

Current Trends in Tobacco Prevention and Cessation in Nebraska Physicians' Offices

Helen E. McIlvain, PhD; Benjamin F. Crabtree, PhD; Carol Gilbert, MS; Russell Havranek; and Elizabeth L. Backer, MD
Omaha, Nebraska

BACKGROUND. Despite years of intervention, few studies describe the extent to which recommended tobacco use prevention and cessation activities occur in community-based family practices. This study was designed to discover current practice patterns in these areas and to describe physician outcome and efficacy expectations.

METHODS. An exploratory comparative case study of 11 family practices used direct observation of practices and clinical encounters, chart reviews, and in-depth interviews. Qualitative and quantitative information was gathered on (1) intensity of tobacco use prevention and cessation; (2) physicians' attitudes and beliefs regarding outcome expectations; and (3) physicians' perceptions of their ability to counsel. Qualitative content analysis and descriptive statistics were used to construct case studies for comparisons.

RESULTS. Themes common to most practices included the "provision of little prevention" and "a lack of perceived need to address smokeless tobacco." Responsibility for tobacco activities fell almost solely to physicians. Although physicians felt confident in their counseling skills, the skills they identified were fairly basic. Most physicians were pessimistic about the positive effects of these activities. None of the practices was using any specifically developed "package," and pharmaceutical companies provided almost all patient education material. There was considerable variation in intensity of activities because of differences in attitudes, expectation, and background.

CONCLUSIONS. To increase tobacco control activities, practice systems need to be individually evaluated to identify what is needed, how it will fit within the practice culture, and how it can best be implemented in this specific practice. One-size-fits-all interventions probably will not be widely implemented.

KEY WORDS. Preventive health services; smoking cessation; health promotion; tobacco; physician's practice patterns. (*J Fam Pract* 1997; 44:193-202)

Since the first Surgeon General's report on the health consequences of smoking was issued in 1964, an overwhelming body of evidence—more than 50,000 studies from dozens of countries—has established that smoking is the largest preventable cause of premature death and disability in the United States.

—C. Everett Koop¹

Since Dr Koop issued that statement nearly a decade ago, smoking rates have decreased among some groups in the United States. But, according to *Healthy People 2000: Midcourse Review and 1995*

Revisions,² 25% of the population still smokes, and among certain population groups the rate is considerably higher. Smokeless tobacco use rates in some states, such as Nebraska, are quite high (15.6%) and increasing.³

Recognition of the unique role of the medical profession in this public health effort has led to calls for more effective physician intervention.⁴ We know that physician advice can increase patient smoking cessation rates.⁵⁻⁷ Training in counseling skills can make physicians feel more confident, be more effective, and increase physician rate of counseling.⁸⁻¹³ Use of simple office systems can increase identification of risk factors and physician preventive medicine activities.¹⁴⁻¹⁶ Changing individual physician behavior, however, remains as problematic as trying to change any other individual behavior,¹⁷ and there is little scientific evidence about the extent to which physicians are actually implementing any of these recommendations.¹⁸

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From the University of Nebraska Medical Center, Omaha, Nebraska. Requests for reprints should be addressed to Helen McIlvain, PhD, Department of Family Medicine, University of Nebraska Medical Center, 600 S 42nd St, Omaha, NE 68198-3075.

TABLE

Family Practices in Nebraska, Stratified by County Population Density, Practice Type, and Physician Sex (N = 474)

Practice Type	Frontier	Rural	Urban
Solo Practice	Women 0	Women 2	Women 4
	Men 9	Men 40	Men 28
Group Practice	Women 7	Women 16	Women 29
	Men 27	Men 165	Men 147

Many factors influence an individual's decision to change behavior. In Bandura's self-efficacy model, behavior change is influenced by the common pathway of the individual's confidence in his or her ability to perform a specific behavior, and his or her outcome expectations as to the likely impact or utility of that behavior.¹⁹ While skill training may increase physicians' confidence in their skills, implementation of these skills in a busy practice may be further influenced by the physician's expectations as to the effectiveness of the activity. Wechsler and colleagues²⁰ noted that while a majority of Massachusetts primary care physicians reported feeling "very prepared" to counsel patients about smoking, alcohol use, and exercise, only a small minority described themselves as "very successful." Less than one third were optimistic about modifying patients' smoking behavior.

