions	550 (47.7)

TABLE 4. Effects of Country, Work Setting, Years Passed Since Terminal Degree, Percent of Time Devoted to Patient Care, and History of Tobacco Use on Practice Patterns in Respondents

Demographic Factor (Reference Category)	Ask your Patients if They Smoke, OR (95% CI)	Ask Patients Who Smoke if They Will Quit, OR (95% CI)	Advise Patients Who Smoke to Stop, OR (95% CI)	Discuss Medication Options, OR (95% CI)	Actively Treat or Refer Patients, OR (95% CI)
Country (USA)					
Australia	0.274 (0.036–2.11)	0.212 (0.101–0.446)	0.176 (0.078–0.399)	0.373 (0.210–0.664)	0.318 (0.175–0.576)
Canada	0.157 (0.026–0.924)	0.249 (0.111–0.556)	0.133 (0.058–0.306)	0.294 (0.155–0.557)	0.134 (0.060–0.299)
China	0.057 (0.011–0.283)	0.194 (0.087–0.432)	0.328 (0.124–0.868)	0.23 (0.118–0.449)	0.353 (0.184–0.679)
Japan	0.308 (0.064–1.48)	0.475 (0.246–0.918)	0.381 (0.183–0.790)	0.253 (0.161–0.398)	0.246 (0.155–0.391)
United Kingdom	0.063 (0.012–0.347)	0.153 (0.068–0.343)	0.144 (0.060–0.349)	0.227 (0.113–0.456)	0.244 (0.260–7.086)
Africa	0.063 (0.008–0.528)	0.424 (0.114–1.57)	0.417 (0.093–1.86)	0.401 (0.156–1.034)	0.407 (0.156–1.061)
Asia	0.510 (0.078–3.35)	0.526 (0.25–1.105)	0.395 (0.174–0.897)	0.250 (0.152–0.413)	0.359 (0.220–0.586)
Europe	0.197 (0.048–0.813)	0.523 (0.294–0.933)	0.418 (0.217–0.805)	0.334 (0.233–0.479)	0.438 (0.307–0.623)
North America	0.083 (0.009–0.804)	0.426 (0.087–2.10)	0.088 (0.022–0.349)	0.576 (0.170–1.953)	1.647 (0.432–6.275)
South America	0.177 (0.032–0.996)	0.705 (0.293–1.70)	0.252 (0.108–0.587)	0.297 (0.170–0.519)	0.815 (0.470–1.414)
Other	0.020 (0.002–0.189)	0.349 (0.044–2.73)	0.225 (0.029–1.74)	0.516 (0.106–2.506)	1.357 (0.260–7.086)
Work setting (academic/university)					
Hospital based/non-academic	0.427 (0.204–0.895)	0.792 (0.533–1.178)	0.634 (0.423–0.948)	1.107 (0.821–1.493)	1.297 (0.959–1.754)
Other	0.131 (0.046–0.376)	0.452 (0.228–0.895)	0.743 (0.354–1.56)	1.708 (0.984–2.967)	1.699 (0.980–2.948)
Years passed since terminal degree (≤5 yr)					
6–10 yr	0.978 (0.360–2.66)	1.29 (0.694–2.41)	1.168 (0.59–2.31)	0.904 (0.56–1.461)	1.002 (0.616–1.631)
11–20 yr	1.90 (0.716–5.03)	1.33 (0.757–2.35)	0.936 (0.507–1.73)	0.822 (0.527–1.28)	0.905 (0.577–1.42)
20+ yr	3.412 (1.24–9.36)	1.416 (0.81–2.47)	1.149 (0.626–2.11)	0.952 (0.618–1.468)	1.322 (0.853–2.048)
Percent time devoted to patient care (≥75%)					
1–24%	0.065 (0.017–0.241)	0.511 (0.234–1.12)	0.321 (0.154–0.669)	0.819 (0.456–1.472)	0.867 (0.482–1.561)
25–49%	0.107 (0.039–0.293)	0.369 (0.227–0.601)	0.516 (0.308–0.863)	0.755 (0.514–1.11)	0.742 (0.502–1.097)
50–74%	0.295 (0.119–0.734)	0.747 (0.502–1.11)	1.006 (0.667–1.52)	0.872 (0.66–1.51)	0.946 (0.714–1.252)
History of tobacco use (current smoker)					
Former smoker	2.154 (0.644–7.20)	2.627 (1.32–5.21)	2.158 (1.057–4.4)	1.242 (0.672–2.293)	1.137 (0.619–2.086)
Never	2.479 (0.865–7.10)	3.021 (1.61–5.65)	2.474 (1.282–4.77)	1.322 (0.742–2.354)	1.118 (0.632–1.98)
Other	0.003 (<0.001–0.02)	0.106 (0.025–0.454)	0.052 (0.011–0.238)	3.228 (0.843–12.35)	2.768 (0.727–10.54)

