
Telephone Quitlines to Help Surgical Patients Quit Smoking

Patient and Provider Attitudes

David O. Warner, MD, Robert C. Klesges, PhD, Lowell C. Dale, MD, Kenneth P. Offord, MS, Darrell R. Schroeder, MS, Kristin S. Vickers, PhD, Julie C. Hathaway, MS

Background: The scheduling of elective surgery provides an excellent opportunity for cigarette smoking-cessation interventions. Abstinence from smoking may improve immediate surgical outcomes, and the surgical period represents a teachable moment for modifying smoking behavior. However, a variety of barriers to intervention exist. This qualitative, formative research identified themes to guide the development of a brief intervention used by the providers of surgical services to promote the use of telephone quitlines.

Methods: Structured interviews were conducted in 2007 with 19 cigarette smokers either scheduled for or recently receiving surgery at Mayo Clinic, Rochester MN and ten providers of surgical services (anesthesiologists and surgeons).

Results: Prominent patient themes included interest in quitting smoking around the time of surgery, a view of physicians having an important role in their cessation attempts, and a profound lack of knowledge regarding telephone quitline services. Patients were also poorly informed regarding the immediate benefits of quitting to surgical outcomes. Prominent provider themes included a similar ignorance of quitline services and a lack of time to deliver interventions. Although providers expressed interest in referring to quitlines if this could be easily accomplished, they were willing to spend only a limited amount of time learning how to intervene.

Conclusions: Both surgical patients and providers are potentially receptive to a quitline-based smoking-cessation intervention in the peri-operative period, but significant barriers exist. (Am J Prev Med 2008;35(6S):S486–S493) © 2008 American Journal of Preventive Medicine

Introduction

The current Public Health Service Clinical Practice Guideline recommends that whenever patients contact the healthcare system, a systematic effort should be made to identify tobacco users, strongly urge them to quit, and provide aid to do so.^{1,2} The guideline recommends five specific components of brief tobacco interventions by providers: Ask, Advise, Assess, Assist, and Arrange (the 5A's). Although these components are efficacious,^{1,2} it has proved difficult to implement the guidelines in actual clinical practice, as there are several barriers to provider intervention, including a lack of time, expertise, incentives, and a belief that

interventions will not be effective.^{3–6} This has increased interest in utilizing resources such as quitlines as referral sources to remove some of these barriers.⁷

Proactive telephone quitlines are associated with an increased likelihood of quitting relative to less intensive intervention approaches,^{8–10} and quitlines are rapidly becoming the de facto dissemination tool for smoking cessation.^{10,11} However, quitlines are not yet utilized widely—only a fraction of eligible smokers take advantage of them.¹⁰ There are at least three potential reasons for the lack of utilization of tobacco quitlines: The first is that many smokers (and providers) are not aware of them. Second, smokers may be aware of quitlines but there may be widespread misconception and lack of information about their services. And finally, even the most proactive quitline is in one sense reactive, as someone (either the smoker or the healthcare provider) must make the first contact. In response to the fact that the 5A's approach has not been widely adopted by practitioners, recent articles have called for an Ask–Advise–Refer strategy, with referral primarily to quitline resources.^{3,7} Quitlines can provide the last

From the Departments of Anesthesiology (Warner), Internal Medicine (Dale), Health Sciences Research (Offord, Schroeder), and Psychiatry and Psychology (Vickers, Hathaway), Mayo Clinic, Rochester, Minnesota; the Department of Preventive Medicine, University of Tennessee Health Science Center (Klesges), and the Department of Epidemiology and Cancer Control, St. Jude Children's Research Hospital (Klesges), Memphis, Tennessee

Address correspondence and reprint requests to: David O. Warner, MD, Department of Anesthesiology, Mayo Clinic, 200 First Street SW, Rochester MN 55905. E-mail: warner.david@mayo.edu.

three A's of Assess, Assist, and Arrange. It is possible that including within this strategy an intervention to specifically promote the use of quitline resources could increase both utilization and perhaps effectiveness.