Most past studies reporting on physicians' tobacco control behavior have been based on self-report survey data, not direct observation. They do not really answer the question, "To what extent are tobacco use prevention and cessation activities being implemented by practicing physicians?" The purposes of this study were (1) to directly observe what physicians are doing in community-based practices relative to recommended tobacco use prevention and cessation activities, and (2) to describe physician perceived skill confidence level and outcome expectations.

METHODS

A multimethod comparative case study design^{21,22} was used to collect in-depth data in family medicine practices across the state of Nebraska. A purposeful sample of practices was chosen from a database developed from the membership list of the Nebraska Academy of Family Physicians, which includes approximately 90% of all Nebraska family physicians

(475 physicians in 209 practices). Because we were limited by time and money in the number of sites we could evaluate, we wanted the widest variety possible in our purposeful sample. We were also concerned that different factors might affect practice behavior in counties with widely different populations, that solo practices might have fewer available resources than group practices, and that physician sex might influence the amount of prevention normally practiced.

Accordingly, we chose to stratify our sample by county population density (frontier or rural or urban), practice type (solo or group), and physician sex. All practices were sorted into one of 12 categories, eg, the category of frontier, solo, male, and one practice was selected from each. The Table shows the number of potential sites in each cell. As no frontier, solo, female practices were available, we chose to use two practices in the group, female, frontier practice category.

We excluded practices in which our research team had recently done research and practices that were particularly well known by our team. The primary investigator was unfamiliar with all the remaining practices. Otherwise, the first practice from the list to agree to participate was selected, which in 9 of the 12 was the first practice contacted.

During a 2- to 3-day site visit, a trained medical student researcher used direct observation of the practice and clinical encounters, chart reviews, and in-depth interviews to gather qualitative and quantitative information on (1) practice activities related to the prevention and cessation of tobacco use (intensity); (2) the attitudes and beliefs of the physician and key personnel regarding outcome expectations of tobacco use prevention and cessation activities; (3) the physician's confidence in his or her own ability to counsel patients regarding tobacco use; and (4) the physician's locus of control relative to this patient behavior. Observational field notes²³ were dictated at the end of each day from jottings taken during the day by the medical student researcher. These unstructured observations chronicled the researcher's feelings, impressions, informal conversations, and other observations. More structured observational data were collected using a general practice environment checklist and a post-encounter observation checklist (adapted from

those developed by Kurt Stange, MD, at the Department of Family Medicine, Case Western Reserve University), and using chart audit forms. The practice environment checklist gathered information about such things as office environment anti-smoking cues; types, variety, and placement of patient education materials on tobacco; identification and documentation protocols for patient tobacco use. The postencounter checklist documented activities that occurred during the patient care visit in terms of the history and physical examination, counseling, testing, and screening. It also included reason for and type of visit.

Individual in-depth, semi-structured interviews²⁴ of 30 to 60 minutes were conducted with the practice physician and either the office manager or nurse manager. These were audiotaped and later transcribed. Questions were open-ended and covered topics such as experience and training that had influenced the way the physician dealt with patients who use tobacco; how tobacco use prevention and cessation activities were implemented in daily encounters with patients; perceived barriers to these activities; perceived confidence in counseling skills; and perceived outcome effectiveness.

The primary data for constructing the case studies were the qualitative field notes and interviews; the quantitative chart audit and checklist data were used to support and enhance the case descriptions. Data for each case were first analyzed separately as described below before any comparison of cases was made.

Data analysis of the quantitative data from the chart audits, postencounter checklist, and the practice environment checklist consisted primarily of descriptive statistics. Items from the National Cancer Institute monograph on tobacco control activities for the clinician²⁵ were used to develop scores for each of four categories: clinic environment, availability and use of patient education materials, office staff involvement, and office systems for identification and documentation of tobacco use by patients. The score was based on the presence or absence of specific items recommended as contributing to prevention or cessation. For example, in the category of "availability and use of patient education materials," a total of 10 points was possible. Practices received one point each for the presence of both prevention and cessation materials on both smoking and smokeless tobacco; two possible

points for the diversity of sources of their materials; two possible points for use of multiple educational venues; and two possible points for the direct accessibility of these materials to the patient. The same strategy was used for the categories of "clinical environment," "office staff involvement," and "office systems for identification and documentation." A summary practice intensity score (0 to 10) was then calculated as the composite of these four categories. Both individual items and the composite scores were used in developing the case descriptions.

