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Faculty Development in Tobacco Cessation: Training Health Professionals and Promoting Tobacco Control in Developing Countries

Myra L. Muramoto, M.D., M.P.H.

Department of Family and Community Medicine University of Arizona College of Medicine

Harry Lando, Ph. D.

Division of Epidemiology University of Minnesota School of Public Health

Abstract

Issues—Cessation programs are essential components of comprehensive tobacco control. Health care providers, especially physicians, have major responsibility for role modeling and promoting cessation. For successful, sustainable cessation training programs, countries need health care professionals with knowledge and skills to deliver and teach tobacco cessation.

Approach—Review literature relevant to faculty development in tobacco cessation and discuss its strategic potential in tobacco control.

Key findings—Faculty development is essential for sustainable tobacco cessation training programs, and a potentially powerful strategy to shift professional and societal norms toward cessation and support of comprehensive tobacco control in countries with normative tobacco use and underdeveloped tobacco control programs.

Implications—Medical faculty are in a key position to influence tobacco cessation and control programs because of their roles as educators and researchers, receptivity to innovation and, influence on competencies and standards for medical education and practice. Faculty development programs must consider the number and type of faculty, and tobacco cessation curricula needed. Faculty development fosters the ability to institutionalize cessation education for students and community practitioners. Academic faculty are often leaders in their professional disciplines, influential in establishing clinical practice standards, and technical experts for government and other key health organizations.

Conclusion—Training health care professional faculty to become knowledgeable and committed to tobacco cessation opens opportunities to promote cessation and shift professional and societal norms away from tobacco use.

Keywords

Tobacco; Tobacco cessation; Faculty development; Tobacco control; Developing countries; Physician education; Medical education; Health professional education; Curriculum development

Introduction

Tobacco use, now a global epidemic, is one of the greatest causes of preventable deaths and disease in human history. (1) In 2000, an estimated 4.8 million premature deaths were attributable to smoking. (2) If current trends persist, by 2030 tobacco will become *the* leading cause of preventable morbidity and mortality in the world, responsible for more than 8 million deaths annually. (3) As deaths from tobacco rise, the burden will disproportionately fall upon developing countries. An estimated 80% of the world's current smokers live in developing countries, so the great majority of the projected deaths will occur in developing nations. (3)

Presently, rates of quitting smoking vary greatly between high-income developed countries and low- and middle-income countries. In most high-income countries, about a third of males are former smokers, while in developing countries in Asia, the rates are much lower; between 2 and 10% of males had quit by 1997. (1) Despite the growing epidemic, tobacco control programs, including cessation programs, are underdeveloped or non-existent in many developing countries. The Framework Convention on Tobacco Control, a critical step towards helping developing countries establish effective tobacco control programs, calls for the development of cessation programs as part of comprehensive tobacco control, and for health care providers to play a lead role in promoting cessation. However, there are many barriers to developing comprehensive tobacco control. (4) Some of the most important barriers to be overcome in many developing countries are: 1) societal norms favoring tobacco use, 2) governmental and economic policies favoring tobacco use, and 3) high rates of tobacco use by society leaders such as physicians.(5) (6;7)

For cessation training programs to be both successful and sustainable, countries need health care professionals with the knowledge and skills to both deliver and teach tobacco cessation. An essential first step in establishing sustainable tobacco cessation training programs for health care professionals is to train faculty with the requisite knowledge and skills to staff these programs. Cessation programs are reinforced when delivered in the context of comprehensive tobacco control, which serves to shift societal norms away from tobacco use. (8) Developing faculty knowledge and skills in tobacco cessation is a potentially powerful and far-reaching strategy to shift professional and societal norms toward cessation and promote comprehensive tobacco control in developing countries where tobacco use is normative and tobacco control is not well-established.

Faculty development refers to those activities and programs which focus on assisting or enhancing the academic faculty members' ability to function in the diverse roles of teachers, scholars and professionals, and individuals with both work and personal lives. This paper will discuss the potential of faculty development in tobacco cessation as 1) an essential part of sustainable cessation training programs, and 2) a strategy for stimulating comprehensive tobacco control. In this paper we use physicians and medical education as the example of using faculty development to further tobacco control. However, the underlying rationale for faculty development applies to training other health care professionals. Indeed, developing tobacco cessation knowledge and skills among other health care professional faculty is

essential to realize the full potential of faculty development for increasing cessation and stimulating tobacco control in developing countries.