The medical encounters before and after surgery present an excellent opportunity to develop, implement, and test this approach for several reasons. First, up to ten million smokers undergo surgery each year in the U.S., so the potential reach of effective interventions is great.¹²⁻¹⁴ Second, the surgical event can represent a teachable moment for modifying tobacco use¹⁵⁻¹⁹; for example, abstinence from smoking has immediate health benefit in terms of reducing post-operative complications from surgery, which could represent a powerful motivation to utilize cessation services.^{20,21} And finally, we have demonstrated that surgical patients are interested in quitting and that the physicians who care for them are interested in helping them—but lack the time and knowledge to do so effectively.¹⁹

Prior to conducting a clinical trial to evaluate the efficacy of quitline promotion by surgical providers, formative research is needed to identify the unique barriers and facilitators for smoking-cessation interventions in the surgical setting. The present study was conducted to determine the attitudes and beliefs of both surgical patients and surgical providers regarding smoking-cessation interventions in the peri-operative period surrounding elective surgery. Two qualitative studies were conducted at Mayo Clinic in Rochester MN as components of this formative research: (1) interviews with elective surgery patients who smoke cigarettes, and (2) interviews with surgical providers (anesthesiologists and surgeons).

Methods

A qualitative research approach was chosen as these methods are recommended for collecting data sensitive to the unique personal experiences, perceptions, and behaviors of patients.²² Because individual interviews tend to be more useful for evoking personal experiences and perspectives on sensitive topics,^{22,23} this method was chosen over group interviews. Individual interviews were also logistically more feasible for patients given the time constraints of the peri-operative period. The study was approved by the Mayo Clinic IRB, and written informed consent was obtained from all participants.

Participants

Two categories of participants were recruited at Mayo Clinic Rochester, a large tertiary referral center in southeastern Minnesota.

One group, recruited as a convenience sample, was current cigarette smokers (defined as smoking at least one cigarette each day) aged at least 18 years who were either scheduled for elective surgery or who had recently (within 1 month) undergone elective surgery. Potential participants were contacted by telephone or in the pre-operative evaluation clinic and invited to participate in an approximately 1-hour interview.

Remuneration of \$20 was offered for participation. Of the 40 patients offered participation, 19 agreed, for an overall participation rate of 48%.

The second group of participants was staff anesthesiologists and surgeons, the subjects of prior surveys of practices and attitudes regarding smoking cessation.^{16,19} A memo was circulated via e-mail among practicing anesthesiologists and surgeons at Mayo Clinic Rochester (approximately 200 physicians) soliciting volunteers to participate in an approximately 1-hour interview. Forty (~20%) responded, and ten of these were selected to provide a representative sampling with regard to age, gender, and surgical subspecialty.

The number of both patients and providers was chosen as feasible within the time and budgetary constraints of the funding mechanism.

Interviews

A semi-structured qualitative interview guide was developed for patient interviews based on consensus of the investigative team, following guidelines for minimizing bias and increasing the reliability and validity of interview data.^{24,25} A separate semi-structured guide was developed for provider interviews. Interviews were conducted in 2007 by a single investigator not involved in the participants' clinical care. Interviews were audio taped and transcribed verbatim for later analysis. Each interview proceeded until all guide questions were asked, including a final question soliciting any further general comments. Key questions from the two interview guides are provided in Table 1.