Significant associations are shown in bold.

An interesting demographic pattern was noted in that practice in the United States was generally associated with equivalent or superior tobacco assessment and cessation practices overall (Table 4). Whereas work setting, time in practice, time devoted to patient care, and smoking status had associations with asking and advising, only the country/continent of practice was associated with discussing medications or actively treating patients. This infers that geographic influences may be primary demographic determinants in providing cessation support to cancer patients. However, there is no direct inference on the mechanism, such as governmental influence, available medical resources, cultural effects, or other potential geographical influences. Clear data have shown that geographic influences can significantly change tobacco control practices.¹ Although not asked as a part of the IASLC survey, these data suggest that influencing practice patterns at a governmental, geographic, and perhaps cultural level may significantly influence cessation practices for cancer patients. Notably, although practice patterns may seem better in the United States, data suggest there are still significant gaps in providing cessation support for cancer patients

in the United States.^{7–9,12} Consequently, the need to improve cessation practices seems to be a global issue for cancer patients.

Providing clinician education to increase tobacco cessation support by physicians has been advocated for by several cancer organizations.^{2–6} Data from this study show that a perception that smoking cessation improves clinical outcome and feeling adequately trained to deliver cessation support are associated with a greater likelihood of providing cessation support to patients. ASCO provides well-developed cessation education tools designed for clinical oncologists that discuss the effects of smoking on cancer treatment, the need to address tobacco use, methods to assess tobacco use, strategies that can be used to help patients quit, medications used for cessation support, and other available on-line resources.¹³ Newly released smoking cessation guidelines from the NCCN provide further evidence-based guidelines to improve smoking cessation effectiveness for cancer patients.⁶ Several recent reviews have discussed methods to address tobacco use in cancer patients.^{10,11,14,15} These approaches are based on evidence-based guidelines from the Public Health Service detailing the need for structured cessation support using behavioral counseling and pharmacotherapy

TABLE 5. Multivariate Associations of Perceptions and Barriers on Practice Patterns in Respondents