A summary score for physician outcome expectations was reached by consensus of the research team. After a thorough review of the physician's interview, practices were placed on a continuum from 1 to 10 based on interpretation of the physician's expectation of patients' likelihood of quitting if counseled, the physician's attitude about counseling given this expectation, and the physician's overall locus of control relative to patient behavior. A score of 1 on this continuum was defined as "will work with motivated patients, but does not expect great results—pessimistic." Ten was defined as "works with all patients regardless of patient's motivation, expects some may take a long time but is in it for the long haul." Mid-range (5 to 6) was defined as "will counsel all patients, but expects success only with motivated patients."

Data analysis of the interviews and unstructured observational field notes involved use of a "template" technique²⁶ in which codes from a codebook were tagged to the text using FolioVIEWS.²⁷ After the text was coded and assembled by code, the research team worked individually and then as a group to develop key themes and descriptions of each practice by discussing in detail each practice until consensus of interpretation was reached.

The qualitative themes and descriptions were then combined with the structured observational data and chart audit data to develop descriptive case studies of each practice. A systematic comparison was then done among the practices looking for similarities and differences along the areas of intensity, skill confidence, outcome expectation, locus of control, and other features discovered in the analysis.

RESULTS

Eleven of 15 practices (73%) approached participated in the study; all four rejections were based on

physicians' perceived lack of time or concern about disruption to an already overburdened practice. The final sample did not match the intended distribution. Recruitment of solo, frontier practices was particularly difficult. There were no solo, female, frontier practices. After four unsuccessful attempts, it was decided to restrict the study to 11 practices, dropping the male, solo, frontier category and using a female physician in a two-person, frontier practice instead of a female, solo, frontier practice. This decision seemed reasonable as we discovered that rapid changes in practice organization across the state were making solo, frontier practices almost nonexistent.

Eight common, overriding themes became apparent when comparing the individual case studies. These themes were features in most of the practices.

The most striking theme common to all but two practices was that *practices do little to prevent adolescents from starting to use tobacco*. This was confirmed in both the observations and the interviews. Quotes from the in-depth interviews clearly portray this feature. Site 3: "Prevention?...I don't think of it that much....I guess when they come in for 7th grade physicals would be a good time. I'm not sure how