Qualitative Data Analysis

Predominant themes (i.e., issues, feelings, or opinions repeated/common across multiple participants) were identified for each group (pre-surgical patient group, post-surgical patient group, and provider group)²⁶ and agreed on by two of the co-authors, who developed a coding strategy and independently coded all interviews using methods of content analysis (i.e., systematic process of sorting and coding information based on themes).^{27,28} Qualitative Research (QSR)'s N6 (www.qsrinternational.com/products_previous-products_n6.aspx) qualitative data software analysis program was used to aid in data analysis. Independent coding results were compared and important themes and representative quotes were identified. Consensus was obtained from data-based discussion that included returning to complete interview texts as necessary to reconsider the context of participant's comments. To facilitate the concise communication of study results, responses to some questions were coded into discrete categories (e.g., *yes, no, agree, disagree*). This coding strategy was used only if the majority of participants' responses to a question were straightforward and categorical. The quotes presented along with the categorical responses (Tables 2 and 3) are selected/individualistic quotes rather than representative quotes; since no subthemes were identified no one quote best represented all other responses.

Results

Patient Interviews

Nineteen surgical patients were interviewed, ten before surgery and nine after surgery. Eight (42%) were

Table 1. Key questions

Patient interviews

- How interested would you be in quitting smoking cigarettes around the time of your surgery?
- If you would try to quit, do you think it would be easier to try before, or after your surgery?
- You won't be able to smoke while you are in the hospital. Do you think this will be a problem for you?
- What benefits do you think you would get from quitting smoking around the time of your surgery? Do you think these benefits from quitting smoking would really motivate you to stop smoking?
- If quitting smoking would be a benefit to your surgical outcome, how would you feel about being asked to quit smoking for at least a few days before and after your surgery?
- What concerns or fears would you have, if any, about quitting smoking for a few days before and after your surgery?
- Have you ever heard about telephone quitlines to help people stop smoking? Some general features of telephone quitlines that help people stop smoking are (*provide basic information*)
- If you were thinking of quitting smoking and were thinking about calling a quitline for some advice and counseling, what else might you want to know about the services the quitline provides?
- Is there any other information you would want to be given to help you in your efforts to quit smoking?
- When would you think you might have that first call session with the quitline counselor?
- Do you think a tobacco quitline could be useful to help you stop smoking around the time of surgery?
- What would you think about being asked by one of your healthcare providers to call the quitline or be called by the quitline to help you quit smoking?
- What could one of your doctors or nurses or other healthcare providers say or do that would make you more likely to give the quitline a try in an effort to stop smoking?

Provider interviews

- How important do you think it is for your cigarette smoking patients to quit smoking cigarettes before or soon after their upcoming surgery?
- Do you think it is part of your responsibility to help your patients quit smoking before or after surgery?
- Have you ever heard of tobacco quitlines? (*provide basic information*) What more would you like to know about quitlines before you would encourage patients to use them?
- Do you think that quitlines and the Ask–Advise–Refer strategy could be effective in surgical patients?
- What could be done to help busy physicians consistently implement this approach?
- How much time would you be willing to spend on a consistent basis to implement the Ask–Advise–Refer approach?
- What do think you could say as a physician that would make your patients who smoke more motivated to call a quitline?
- What do you think would stand in the way of your patients calling a quitline?
- In addition to information about quitlines, what other information about smoking and smoking cessation would be useful for you to know as you talk with your patients about their smoking?
- What learning method(s) do you think would work best for you to help you learn more about assisting your patients with their smoking cessation prior to surgery using the Ask–Advise–Refer strategy? How much time would you be willing to devote to this education?
- Would you be willing to spend an extra 3 minutes advising your patients to quit smoking and referring them to a quitline?

The wording of patient interview questions was modified slightly for those patients who had already undergone surgery.

women; their ages were 55 ± 7 years ($M \pm SD$). The coding and identification of predominant themes and representative quotes were conducted separately for the pre-surgical patient group and the post-surgical patient group. Because categorical responses and predominant themes were very similar across both patient groups, the data were combined and are presented together. Summaries of participant responses that were coded categorically are presented in Table 2, and the following themes were identified.

Most patients reported willingness to quit smoking around the time of surgery but were unsure of their motivation to do so. Several questions addressed participant motivation toward quitting and perceived benefits of quitting smoking. Although participants answered these questions, the responses in general were vague and often drifted into tangential issues. No predominant motivations were identified, but the researchers agreed that some of the responses (e.g.,

redirecting content to an alternate issue or making seemingly incongruous statements) seemed to represent ambivalence toward the benefits of smoking cessation in this setting, which they felt were not clearly defined.

