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Training Physicians to Do Office-based Smoking Cessation Increases Adherence to PHS Guidelines

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Abstract

Cigarette Smoking is the leading cause of preventable mortality and morbidity in the United States. Healthcare providers can contribute significantly to the war against tobacco use; patients advised to quit smoking by their physicians are 1.6 times more likely to quit than patients not receiving physician advice. However, most smokers do not receive this advice when visiting their physicians. The Morehouse School of Medicine Tobacco Control Research Program was undertaken to develop best practices for implementing the “2000 Public Health Services Clinical Practice Guidelines on Treating Tobacco Use and Dependence” and the “Pathways to Freedom” tobacco cessation program among African American physicians in private practice and healthcare providers at community health centers. Ten focus groups were conducted; 82 healthcare professionals participated. Six major themes were identified as barriers to the provision of smoking cessation services. An intervention was developed based on these results and tested among Georgia community-based physicians. A total of 308 charts were abstracted both pre- and post-intervention. Charts were scored using a system awarding one point for each of the five “A’s” recommended by the PHS guidelines (Ask, Advise, Assess, Assist, Arrange) employed during the patient visit. The mean pre-intervention five “A’s” score was 1.29 compared to 1.90 post-intervention ($P < 0.001$). All charts had evidence of the first “A” (“asked”) both pre- and post-intervention, and the other four “A’s” all had statistically significant increases pre-to post-intervention.

Conclusions—The results demonstrate that, with training of physicians, compliance with the PHS tobacco guidelines can be greatly improved.

Keywords

Five “A’s”; Smoker; Smoking cessation; Training physicians; Tobacco

Introduction

Cigarette Smoking is the leading cause of preventable mortality and morbidity in the United States [1]. In the US state of Georgia, 17.6% of adults are current smokers [2]. There is a

steep gradient by income: only 13.2% of persons with incomes over \$50,000/year are smokers, as compared to 32.6% of those with incomes below \$15,000/year. [2] Although smoking prevalence is greater nationally among blacks than among whites (20.5 vs. 17.2%), in Georgia a higher percentage of whites than blacks are current smokers (19.2 vs. 15.0%) [2].

Healthcare providers can contribute significantly to reducing tobacco use, as evidenced by the fact that patients who are advised to quit smoking by their physicians are 1.6 times more likely to quit than patients not receiving physician advice to quit [3]. Clinicians have improved the rate of smoking cessation among their patients by increasing their counseling skills, incorporating reminders into practice systems, and offering pharmacotherapy [4-7]. However, most smokers do not receive advice to quit smoking when they visit their physicians. Nationally, physicians identified patient smoking status at 68% of visits in 2001–2003 and 65% of visits in 1994–1996, but they counseled patients about smoking at only 20% of smoker visits in 2001–2003 and 22% in 1994–1996 [8]. A national survey that included primary care physicians, emergency physicians, and psychiatrists found that nearly all asked patients if they smoke, but primary care physicians were much more likely than the others to assist smokers to quit (counsel, refer, offer medication). Still, only about one-half to two-thirds provided assistance, and fewer than a quarter arranged follow-up. [9]. Women, ethnic minorities, Medicaid and uninsured patients are less likely to receive appropriate cessation services despite their effectiveness among these groups [7, 10-12].

Hence, it appears that there are barriers to the provision of smoking cessation services by physicians. However, the literature on physician-identified barriers is spotty. Some information has been gathered on barriers identified by physicians to clinical practice guidelines generally, including lack of awareness, lack of familiarity, disagreement, lack of self-efficacy, and inability to overcome the inertia of previous practice [13, 14]. Physicians have reported competing priorities during an office visit and inadvertently failing to counsel patients during acute tobacco-related illnesses [15]. There is only one study of the views of African–American physicians [16]. In that study among African–American physicians and community health center providers, the participating providers indicated that they lacked knowledge in tobacco cessation counseling techniques and confidence in the effectiveness of tobacco cessation programs. Based on the results of a self-administered survey among African American physicians practicing in Atlanta, GA, USA, 89% of physicians reported that they sometimes or always advised their patients to quit smoking [17]. Only 60% of physicians were aware of tobacco-cessation programs within the community, and only 64.7% of those who were aware reported that they always or sometimes referred patients to these services.