Tobacco cessation in comprehensive tobacco control

Tobacco cessation is an essential component of comprehensive tobacco control, and is the aspect of tobacco control most clearly within the professional purview of physicians and other health care professionals. (4) Tobacco's clear cause and effect relationship with death and disease makes tobacco cessation the aspect of tobacco control that has the most day-to-day relevance for health care professionals.

Tobacco cessation is an important entrée into tobacco control in countries where tobacco control is underdeveloped or non-existent. In contrast to taxation or regulation strategies, cessation is a relatively uncontroversial “foot-in-the-door” technique for other tobacco control efforts. Cessation is an important aspect of creating a receptive social climate that facilitates the introduction of, or enhances the effect of other effective interventions, such as policies that discourage tobacco use and prevention of initiation. Cessation programs complement youth prevention programs by helping normalize non-smoking / being tobacco free. (9) It is essential that youth prevention programs are congruent with adult behavior. It is much more difficult to prevent tobacco use among youth when their primary adult health role models (e.g., parents, physicians, entertainers, etc.) are using tobacco and are not attempting to quit. (4;10)

Cessation programs help raise public awareness of negative health effects of tobacco use, provide models for the general population that tobacco users can and do quit, and help convey to non-users that quitting is desirable and can be difficult. (9) Furthermore, cessation is the only possible means of significantly reducing the toll of death and disease from tobacco in the first part of this century. (1;11) Tobacco use prevention efforts would not be expected to have a substantial effect on mortality until approximately 2040. It has been estimated that if present trends of smoking initiation and low rates of quitting continue, more than 500 people alive today will be killed by tobacco. (3) The *only* way to reduce this death-toll is to reduce tobacco use.

Physicians as role models and advocates for tobacco cessation and tobacco control

Physicians are recognized as health experts by patients and society, and must take a leading position to advocate cessation to their patients and to the general population. Society expects physicians to advocate for patients' health, both for individual patients under their care and for patients as a vulnerable population. In describing this advocacy role of “physician-citizens,” Gruen, et al. define physicians' public roles as “advocacy for, and participation in, improving the aspects of communities that affect the health of individuals.” (12)

In many developed countries, particularly English-speaking countries, physicians were among the first to acknowledge the adverse health effects of tobacco use and begin to quit smoking. Smoking among physicians in the United States began to decline even before

publication of the 1964 Surgeon General's Report which called public attention to the negative health effects of smoking. (4) Because physicians are commonly seen as societal role models (13), particularly with respect to modeling healthy behavior, decreasing smoking among physicians in developing countries is an important aspect to decreasing smoking among the general population. Smoking among physicians undermines efforts to encourage patients to quit.(14) Studies in a number of countries have found that physicians who smoke are less likely to advise patients to quit or to offer other cessation assistance. (15) (6;16–19).

In countries where physician smoking prevalence is equal or greater than that of the general public, tobacco control researchers have noted that until a large portion of physicians quit smoking, tobacco control efforts among the general public are likely to be limited. (20–22) In developing countries where a large portion of physicians smoke, it will be difficult to convince the general population of the serious health consequences of smoking and need for cessation. (5;22)

While physician smoking has declined in most high-income countries, in many low- and middle-income countries the rates of smoking among physicians, including medical faculty, is the same or even greater than that of the general population. (5;23–25) Equally concerning is the high smoking prevalence reported among medical students in developing countries and even some developed countries, rates which tended to increase in the more advanced students. (23;26–31) Medical faculty serve as role models for students and residents (32–34) in addition to their own patients, thus tobacco abstinence among medical faculty is doubly important.

Recognizing the critical role that physicians and other health care professionals play in reducing tobacco use, the World Health Organization's Tobacco Free Initiative and health care professional organizations from around the world are calling on the professions to encourage cessation among their patients and to also lead by example and quit using tobacco themselves. (35)

Physicians are perceived as societal leaders in matters related to health, and accept this role as part of their profession. (36) The higher social and economic status of physicians can provide access to other society leaders through personal or professional contacts. Academic physicians acting as “physician-citizens,” (12) may have an enhanced role in influencing health policy because, in addition to their acknowledged roles as health experts, researchers and educators, academic physicians are often sought out by policy makers and the media for information, advice and commentary on matters related to health. If a nation's healthcare community sees tobacco as a public health priority and communicates this to both policy makers and the public, it may be difficult for a government to ignore the need for a progressive tobacco policy. (9)

Medical Faculty: A strategic role in cessation programs and tobacco control

Medical school faculty have three characteristics that place them in a key position to influence development of tobacco cessation and control programs: their role as educators and researchers, their likely receptivity to new trends and developments in patient care, and their role in setting competencies and standards for medical practice.