Perceptions and Barriers	Ask Your Patients if They Smoke, OR (95% CI)	Ask Patients Who Smoke if They Will Quit, OR (95% CI)	Advise Patients Who Smoke to Stop, OR (95% CI)	Discuss Medication Options, OR (95% CI)	Actively Treat or Refer Patients, OR (95% CI)
Current smoking or tobacco use impacts treatment outcomes in cancer patients	1.79 (0.91–3.52)	1.07 (0.79–1.46)	1.21 (0.89–1.66)	1.19 (0.93–1.53)	1.16 (0.90–1.50)
Tobacco cessation should be a standard part of cancer treatment interventions	1.06 (0.55–2.04)	2.07 (1.56–2.75)	1.74 (1.31–2.32)	1.17 (0.92–1.49)	1.52 (1.18–1.96)
Waste of time- cessation does not affect outcomes in cancer patients	1.37 (0.90–2.07)	1.09 (0.89–1.33)	1.24 (1.02–1.51)	0.84 (0.73–0.96)	0.76 (0.66–0.88)
Inability to get patients to quit tobacco use	1.12 (0.71–1.77)	1.32 (1.07–1.61)	1.19 (0.97–1.47)	1.01 (0.87–1.16)	1.03 (0.89–1.19)
Patient resistance to cessation treatment	1.16 (0.75–1.82)	0.90 (0.72–1.11)	1.02 (0.82–1.27)	0.90 (0.77–1.05)	0.94 (0.81–1.11)
I have had adequate training in tobacco assessment and cessation interventions	1.03 (0.65–1.64)	1.40 (1.14–1.71)	1.19 (0.97–1.45)	1.39 (1.22–1.58)	1.64 (1.43–1.88)
Lack of training or experience in tobacco cessation interventions	1.23 (0.72–2.09)	1.01 (0.79–1.30)	1.06 (0.82–1.37)	0.70 (0.59–0.84)	0.92 (0.77–1.09)
Clinicians need more training in tobacco assessment and cessation interventions	0.95 (0.55–1.64)	1.35 (1.05–1.73)	1.23 (0.95–1.59)	1.33 (1.11–1.60)	1.06 (0.88–1.27)
Lack of time for counseling or to set up a referral	1.09 (0.68–1.76)	0.94 (0.76–1.15)	0.93 (0.75–1.15)	0.79 (0.69–0.91)	0.80 (0.69–0.93)
None or limited provider reimbursement	0.97 (0.61–1.55)	0.90 (0.73–1.11)	0.87 (0.70–1.08)	1.12 (0.97–1.30)	1.00 (0.86–1.16)
Lack of available resources or referrals for cessation interventions	0.93 (0.55–1.58)	0.87 (0.69–1.09)	1.10 (0.87–1.40)	0.92 (0.78–1.08)	0.70 (0.60–0.83)

Analyses are adjusted for country, work setting, years passed since terminal degree, percent of time devoted to patient care, and history of tobacco use. Significant associations are shown in bold.

to improve successful quit attempts by people who smoke.¹⁶ In brief, clinicians should ask patients about tobacco use with structured assessments, identify patients who use tobacco, advise patients to quit smoking, provide behavioral counseling and medications to help patients quit smoking, and follow-up with repeated assessments, support, and treatment modification as needed. Several on-line and intensive in-person training programs are also available to help education clinicians on specific treatment methods to help clinicians increase their experience base and ability to provide evidence-based cessation support to patients who use tobacco.¹⁷ Data demonstrating that perceiving smoking cessation improves outcome, feeling adequately trained to deliver cessation support, and advocacy for additional training of oncologists (Table 4) all reflect a positive potential effect of developing clinician education initiatives.

A complementary approach to solely educating clinicians is to develop dedicated tobacco cessation resources that clinicians can use to help patients quit using tobacco. This approach addresses all three significant predictive barriers to providing cessation support: lack of experience, lack of time, and lack of resources. Several existing programs in the United States have had success in treating cancer patients using different approaches. For example, some cessation programs offer more intensive cessation support services including intensive assessment, behavioral counseling, pharmacotherapy, biochemical monitoring, and treatment of psychiatric comorbidities where necessary.^{18,19} In contrast, other programs have used automated referrals to phone-based institutional cessation programs or programs that incorporated referrals to state quitlines available in the United States.^{20,21} There are several approaches to the development of dedicated cessation programs that include consideration for methods of assessing tobacco, which healthcare

providers will provide cessation support, what setting is available to provide cessation support, what resources are needed from the institution or community, and how cessation interventions will be communicated back to clinicians.^{10,11} However, there is no one single solution to providing cessation support and not all institutions or clinical practices can provide the same level of dedicated cessation support for cancer patients. In contrast, all clinicians should ask about tobacco use, advise patients to quit, and provide cessation support either directly or through referral to an evidence-based cessation program.^{10,11,13–15}