The US Public Health Service developed a *Guideline* to provide guidance to physicians in assisting patients to quit smoking [18]. In addition, *Pathways to Freedom* was developed by the Centers for Disease Control and Prevention as a culturally-sensitive aid for African–American smokers [19].

We conducted a series of focus groups with African–American physicians and community health center providers to explore barriers to providing smoking cessation services. The results of this study are presented elsewhere [20]. In short, 82 healthcare professionals, including clinicians, nurses, administrators, and support staff participated in 10 focus groups. Six major themes were identified as barriers: : lack of time, patient unreadiness to change, inadequate resources, language and culture barriers, patient non-compliance, and inadequate cessation clinical skills on the part of providers. Subsequently, we developed an intervention based on this preliminary study and tested it among community-based physicians in Georgia. This report presents the findings of that project.

Methods

We recruited 35 physicians serving predominantly African–American patient populations to participate in this trial. Participant recruitment was done through the Georgia State Medical Association (GSMA), the professional membership organization for African American physicians. Recruitment of primary care physicians from community health centers (CHC) was done through the Clinicians’ Network of the Georgia Association for Primary Health Care (GAPHC), the professional membership organization for CHC providers. Identification of participants was non-randomized and was based on a voluntary self-selection by the clinicians or their representatives (CEOs or medical directors). The GSMA and GAPHC provided study personnel with membership rosters that included the names, addresses, and medical specialties of the clinicians. Primary care physicians on the GSMA roster received letters inviting them to participate in the study. CEO’s and medical directors of CHCs received recruitment packets inviting primary care practitioners (physicians, nurse practitioners, and physician assistants) within their organizations to participate in the study. To be eligible, participants had to provide a minimum of 50% full time equivalent effort toward direct patient care activities; practice internal medicine, family practice, or obstetrics and gynecology; and agree to attend training sessions, allow study personnel access to office personnel for in-service training, and allow study personnel access to patient medical records. Providers not serving predominantly low-income or African–American patients were not eligible for the study. The first 35 eligible physicians that responded were included in the study. Each practice or CHC received monetary support for each provider participating in the study. These funds were used to support smoking cessation initiatives such as duplication costs and purchasing patient education resources.

We developed an educational intervention, informed by the results of the ten focus groups and the survey, to promote the use of the PHS Guideline and the *Pathways to Freedom* program. Training was conducted for clinicians and appropriate office support staff during two in-service sessions conducted by study personnel. Each session was delivered in a 90-minute participatory workshop at the practitioner’s healthcare organization.

The learning objectives of the first session specified that, at the end of the session, participants should be able to describe the epidemiology of tobacco use, describe the local burden of tobacco-related illness, demonstrate the usage of the PHS Guideline, list methods of incorporating the PHS Guideline into their practices, and identify tobacco control resources including telephone quit-line services and the Pathways to Freedom patient education guide.

In addition to providing information on the effects of tobacco smoke, the initial session addressed procedures in maintaining provider reminder systems, querying patients about tobacco use during each office visit, maintaining reference materials, and distributing resource materials to patients. A modified version of the National Cancer Institute’s “How to Help Your Patients Stop Smoking” curriculum was used to teach providers and support staff the application of evidence-based, tobacco control clinical guidelines.

The second training session addressed the use of the PHS Guideline, telephone quit-line services, and *Pathways to Freedom*. The learning objectives of the session stated that, at the end of the session, participants should be able to describe the scientific data supporting the use of quit-lines as a component of comprehensive tobacco cessation services, list the required credentials of the counselors employed by telephone quit-lines, list the types of resources patients receive from telephone quit-lines, list the languages in which quit-line services are available, list the hours and days of operation, list the type of people eligible to use quit-line services, describe various types of services patients receive from the Georgia

Tobacco Use Quit-line, list methods by which healthcare organizations can communicate directly with it, and describe the types of resources that are available to healthcare organizations from it.

A descriptive presentation of the Georgia Tobacco Use Quit-line services was given to the providers and support staff. It included a videotape prepared by the quit-line illustrating its services. Providers were encouraged to refer all eligible patients to it and were supplied by study personnel with necessary resource materials to facilitate the patient referral process, including pre-printed referral forms, wall posters promoting its services, and patient brochures describing its services.