First, medical faculty are responsible for training the next generation of physicians. Research has shown that lack of training and confidence in counseling skills is a major barrier to physicians engaging in tobacco cessation counseling with patients. (37–41) Tobacco cessation education is lacking in the curriculum of most medical schools as well as schools of other health care professions. (42–47) Richmond's worldwide survey of education in medical schools identified three barriers to tobacco education that are directly related to the faculty: lack of sufficient knowledge and training, lack of enthusiasm by staff, and staff who are smokers. (44)

Faculty development helps to ensure that those responsible for teaching cessation have 1) appropriate clinical knowledge and skills, 2) competence in instructional design and adult learning to teach cessation with methods that maximize learning, retention and later application, and 3) awareness of their influence as role models for cessation. For example, incorporation of skills practice into resident tobacco cessation training programs because these educational strategies are much more likely to result in retention of cessation best practices behaviors more than eight years after graduation. (48)

Medical faculty are also involved in providing continuing medical education (CME), creating opportunities to teach and promote tobacco cessation among practicing community physicians. Since physicians typically have leadership roles in clinical settings, they have opportunities to influence cessation training for other members of the health care team, furthering the integration of cessation throughout the health care system.

Second, because of their role in professional education, medical faculty are more likely to be knowledgeable in or interested in new developments in health care. Medical faculty have a need to keep abreast of current and upcoming developments in medical care. When students and residents identify qualities of good faculty members, clinical competence is at the forefront. (33;34;49;50) Additionally, medical faculty are often involved in medical research, further reinforcing receptivity to learning about new trends and developments. These roles as teachers and researchers are associated with characteristics of “early adopters” versus later adopters of innovation: e.g. more favorable attitudes toward science, highly connected through interpersonal networks in their social system, actively seek information about innovations, greater knowledge of innovations, and higher degree of opinion leadership. (51) Thus, medical faculty are a strategic audience to target for adoption of new behaviors, such as quitting smoking, advising patients to quit, teaching cessation to students, and becoming advocates for tobacco control. Research on the impact of faculty development in substance abuse suggests that teachers of tobacco cessation would also be more likely to incorporate cessation into clinical and research activities. (52)

Third, medical faculty are influential in setting standards for clinical practice. They are expected to be exemplars of the most up-to-date standards of practice. Through their participation in professional associations, advisory panels and consultancies to government and other key health agencies and organizations, they influence standards of practice and educational competencies for practicing physicians and medical students. Medical faculty are key to implementing educational system changes that will ensure all future physicians receive tobacco cessation training.

Designing a Tobacco Cessation Faculty Development Program

Research and experience from substance abuse faculty development and CME programs indicate successful faculty development programs share general characteristics shown in Table 1 (adapted from Manwell, 2006, for application to tobacco cessation). A systematic review of faculty development initiatives not specifically focused on substance abuse reached similar conclusions about which features contributed to program effectiveness. (53) Since the structure and systems of medical education vary considerably among countries and even among schools within the same country, we will discuss the design of a tobacco cessation faculty development program with a focus on broader concepts that should be applicable to most educational systems and which are important considerations in program design.

The first major consideration in designing a tobacco cessation faculty development program is: how many faculty need to be trained and to what levels of tobacco cessation expertise? Is the goal to have as many faculty as possible develop basic knowledge and skills in tobacco cessation, or to have only a few faculty become tobacco cessation “experts” with in-depth knowledge and skills?

There are advantages to each approach. Integration of cessation topics throughout the main curriculum is more easily accomplished if multiple faculty are trained in basic tobacco cessation. Such integration leaves the tobacco cessation topics less vulnerable to faculty turnover and is more congruent with the notion that cessation is a fundamental part of good medical care, and the responsibility of all clinicians. Developing a few cessation expert faculty to teach specialty, stand-alone courses can provide a more in-depth cessation education, but leaves cessation training dependent on a few key individuals, and more vulnerable to faculty turnover or overload. A combined approach (many faculty trained in basic cessation, and a few cessation expert faculty) is preferred. A combined approach ensures students are exposed repeatedly to basic tobacco cessation education throughout their training and expert faculty are available for more in-depth education in tobacco dependence treatment as well as cessation resources and mentors for students, other faculty and practicing clinicians.

Selecting a tobacco cessation curriculum

The second major consideration in developing a tobacco cessation faculty development program is the kind of tobacco cessation curriculum needed. Can the faculty development program prepare faculty to teach an existing cessation curriculum or is there a need for a new or more customized curriculum? If an existing curriculum is used, the faculty

development program can focus on teaching skills and supplementary knowledge for implementing the chosen curriculum. If a new or custom curriculum is needed, the faculty development program should incorporate curriculum development, knowledge and skills into the learning activities. A number of tobacco cessation / tobacco education curricula exist for various health professional audiences including physicians, (54) medical students (55–57) and residents (58), nurses (59), and pharmacists and pharmacy students (60;61), social workers (62) and health professional students in general (63).