Patients view physicians/surgeons as having an important role in their smoking cessation. The majority of patients explained that physicians, especially their surgeons, are influential and should talk to patients about smoking cessation around the time of surgery and in general. A post-surgical patient said: *My surgeons are probably the most influential people that I've worked with . . . [I have a] great respect for their ability and what they did. That is part of selling something like this; we naturally put a lot of stock in the credibility of the person telling us.*

Patients differ in the approach/delivery method they prefer physicians/surgeons to use when addressing their smoking cessation. Some prefer physicians to be blunt, point blank, and to tell it straight out about quitting. For example, a pre-surgical patient explained:

Table 2. Summary of patient participant responses coded categorically (n=19)

| Question/theme | % | Selected quote |
|--|-----|--|
| Interested in quitting smoking for at least a few days around the time of surgery (asked of pre-surgical patients only; n=10) | | |
| Yes | 90 | I wouldn't hesitate . . . I quit for a month before oral surgery. |
| No | 10 | I'm not interested in stopping around the time of surgery. I'm too stressed out. |
| Will smoking abstinence during hospitalization be a problem for you? (asked of pre-surgical patients only; n=10) | | |
| Yes | 0 | |
| No | 100 | You know you can't and you don't feel like it anyway. |
| Was smoking abstinence during hospitalization difficult for you? (asked of post-surgical patients only; n=9). | | |
| Yes | 22 | Yes, it was a little difficult. I was just nervous. |
| No | 44 | The patch helped. The night of the surgery I didn't have any problems; the next day I did have cravings and was eager to get back to my hotel room so I could smoke. |
| Other | 33 | |
| Opinion about clinician asking you to quit smoking for at least a few days | | |
| Agreeable | 84 | I wouldn't be offended if a doctor said "I really think you should quit at least a couple days before the surgery." I would quit, definitely. Yes, it would be okay to be asked. It's probably expected by smokers that it's going to be brought up anyway. If the doctor doesn't bring it up then we would wonder why. |
| Not agreeable | 0 | |
| Unclear | 16 | |
| Preference for timing of quit attempt | | |
| Before surgery | 58 | I'd have 2-3 days there where I can't smoke anyway, so it would be easier to do it now. You realize you're going to be in the hospital for a period of time and you're not going to be allowed to smoke. Are you interested in trying to prepare yourself for cutting down or quitting? It's the perfect time to do it. |
| After surgery | 32 | Probably after the surgery. Before the surgery you're too stressed out because you don't know what's going to happen. |
| Other | 10 | |
| Have you ever heard about telephone tobacco quitlines? | | |
| Yes, and I know about them . . . | 5 | |
| Yes, but I don't know much about them | 63 | Yes. I really don't know anything about them and I don't know anyone who has called them. |
| No | 32 | If it was one of the computer things I'd just hang up the phone. |
| Would a quitline be useful in helping you stop smoking around the time of surgery? | | |
| Yes | 95 | Yes, I think so. Basically to have somebody to talk to . . . to have someone who will actually listen to you about how rough it is. |
| No | 5 | |
| Opinion about being asked to call a tobacco quitline | | |
| Agreeable | 95 | I would feel okay about it. I was already motivated to try to use this time as an opportunity to quit smoking anyway, so I would feel okay with that. |
| Not agreeable | 5 | |
| Preference for timing of first telephone call to a tobacco quitline | | |
| Before surgery | 47 | I would do it about a week before or less. The closer to the surgery the more aware the mind is to the physical issues . . . and if it's structured right, as a golden opportunity for dealing with surgery, but also commitment to quitting smoking and taking advantage of that down time now. |
| After surgery in hospital | 16 | If I was lying in the hospital bed I would say <i>OK, give me the phone.</i> I'm laying here and I can't do anything else anyway. |
| After surgery at home | 11 | Probably about a week after the surgery, when I'm home. After the surgery, when I get home and when I get feeling better is when it's going to get hard for me. |
| Other | 26 | |

Note: Qualitative data were coded to allow for categorization for the themes/questions above; when data were missing or did not fit a discrete category it was coded as *other*.