Also during the second training session, the impact of culturally competent patient education materials, the content of the *Pathways to Freedom* patient self-help guide, and the indications for the use of the *Pathways to Freedom* were all reviewed. Participating institutions were provided with supplies of the second edition of the *Pathways to Freedom* self-help guide. Providers were encouraged to distribute the *Pathways to Freedom* guide to African-American patients who used tobacco or other appropriate persons affected by tobacco use.

All of the preceding activities, which included recruitment, pre-intervention baseline data collection, and training, took place during the first six months of the study. In study month seven, physicians and other providers were to begin implementing the PHS Guideline and *Pathways to Freedom* program among eligible adult patients. Delivery of physician-related interventions required less than three minutes of the overall patient-provider contact time using the PHS Guideline. In addition to provider-delivered cessation counseling, providers were advised to distribute the *Pathways to Freedom* handbook to African American patients who smoke. Providers were also encouraged to use the Georgia Tobacco Use Quit-line to augment their cessation counseling activities. To facilitate the integration of tobacco cessation activities into participating practices, tailored office reminder systems were designed by study personnel and the participating organizations. When rendered, tobacco-related counseling was to be documented in each patient's chart. An office-wide reminder system was to be instituted as part of the procedures for implementing the PHS guideline.

Data collection to determine tobacco-control practice behaviors among participating providers took place prior to training and at six months following training. Trained medical record abstractors were responsible for conducting chart reviews to determine the implementation by providers of the PHS Guideline. The abstractors were trained to identify common components of a medical chart and the information that is usually contained in each component. They were also trained to understand the components of the PHS Guideline, recognize phrases or documentation that indicated that the clinician used the Guideline, and locate appropriate documentation supporting Guideline use within the medical chart. They were required to perform data abstract exercises on mock medical charts developed by the study team in order to test their proficiency and consistency in these areas of data abstracting. The chart audits utilized a standardized form developed by the study team to abstract data that would measure tobacco cessation counseling activities which included the "five A's": *asking* patients about current smoking status, *advising* patients to quit smoking, *assessing* patients' willingness to quit, *assisting* patients in quitting smoking, and *arranging* appropriate follow-up. Abstracters also identified referrals to the Georgia Tobacco Use Quit-line, and offers of appropriate patient education materials such as the *Pathways to Freedom* guide.

Data from the completed chart abstract forms were coded and entered into an EXCEL spreadsheet, from which the data were exported into the SPSS statistical software for

analysis. Paired *t* tests of the pre-intervention and the post-intervention mean scores of the PHS Guideline were performed.

Results

A total of 308 charts were abstracted both pre- and post-intervention. Charts were scored using a system that awarded one point for each “A” employed in the interaction with the patient. On the pre-intervention abstracts, the mean score on the 5 A’s was 1.29 compared to 1.90 on the post-intervention abstracts ($P < 0.001$). The total number of “A’s” increased from 403 in the pre-intervention abstracts to 586 in the post-intervention abstracts. As seen in Table 1, all 308 charts had evidence of the first A (“asked”) in both the pre-intervention and the post-intervention abstracts. This was to be expected, since all the patients in this study were smokers, and the only way they could have been identified as such was if they were asked. The other four A’s all had increases pre-intervention to post-intervention abstract, and each of these increases was statistically significant.

Only seven charts had evidence of all five A’s on the pre-intervention abstract, while 50 did so on the post-intervention abstract. However, only one of these had done so pre-intervention. Twelve charts had evidence of four of the five A’s pre-intervention, but nine of these actually had evidence of fewer A’s post-intervention, while the other three had evidence of all 5 A’s post-intervention. Sixteen charts had evidence of four of the five A’s on the post-intervention abstract, one of which was down from five A’s pre-intervention. Nineteen of the participating physicians demonstrated an increase in the total number of A’s, while for seven they decreased, and for nine they remained the same.

Discussion

The US Public Health Service Smoking Cessation Clinical Practice Guideline recommends that all clinicians, including nurses, strongly advise their patients who use tobacco to quit [18]. However, national data suggest that only a minority of smokers is advised to stop smoking or offered assistance with smoking cessation during a clinician visit [9, 10, 21]. The results of this study demonstrate that, with training of physicians, compliance with the Guideline recommendations can be greatly improved.