The tobacco cessation curriculum can be offered as a stand-alone course, integrated throughout the curriculum, or as a combination of these two approaches. There are advantages to either. As noted above, a stand-alone course taught by expert faculty is more vulnerable to faculty turnover compared to an integrated tobacco cessation curriculum. Also, an elective stand-alone course will likely attract “interested” students already more aware of the importance of tobacco cessation. However, a stand-alone course focused on tobacco cessation could allow more in-depth coverage of the topic, exposure to a wider range of cessation clinical scenarios and more opportunities to practice cessation skills.

A vertically integrated curriculum (e.g. content is introduced early in the curriculum and then is elaborated on, or additional content is introduced in subsequent years, such that the student is exposed to content throughout their education) has certain advantages. A vertically integrated tobacco cessation education may promote acquisition of foundational knowledge and practice with clinical skills such that cessation becomes a fundamental part of good clinical practice with all patients, and not conceptualized as relevant only in certain clinical contexts, e.g. adults with tobacco-related health problems. (64)

An integrated curriculum can be as comprehensive as a stand-alone course, but may be more difficult to implement and evaluate, as has been noted in curriculum implementation for other topics such as nutrition. (65;66) For example, an integrated course may be more difficult to evaluate and attribute outcomes, since students may have difficulty separating tobacco-related knowledge from general course content and recognizing the integrated content as being related to a cessation curriculum. An integrated curriculum offers advantages when curricular time is limited (the usual situation) - and it is difficult to gain additional curriculum hours for cessation training, particularly in the required curriculum. It may be easier to integrate cessation throughout the required curriculum, by inserting single teaching sessions on cessation or by adding cessation-related learning objectives to existing required courses, e.g. courses on preventive health care, pulmonary medicine, cardiovascular disease, etc. An important aspect of evaluating an integrated curriculum is to have cessation-related learning objectives linked to specific student evaluations, i.e. examination questions, or objective structured clinical examinations (OSCE). A combined approach (integrated plus separate courses) maximizes student opportunities for learning cessation.

Integrating faculty development with institutional needs

Once program goals related to number of faculty to be trained, and type of curriculum and curriculum approach are established, then the specific content, length, instructional design, and learning activities can be developed around a four-phase systems model (Table 2)

described by Gelula (67) for faculty development in substance abuse education and adapted here for tobacco cessation education. The model draws on concepts that promote integration of scholarly activity with institutional needs, thereby increasing the likelihood of institutional support and reinforcement for the faculty development program.

Introducing cessation education into a school curriculum

One approach to introducing a tobacco education curriculum into a medical school is the six-point model developed around the Smokescreen Education Program (SEP). (55) The SEP consists of two parts: Part 1 is a one-hour lecture, and Part 2 is a two-hour, six part tutorial. Part 2 addresses the following topics: taking a smoking history, identifying the stage of readiness to change smoking, motivational interviewing skills, other skill-based strategies and relapse prevention. (68) The six-point implementation model is summarized in Table 3.

Case Study of a Tobacco Cessation Faculty Development Program and Curriculum Implementation

Quit Tobacco International (QTI) is a National Institutes of Health Fogarty Center-funded initiative to increase tobacco cessation research capacity in India and Indonesia.(9) Quit Tobacco International is based on a faculty development model which includes cessation training and the development and implementation of an integrated, modular tobacco cessation curriculum for medical schools. The primary institutions are Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), in Kerala State, India, and Gajah Mada University (GMU) in Yogyakarta, Indonesia.

The QTI faculty development program consists of iterative three-part cycles of 1) intensive training workshops followed by 2) a period of experiential learning from applying concepts, knowledge and skills gained in the workshop to educational and research activities, and 3) presenting experiences and results from experiential learning activities to fellow learners, mentors and other professional colleagues. The QTI program initially focused on intensive training for a small group of core faculty in tobacco cessation and related research methods, with the intention that this core faculty would then provide a nidus of tobacco cessation expertise at each of their home institutions. These core faculty would then train other faculty and community practitioners so that a basic level of tobacco cessation knowledge and skills was widely spread within the institution and practitioner community. The QTI program selected core faculty with professional backgrounds who would provide an interdisciplinary perspective to tobacco cessation; their background expertise included medicine, psychology, epidemiology, anthropology, sociology and public health. Training for core faculty was provided through a series of seven 5-day workshops held over three years. Each workshop was followed by several months of research and curriculum development activities that applied the topics and concepts addressed in the workshop.