The surgeon said that to be honest the stroke was because of smoking. He said he'd do the surgery but if I didn't quit smoking it would happen again. A lot of doctors I've been to kind of tiptoe around things, but he was point blank. That is

what I wanted to hear . . . just answer me honestly. Others prefer the physician to have a more casual approach. Many reported that nagging, preaching, and being pushy is ineffective and at times offensive: *Every time I*

Table 3. Summary of provider participant responses coded categorically (*n*=10)

| Question/theme | % | Selected quotes |
|--|----|---|
| It is important for patients to quit smoking before or soon after their surgery. | | |
| Yes | 80 | I think it's very important. We know that patients who are currently smoking at the time of surgery have increased risk of perioperative complications Extremely. Benefits are short term and long term. Short term: would healing . . . long term: it's a benefit for the rest of their life. |
| No | 0 | |
| Other | 20 | I don't think [quitting smoking] is going to do anything to the surgery per se. I'm just looking at it as modifying their underlying disease process. I think that depends on the reason for their surgery |
| Do you think it is part of your responsibility to help your patients quit smoking before or after surgery? | | |
| Yes | 70 | Yes, I think so. I think we are in denial if any physician thinks it's not their responsibility. Yes, being a thoracic surgeon, cigarette smoking is the biggest problems we have. |
| No | 0 | |
| Other | 30 | At least to mention it to them. I can't make them quit smoking, but at least we can give them a choice. |
| Have you ever heard of tobacco quitlines? | | |
| Yes, and I know about them | 0 | |
| Yes, but I don't know much about them | 80 | Other than the fact that they exist, I don't know anything about the mechanics of it. I know that it is relatively simple to initiate contact with the quitline, but I don't know what happens in the quitline process. I know it exists. I know that I could find the number if I needed to, but I don't know what happens when someone calls it. |
| No | 20 | |
| Do you think that this Ask-Advise-Refer approach could work in your practice? | | |
| Yes | 70 | I bring it up and tell them they should quit, but I haven't referred anybody to anything else after that, so if there was a clear-cut next step I think that would make it a lot easier for people to do this in the pre-op area. |
| No | 0 | |
| Other | 30 | |
| Would you be willing to spend an extra 3 minutes advising your patients to quit smoking and referring them to a quitline? | | |
| Yes | 80 | It probably does take about 3 minutes to do it. I don't mind doing that. Frankly, it is probably a high-yield practice. Sure, three minutes isn't that long. That would be more than I do now for smoking cessation. |
| No | 0 | |
| Unclear | 20 | It depends on the patient and it depends on the day, because another three minutes per patient if I'm already late in the clinic is tough; I'd be willing to tell them about quitting smoking, only if it is easy. |

Note: Qualitative data were coded to allow for categorization for the themes/questions above; when data were missing or did not fit a discrete category it was coded as *other*.

went to the doctor and got hounded I'd switch doctors. A post-surgical patient said: *I've had doctors tell me to quit and kind of yell at me about smoking and it doesn't make me quit. I don't like being yelled at, telling me something I already know, I already know it is bad.* Yet others seemed to appreciate direct comments that would likely be fear-inducing or offensive to others: *My doctor told me straight*

out "either stop or you're going to die" and that has a lot of weight. Tell me "I know when I put this knife into your stomach and cut you open you are a lot less likely to have problems if you don't smoke"—I think that is how it should be. Thus, these findings suggest that there is variation in how patients would prefer their provider approach the topic of smoking cessation.