In our preliminary study, participating physicians indicated that barriers to providing smoking cessation services included lack of time, patient unreadiness to change, inadequate resources, language and culture barriers, patient non-compliance, and inadequate cessation clinical skills on the part of providers. Of these six barriers, our intervention addressed only two—inadequate cessation skills and inadequate resources—but this was sufficient to result in significant behavior change on the part of the participants. It is likely that physicians’ inadequate cessation skill is the most important barrier.

This is not surprising, since medical students generally do not receive adequate training in approaches to smoking cessation [25]. The willingness of the providers in our sample to participate in the training we offered demonstrates that there is a demand for this type of training. The fact that we brought the training to the practices, rather than requiring their attendance at another venue, made the training opportunity more attractive.

Other studies have also shown that physicians and their staff can be trained to successfully deliver office-based smoking cessation interventions [22, 23]. One of these studies evaluated the comparative effectiveness of two different approaches to smoking cessation counseling, practice-based and community-based, in four practices in mid-Michigan communities [22]. In the former, counseling was provided by office nurses and telephone counselors, and in the latter by telephone counselors only. This study found that nurses in primary care practices

and counselors can be trained to deliver effective relapse-prevention counseling during office visits and by telephone and an increase in reported rates of smoking cessation by using the two counseling methods.

A Guideline-based intervention in which intake staff (nurses or medical assistants) assessed smoking status in all patients and offered free nicotine replacement therapy and telephone counseling to those smokers willing to make a quit attempt was pilot tested at one family practice clinic in Wisconsin over a two-month period, and patterns of usual care were observed concurrently at four comparison family practice clinics [23]. Concordance with the Guideline was significantly greater for all recommended actions at the test site during the intervention versus baseline, and more intervention versus baseline patients at the intervention site reported abstinence at 2- and 6-month follow-up, but only the 2-month results were statistically significant. There were no significant differences in 2- or 6-month quit rates between intervention and baseline patients at the control sites. Although it was unclear which aspect of the multi-component intervention was most strongly associated with short-term smoking cessation, the authors did feel that the cornerstone of the program was the accurate identification and brief counseling of smokers by intake staff during routine visits. Clinic staff found that the guideline recommendations could be readily incorporated into the vital signs assessment and other intake responsibilities within two to three minutes. The authors then conducted a randomized, controlled trial of the same intervention among eight clinics within different primary care settings and again found implementation of a guideline-based smoking cessation intervention by intake staff in primary care to be associated with higher abstinence among smokers [24].

Unlike the other reports cited, our study focused on practices serving predominantly African-American and low-income patients. These are practices in which many patients are uninsured or are covered by low-reimbursement payers such as Medicaid. Providers in these practices are often pressured to see more patients in order to compensate for these low or absent reimbursements and hence may feel that they have no time to provide “extra” services such as smoking cessation. Yet these practices responded well to brief training.

In the studies cited, smoking cessation counseling was provided by non-physician staff, with good results. It is likely that results will be even better when it is a physician who provides—or at least initiates—the smoking cessation intervention, since patients typically accord physicians the most respect of any member of the health care team. In our study, training was provided to the entire staff, but it was physician response that was assessed and found to be substantial.

A major limitation of our study was that no data were collected on smoking abstinence among the patients of the physicians who received the intervention. As a result, this study does not permit any conclusions with respect to the ultimate goal of smoking cessation counseling, which is to induce patients to stop smoking. Nevertheless, the fact that our intervention increased the compliance of physicians with the five A’s is in itself very positive, as this is a necessary first step in getting patients to stop smoking as a result of physician counseling. The next step should be to do a follow-up study on these physicians to determine whether their high rates of compliance with the five A’s has been maintained and, more importantly, to determine the rates of smoking cessation, both short-term and long-term, among their patients.

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Table 1Number of physician office charts with evidence of each A ($n = 308$)

A	Pre-intervention	Post-intervention
<i>Asking</i> patients about current smoking status	308	308
<i>Advising</i> patients to quit smoking	37	89, $P < 0.0001$
<i>Assessing</i> patients' willingness to quit	16	73, $P < 0.0001$
<i>Assisting</i> patients in quitting smoking	19	65, $P < 0.0001$
<i>Arranging</i> appropriate follow-up	18	53, $P < 0.0001$