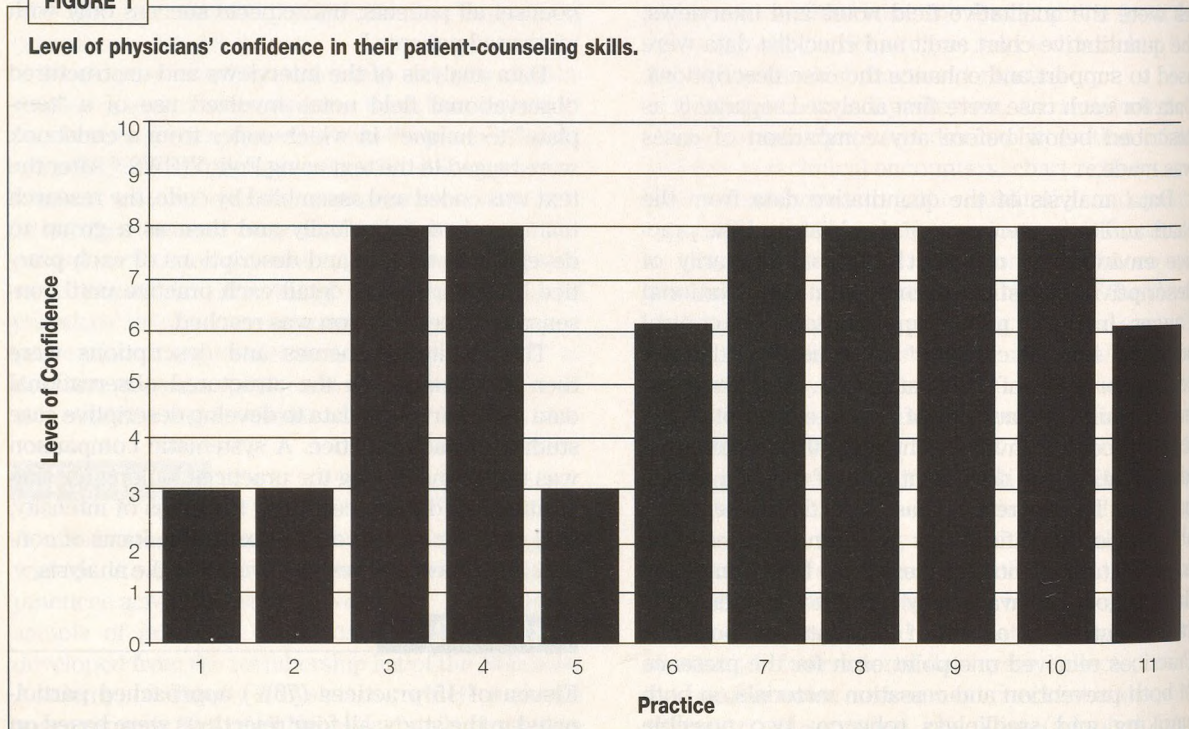
much influence I would have on them at that age." Site 6: "Sometimes I second-guess myself into not talking about [prevention] with some kids that don't think it will be a problem with and I get burned." Site 7: "Teens don't really respond to physician authority." Only two practices, sites 4 and 10, made any systematic effort in the area of prevention among adolescents.

Most physicians did not perceive the need to address smokeless tobacco. The physicians were quite candid about this during the interviews. Site 1: "I have a certain hangup about smokeless tobacco because I use it myself....I haven't seen enough people die of cancer of the mouth." Site 10: "I don't find as much chewing tobacco as I do the cigarette smokers and I'm not sure why. Maybe because I do ask them if they smoke and I don't ask them a lot of times if they chew." Observation of both the clinical encounters and the chart audits verified this finding.

Another common theme was that *responsibility for tobacco use prevention and cessation activities falls almost solely to the physician* (identification, documentation, counseling, and follow-up). During the 2 to 3 days the researcher spent in the practices, there was never any observation of the use of sup-

FIGURE 1

Level of physicians' confidence in their patient-counseling skills.



port staff to assist in any area of tobacco use prevention and cessation. This was confirmed in the interviews of both office staff and physicians. Office manager, site 6: "Patient education is mostly done by the physicians...there really won't be a specific role for [the nurses and staff] other than anything they would be directed to do by the physician." Physician, site 7: "If smoking cessation is going to get taught in the office, I'm the only one that's going to teach it because everybody else here smokes."

The extent to which identification, documentation, and counseling of patients were being done can be only speculated about using data from chart audits and the post-observation checklists. In 217 clinical observations (179 adult, 38 pediatric), tobacco histories were taken in 37 (19.5% and 5.3%, respectively). Counseling took place in only 10 of the encounters; however, there is no way of identifying how many of the patients were smokers and thus eligible for counseling. Chart audits were also done on these 217 patients. Among these patients it was possible to identify smoking status in 48.6% and smokeless tobacco status in 17.9%.