Patients' primary concerns related to quitting smoking around the time of surgery are anxiety, stress, and cravings. Many patients described health- and/or surgery-related stress and anxiety as contributing to their desire to smoke around the time of surgery. Concerns about potential surgical findings were noted by some (the nervousness of the unknown of the surgery). Some also reported concern about cravings should they quit smoking, often based on experience with previous quit attempts. A pre-surgical patient stated: *You've still got the same stresses that you'd have anyway and then all of a sudden you have this medical stuff on top of it.* Post-surgical patients reported the same concerns: *I think it would be the anxiety of the surgery.*

Patients have limited knowledge of tobacco quitlines. Most patients had at least heard of a quitline, but had little if any knowledge about what they offer and how they work. Even after receiving brief information about a tobacco quitline, most had additional questions about the logistics of using a quitline. There were no consistent themes within their questions about quitlines; the questions were individualistic and spanned across type of professionals, type of support, counselor approach, availability of nicotine replacement therapy (NRT), and scheduling. Of note, many thought it was a service available around the clock to help get through a smoking abstinence-related crisis situation rather than a scheduled series of counseling sessions.

Most patients view the availability of a quitline around the time of surgery to be potentially useful and most are agreeable to being asked to call a tobacco quitline. All but one subject interviewed would be willing to call a quitline and felt it could be useful. The preferred timing of the call depended on numerous factors (e.g., time interval to surgery, anticipated length of the post-operative recovery period and potential physical limitations), with before surgery being the most frequently requested time.

Provider Interviews

Ten surgical providers were interviewed—five anesthesiologists and five surgeons. Two were women; their ages were 49 ± 5 years. All were never-smokers. As part of the interview, providers were given a rationale for the Ask–Advise–Refer approach. The following themes were identified (Table 3).

Providers view peri-operative abstinence from smoking as important. All providers view smoking cessation as important for patient health in general, and the majority think it is particularly important around the time of surgery. The majority of providers (70%) think that it is part of their responsibility to help their patients quit smoking around the time of surgery. The remaining 30% think it is part of their respon-

sibility to at least talk to their patients about their smoking.

Many providers have heard about quitlines; few know anything more about them, but most would be willing to refer. As was the case with patient participants, providers have limited knowledge of tobacco quitlines. The majority are willing to spend a few minutes advising patients to quit smoking and to refer them to a quitline. Attractive features mentioned by the providers included the efficacy of quitlines, staffing by trained specialists, the potential provision of NRT, and convenience for both patients and providers.

Several barriers exist to the training of surgical providers in smoking interventions. Despite the perceived importance of smoking cessation for surgical patients, providers report time as a primary barrier to physician training on Ask–Advise–Refer. Estimates of time they would be willing to spend in training on this approach ranged from 5 to 120 minutes, with most willing to spend less than 30 minutes. Providers offered a variety of suggestions about training modality approaches. In general, a web-based approach appeared most popular, although potential limitations were acknowledged by some: *I think the web-based tools are good if you sit down and have time to put into it, but if it's a web-based tool and you feel you just need to get through it, I think it's really variable how much information you draw out of those.* Some suggested more intensive training, and others very minimal training; this seemed to be related to what the provider viewed as most important for the physician to know to deliver the Ask–Advise–Refer to quitline intervention: *Depends on what degree of expertise you want out of individuals administering the intervention. If you want them to just do the intervention, probably 10 minutes is plenty. If you want them to have a little bit more in-depth knowledge, maybe a little bit more buy-in from them, probably 15–20 minutes would be good, but certainly no more than that. I would imagine that most surgically-oriented physicians probably would not be all that interested in the particulars of the intervention; they just want to know does it work.*

Discussion

This qualitative study provides insight into the attitudes of both surgical patients and providers regarding smoking-cessation interventions in the peri-operative period, and suggests that both are poorly informed about many aspects of telephone quitlines.