Importantly, a perceived inability to get patients to quit and patient resistance to treatment were not significant predictors for discussing medications or actively treating patients (Table 5). These data suggest that clinicians may not change patterns of cessation support based on feelings that patients cannot quit. There is considerable debate on the importance of readiness to quit in the general population that may contrast with a need to quit smoking to improve cancer treatment outcomes. Traditionally, patients who are asked about tobacco use are provided the option to participate in a tobacco cessation attempt, or quit attempt, if they report being ready to quit.¹² Given the significant adverse effects of tobacco on cancer treatment outcomes,¹ the urgency to quit smoking by cancer patients may be greater because of the general need to start cancer treatment relatively quickly. As such, traditional approaches to picking a quit date several weeks or months in the future may have direct clinical relevance to the efficacy and toxicity of cancer treatment. Readiness to quit is also directly related to whether clinicians should refer all patients for cessation support, or whether only patients who are ready to quit should be referred for cessation support. A recent discussion provides a strong argument for developing “opt-out” programs for tobacco cessation where all patients who use tobacco

are referred for cessation support and have the option of refusing support after being contacted by the tobacco cessation program.¹² The fundamental argument is that evidence-based cessation support will be available to a much broader audience and that most people who smoke are receptive to cessation support. However, an “opt-out” approach may offend some patients and may not be ready for mainstream practice.²² In the oncology setting, an “opt-out” cessation program in over 2700 cancer patients who reported tobacco use demonstrated that the overwhelming majority of cancer patients contacted by the cessation program were receptive to intervention.²⁰ Similar high rates of participation have been observed in other “opt out” approaches in head/neck cancer patients.²³ Because smoking causes a broad spectrum of adverse outcomes in cancer patients, clinicians should emphasize the importance for all cancer patients to receive evidence-based cessation support, either by the clinicians themselves or through the use of dedicated tobacco cessation resources.

The results of the IASLC survey are remarkably similar to results from nearly 1200 ASCO members administered a nearly identical survey.⁸ Thus, although the original survey reliability was not tested before administration, results from respondents suggest the survey instrument yields consistent results among a diverse group of oncologists.^{7,8} Respondents also show a high proportion of practice in the university or academic setting. Thus, results may not be reflective of practice patterns in the community setting. Although pilot programs suggest addressing these issues in an academic or community setting can significantly increase cessation support for cancer patients,^{20,21} additional prospective work on integrating clinician education and dedicated resources into oncology practice are needed to determine if these will affect cessation support for cancer patients.

To optimize approaches that improve cessation support for cancer patients, it is important to consider the significant factor and the prevalence of the factor under consideration (Tables 2, 3, and 5). Whereas feeling smoking affects outcome, cessation should be a standard of care, or feeling cessation is a waste of time may contribute to cessation activities, differences in these variables were reported by a small proportion (12–15%) of responding physicians (Tables 2 and 3). Although a perceived inability to get patients to quit and patient resistance are reported by 60% to 69% of respondents, there was no significant effect on tobacco cessation practices (Table 5). However, the effects of training and experience, reported as important by 35% to 83% of respondents, were significant particularly for discussing medications and actively treating patients. Similarly, a lack of time and available resources, reported as significant by 46% to 48% of respondents, were significantly associated with decreases in discussing medications and actively treating patients. As a result, these data suggest that clinician education on smoking cessation and the development of dedicated cessation resources may be high-yield targets to optimally improve cessation support for cancer patients.

In summary, physicians report that lack of experience, lack of time, and lack of resources are barriers to providing cessation support to their cancer patients. Addressing these barriers by providing education to oncologists on the importance of tobacco cessation and developing dedicated tobacco cessation programs where they can refer patients should

improve the delivery of tobacco cessation support to cancer patients and provide effective solutions for cancer patients to receive evidence-based clinical care.

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