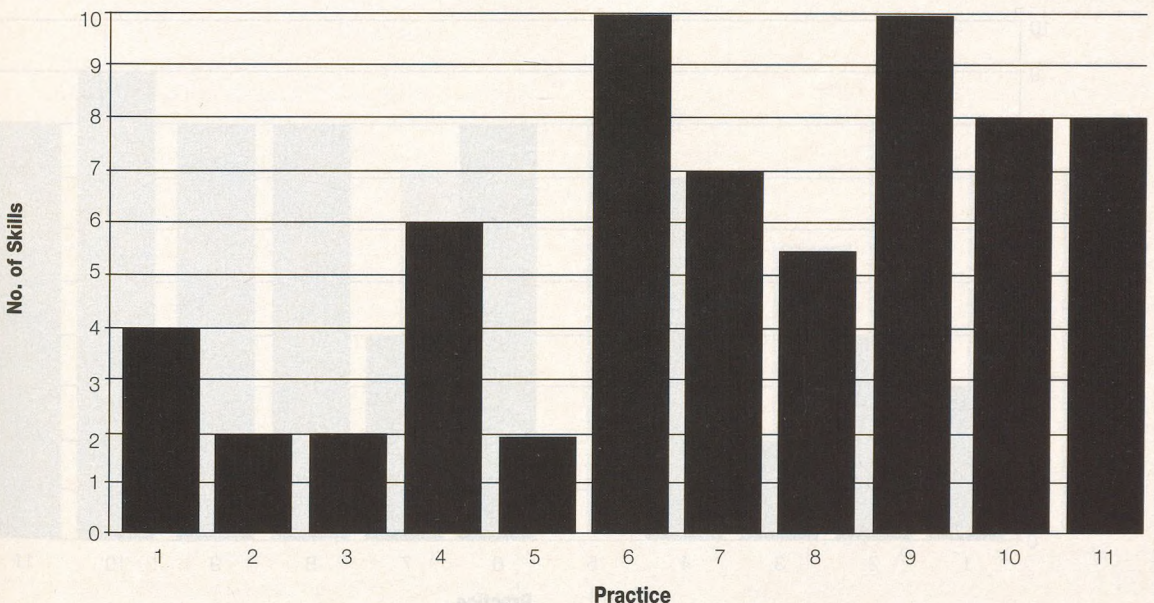
Although physicians felt confident in their counseling skills, the skills they reported using were

fairly basic. Figure 1 illustrates that the majority of physicians felt confident in their skills to counsel patients, with three fourths scoring themselves at 6 or above on a 10-point scale. When asked about the typical things they do when counseling, the top three behaviors mentioned were: giving advice to quit; using pharmaceutical agents to manage withdrawal symptoms; and discussing tips for changing habitual patterns. Only one physician mentioned using the stages of readiness to change by Prochaska et al²⁸ to tailor his message to the smoker. Follow-up with patients who had actually agreed to attempt cessation seldom occurred. The most common reason given for not scheduling follow-up was that patients were unwilling to return for a clinic visit. Patients were generally advised to "call if you have a problem." Figure 2 shows the number of basic counseling skills or techniques used by each physician.

None of the physicians in the study expressed optimism about the likelihood that patients would take their advice or be able to successfully quit, unless highly motivated. Site 3: "...if they're not interested [in quitting], then I generally don't waste my time." Site 6: "Well, I think my success rate is about like everybody else's, which is dismal." Site 7:

FIGURE 2

Number of basic counseling skills used in the 11 practices that participated in the study.



"I'm really not working as actively as I worked [on cessation] a few years ago...because I have a very low yield."

Figure 3 illustrates the distribution of the sites in terms of physicians' outcome expectations. Five of the 11 sites were assessed at between 5 and 8 on the continuum, suggesting that most were willing to work with all patients regardless of expectations of success. Some sites seemed less negatively affected by success expectations, scoring consistently high on all the categories. Although all the sites varied in many respects, these high-scoring physicians all defined pursuing tobacco prevention and/or cessation issues as "part of my job." The act of counseling was not motivated as much by expectations of success as by a sense of professional responsibility. This attitude is summed up by a quote from one of these physicians. Site 10: "I just need to tell them. It's my job to educate them, and whatever they want to do with their lives is their business. My job is education."

None of these practices were using any specifically developed "package," eg, the National Cancer Institute 4-A model, the American Academy of Family Physicians smoking cessation kit, or the