Consistent with prior studies, most patients had favorable attitudes toward attempting abstinence in the peri-operative period,^{17,18} although there was little consistency in their motivations. In particular, patients were poorly informed regarding the immediate consequences of their smoking to their surgical outcomes (e.g., impaired wound healing) and the potential benefits of even temporary abstinence.²⁹ This may in part

explain the perception that physician advice, especially from their surgeon, would be of critical importance to explain these benefits. Comments from the patients suggest that the immediacy of planned surgical procedures, and the fact that patients entrust their surgical team with the violation of physical (and in the case of anesthesiologists, psychological) integrity may confer special status to advice provided by these physicians. This may also explain why some patients preferred a very direct, almost confrontational approach toward smoking-cessation advice. In their usual practice, surgical providers are required to discuss a variety of potential serious complications, including in many instances potential death. In this setting, additional information regarding the consequences of smoking may seem relatively less threatening.

Smoking is viewed as a stress-management tool by many smokers,³⁰ and several participants expressed concern that abstinence could contribute to peri-operative stress. Nonetheless, none of the pre-surgery patients thought that the forced abstinence while in the smoke-free hospital facility would be a problem for them, and only two of the post-surgery patients felt that this was a problem. This is consistent with a prior study, which found that smokers undergoing surgery experience surprisingly few craving symptoms and do not report elevated levels of psychological stress associated with peri-operative abstinence.¹⁸ This finding suggests that patient education may be helpful in removing a perceived barrier.

The majority of patients and providers had at least heard that telephone quitlines existed, perhaps reflecting the effectiveness of mass media quitline promotions.³¹ However, understanding of their operations was extremely limited, and there were many misconceptions. The possibility that NRT might be available free of charge was especially attractive, consistent with prior work showing that the reach of quitlines can be increased with the addition of free NRT.³² Despite their relative ignorance, both patients and providers, after a brief explanation by the interviewer of the services provided, felt that quitlines could be quite useful, and patients were very agreeable to being asked to call the quitlines.

Anesthesiologists and surgeons recognized the importance of abstinence, but expressed low levels of self-efficacy regarding the provision of interventions. This result, consistent with a recent national survey,¹⁹ is not surprising, as there has been little or no effort to educate these providers in tobacco control. Nonetheless, the majority were willing to deliver a brief intervention with quitline referral, which can provide a clear-cut next step. However, few were willing to make a major time commitment to receive training. Training in smoking-cessation interventions can change the behavior of primary care physicians,³³ but most of the examined training programs used a duration of ses-

sions considerably in excess of what these surgical providers were willing to commit.³⁴ However, the goal of prior training programs was to train physicians to directly provide counseling and other intervention services. The availability of counseling services via quitline suggests a new approach to training, concentrating on the Ask-Advise-Refer approach, which could feasibly be taught within the duration deemed acceptable by these surgical providers (<30 min).⁷

This study had several limitations. No doubt those patients and providers more interested in smoking-cessation interventions were included in the sample, so that attitudes toward interventions may be more favorable than the general population. The age distribution of the patients likely reflects that of the underlying population of patients scheduled for surgery, who are relatively older,³⁵ but these interviews do not reflect the opinions of younger smokers. Finally, this is a relatively small sample of patients and providers due to the practical limitations of the available time and study budget.

In conclusion, this study identified patient and provider attitudes about the provision of smoking-cessation interventions during the peri-operative period. A lack of knowledge regarding quitlines by both patients and physicians may represent a significant barrier to quitline utilization. An intervention delivered by physicians or other healthcare providers that is designed specifically to encourage quitline use may increase quitline utilization—a novel approach to brief smoking-cessation intervention for the busy non-expert clinician. Development and validation of such an intervention is ongoing.

This research was funded by ClearWay MinnesotaSM research program grant RC-2006-0007. The contents of this manuscript are solely the responsibility of the authors and do not necessarily reflect the official views of ClearWay MinnesotaSM. The authors thank Ms. Anita Baumgartner for her excellent study coordination services.

No financial disclosures were reported by the authors of this paper.

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