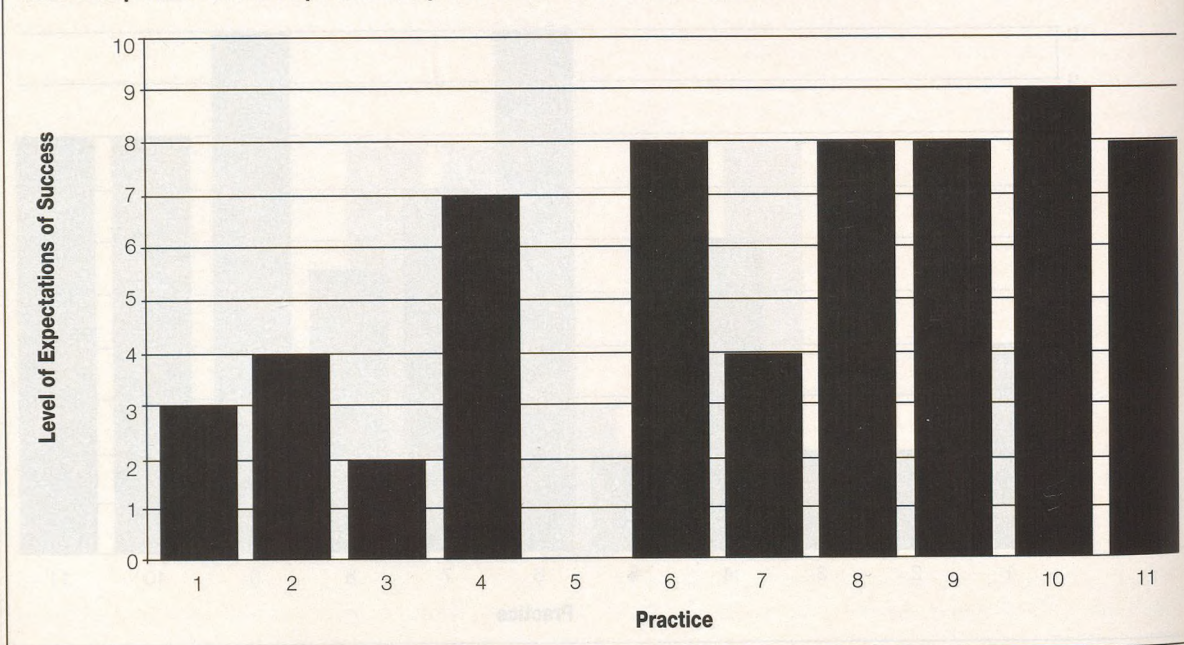
"Put Prevention into Practice" kit. Instead they were using systems that they had devised from bits and pieces from a number of sources. To the extent that a practice wanted to do prevention and cessation counseling, the practice created systems to accomplish it.

Practices relied primarily on pharmaceutical companies for their patient education material on tobacco cessation. In the majority of practices, over 90% of these materials were supplied by makers of nicotine replacement systems. Only two practices (sites 6 and 9) had a wide variety of materials from sources such as the American Academy of Family Physicians, American Lung Association, American Cancer Society, or American Heart Association. Types of materials ranged from only information on cessation using nicotine replacement regimens to fairly sophisticated programs using audio and video materials and groups of specifically chosen pamphlets from different sources. Over 90% of the material addressed smoking cessation, not smokeless tobacco use or tobacco prevention. Additionally, patient education materials were not readily accessible to the patients, often stored in cabinets, and needed to be

FIGURE 3

Scores on physicians' expectations of success in persuading patients to stop smoking.

Note: Interpretation of the responses from practice site 5 indicated no expectations of success.



given to the patient by the physician or staff.

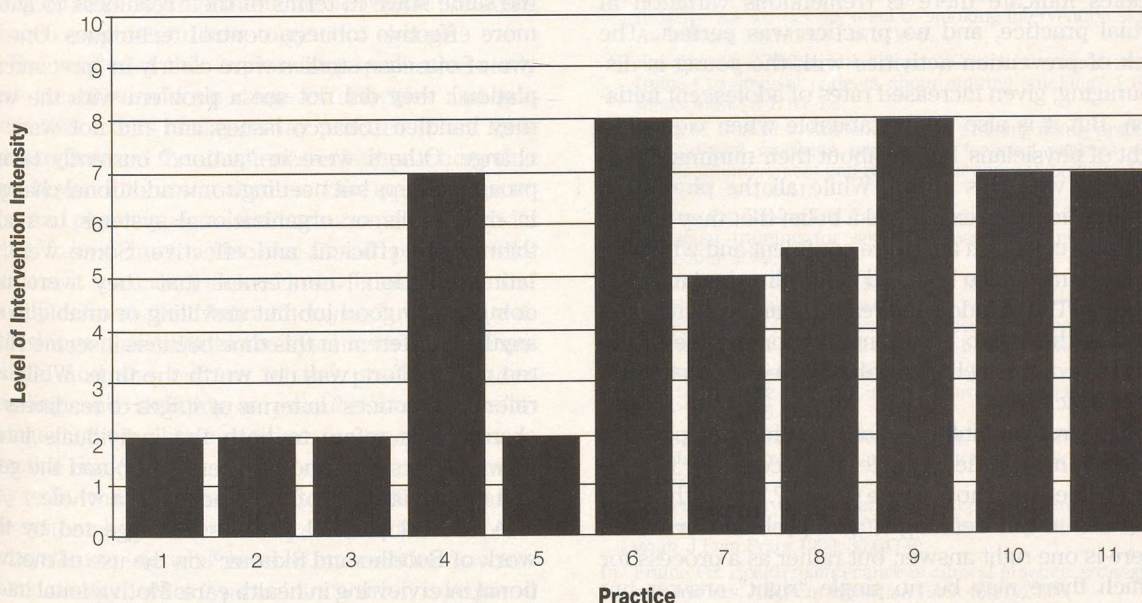
Despite these general patterns or themes that appear to make practices seem alike, *there was clear variation in practice intensity among the practices*, as illustrated in Figure 4. While none of the practices could be characterized as having extremely high intensity, five practices (sites 6, 9, 4, 10, 11) had systems in place that clearly indicated they were making an effort, particularly in smoking cessation. Nevertheless, although physician prompts have been shown to be an inexpensive and simple means of increasing physician prevention activities, only one practice (site 7) had an organized, periodically updated system for identifying and documenting tobacco use, both cigarettes and smokeless tobacco, for every patient. Compared with this site, other sites varied from having no identification or documentation, to having excellent systems for certain populations (for obstetric patients, annual physical examinations) but nothing for the general population, to having initial identification and documentation with new patients but no regular updating of the information.

The data analysis revealed that each individual clinician and practice was unique in motivational

beliefs about the role and responsibilities of the practice in general as well as in the way in which tobacco use prevention and cessation were approached. Even those with higher intensity levels were very different in motivation and structure of efforts. Motivating influences included past experiences such as residency training or an early career, and religious convictions. Examples of this variety are illustrated in the following quotes. Site 6: "There is a spiritual aspect to everybody's life just like there's a physical aspect....If a person wants to quit smoking...[if] you can overcome some of the spiritual battles in your life and get yourself correctly related to God, then you've got some ammunition to use in fighting the battle against smoking." Site 11: "I think there was a real emphasis on smoking cessation when we were residents, and some of my classmates were really involved in national programs to encourage the discontinuation of smoking, and I think I was fairly influenced by that to emphasize that with my patients." Site 10: "I try never to miss an opportunity....I was a public health nurse, that's why probably the prevention comes through...it really takes a lot of time, and I could see a lot more patients if

FIGURE 4

Intensity of study practices' intervention efforts directed at patients who used tobacco.



I didn't take the time, but that is my contribution to society."

DISCUSSION

These 11 case studies give snapshots of what is actually going on in terms of tobacco use prevention and cessation in real-life family practices. The study is limited by the small sample size and the fairly focused geographical area; however, care was given in carefully selecting a diversity of practice styles from both rural and urban areas. The sample size is also consistent with comparative case study research in which the goal is descriptive comparison and not generalizability. The four practices that did not consent to participate (26% of those approached) perceived time and disruption to be a problem. It is not clear if this introduced bias into the study, although all the practices that participated were also very busy practices. While acknowledging these limitations, it should be noted that the results are consistent with those found in other studies that indicate that although many offices have smoke-free policies and are making efforts to address smoking among their patients, counseling is still less intense than desirable and is generally the responsibility of the physician.²⁹⁻³¹

While all these physicians endorsed the need for counseling their patients to stop smoking, the case studies indicate there is tremendous variation in actual practice, and no practice was perfect. The lack of prevention activities with the young is discouraging, given increased rates of adolescent initiation. But it is also understandable when viewed in light of physicians' beliefs about their minimal effectiveness with this group. While all the physicians who participated expressed a belief that they should promote cessation and were confident and willing to counsel, most also believed counseling had minimal success. The paradox and resulting ambivalence created by these two beliefs may be one cause of the less than optimal clinical behavior seen in the majority of practices.

Research and interventions on changing practice patterns have defied long-term success. So, what is the problem and how do we solve it? Maybe the solution lies in not defining it as a problem for which there is one right answer, but rather as a process for which there may be no single "right" answer but where greater understanding of individual practice

situations is needed.

As we conducted our analysis, it became apparent that there were a number of parallel processes between what we were seeing in practice organizations and what is published in the existing literature on individual motivation and change.

The first parallel process that may provide some guidance in changing practice patterns relates to stages of readiness to change as outlined by Prochaska et al.³² Stages of readiness to change have already been discussed in relation to physician change in disease prevention by Cohen et al.³³ and Main et al.³⁴ The theoretical construct developed by Prochaska et al proposes that behavior change is a process consisting of 5 stages—precontemplation, contemplation, preparation, action, and maintenance or relapse. The most effective behavior change goals focus on identification of the individual's current stage of readiness to change and facilitation of movement to the next stage. This process continues until the individual cycles through all the stages and, finally, is maintaining the new behavior. Research suggests that only about 20% of smokers are ready to make a plan to quit (preparation) at any given time. Obviously then, physicians need methods for motivating patients from precontemplation and contemplation stages along the process to preparation.

The practices in our study were clearly not all in the same stage in terms of their readiness to adopt more effective tobacco control techniques. One or two of our case studies were clearly in "precontemplation": they did not see a problem with the way they handled tobacco issues and did not want to change. Others were in "action," currently taking proactive steps but needing some additional changes in their skills or organizational systems to make them more efficient and effective. Some were in "contemplation," concerned that they were not doing a very good job but unwilling or unable to do anything different at this time because it seemed like too much effort, was not worth the time. While we refer to "practices" in terms of stages of readiness to change, this refers to both the individuals interviewed (physician and key personnel) and the general overall attitude of the practice as a whole.

A second parallel process is suggested by the work of Botelho and Skinner³⁵ on the use of motivational interviewing in health care. Motivational interviewing theory focuses on communication style as a

means of supporting change, especially when individuals are reluctant or ambivalent about change. The technique is both facilitative and challenging, encouraging self-reflection rather than argument. Ownership and responsibility for change are defined. One of the positive by-products of motivational interviewing for the physician and smoking patient is that outcome expectations get redefined from what they typically are. For the physician, a positive outcome could be defined as an increased understanding of the patient's position, delivery of a clear, professional health message, and implementation of specific strategies that might increase the patient's motivation.

Motivational interviewing may also be relevant to practice interventions. Messages to these practices about their tobacco prevention and cessation activities would give the practice feedback regarding its current condition relative to the norm and initiate a dialogue to understand and define the practice's current motivation to change.

Both the stages of readiness to change and motivational interviewing concepts are highly applicable to work with patients who smoke. Working hand-in-hand, they allow the physician to more definitively define or diagnose the patient's situation and communicate in such a way as to facilitate the patient's motivation to change. The same seems applicable when we are talking about how a practice functions in regard to preventive medicine activities, including tobacco control, and how to get it to change.

The results of this exploratory, qualitative study have identified a wide range of activities and attitudes that exists in day-to-day practice. They have also emphasized the uniqueness of all practices that goes beyond common themes. Like patients, practices and physicians are similar but unique and resist being forced into a one-size-fits-all pattern. Like patients, it was not a lack of knowledge or skill that usually defined their "nonadherence," rather it was little things particular to the system, the physicians' beliefs, and the culture of the practice. Understanding and defining a practice's readiness to change might facilitate positive movement in a more effective direction. The task becomes not finding a way to fit "the intervention" into the individual practice system, but rather to look at the individual practice system to see what level of intervention is wanted and needed, what type of intervention is required given the practice culture, and how to facilitate

implementation of the appropriate intervention into the existing system. Further research is needed to look at these issues in larger samples to determine their validity.

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