Between workshops, both long-distance and on-site mentoring was provided by mentors from United States (US) institutions. To reinforce the importance of interval activities and program outcome expectations, at each workshop, each country's faculty team formally presented progress and results of research and curriculum development activities since the

last workshop to the other country team and to US mentors. Other outcomes included submission of abstracts to tobacco conferences and publication of research results. Core faculty from both countries participated in all workshops together, and worked on parallel tobacco cessation research and education activities between workshops, to facilitate international/ cross-cultural exchange of concepts, methods and intervention and implementation strategies.

Table 4 describes steps in the development and implementation of the QTI cessation curriculum. Since available required curriculum hours were limited, the QTI core cessation curriculum was developed in a modular structure, to facilitate an integrative implementation strategy. Module topics were informed by a situational analysis on the medical education and clinical settings in both countries (9) and consultation with key faculty in each institution. In order to make tobacco cessation highly relevant to students and faculty, module topics focus on common clinical conditions where cessation is an important aspect of good clinical care (e.g. diabetes, atherosclerotic heart disease, asthma and acute respiratory illness).

Each module is designed to be a stand-alone, ready to use educational resource that faculty without extensive tobacco cessation expertise can integrate into their courses. Modules include learner objectives, 10–15 PowerPoint slides with lecturer notes, references for faculty to increase their background knowledge and feel more comfortable presenting the module, and possible examination questions. Modules are undergoing pilot testing in both traditional and problem-based learning curriculum. Basic cessation skills are taught in a workshop format which includes both didactic and skills-practice role play sessions.

Conclusion

Faculty development is a foundational aspect of sustainable tobacco cessation training programs for all health professionals and a high-leverage strategy for promoting comprehensive tobacco control. Faculty development is an essential step towards institutionalizing tobacco cessation education for future generations of clinicians, training practicing community clinicians, and bringing cessation technical expertise to influence government and other key health organizations. Tobacco cessation programs are an essential part of comprehensive tobacco control, but their potential impact must be viewed in the greater context of health professional and societal attitudes toward tobacco use. By training medical and other health professional faculty to become knowledgeable about and committed to tobacco cessation, an opportunity opens to leverage faculty's academic roles and leadership to shift professional and societal norms away from tobacco use worldwide.

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Table 1

Characteristics associated with successful faculty development programs

Characteristic	Rationale
• Longitudinal, skill-based and learner-centered courses	Have a greater impact on clinical skills and teaching activities than lecture-based one to two day continuing medical education courses (69)
• On-site courses	Facilitate participating by faculty with limited time and resources for travel
• Multidisciplinary focus, including faculty from diverse disciplines and schools	Facilitates system-wide sustainable change and collegial relationships between peers (70)
• Ongoing local support and mentoring	Important to support and encourage faculty in implementing new tobacco cessation knowledge and skills (71)
• Clear outcome expectations, take home assignments and peer feedback	Essential elements for educational system change
• Comprehensive evaluation methods with follow-up	Reinforces the importance of the program and outcome expectations(72)

*From Manwell, 2006. (72)

Table 2

Four phase systems model for faculty development in tobacco cessation education *

Phase
1. Developing general and specific skills related to tobacco cessation
2. Learning required competencies for a tobacco cessation curriculum and evaluation related to tobacco cessation
3. Studying and promoting useful methods of development such as mentoring students and other faculty, use of standardized patients, engaging in cessation research
4. Learning the facts, concepts, and procedures required to diagnose, treat and care for patients with tobacco dependence

* adapted from Gelula, 1997. (67)

Table 3Summary of steps for model of tobacco curriculum implementation¹

Implementation Step	
1. Ascertain the extent of the tobacco problem in medical schools, e.g. smoking status of students, physicians in that country, extent of knowledge about tobacco-related diseases and tobacco cessation, extent of current teaching about tobacco	
2. Develop or select a teaching curriculum on tobacco (e.g. SEP, QTI) that allows flexibility for implementation	
3. Develop networks in countries which encourage ownership of the curriculum, work with ministries, non-governmental organizations	
4. Work as a resource person in joint ventures partnerships with key individuals and organizations both within and outside of the medical school	
5. Support and follow-up after training workshops to ensure implementation and sustainability of tobacco education program, e.g. use expert faculty to mentor students and other faculty	
6. Evaluate change and success: document ways that the tobacco curriculum is implemented; which components are used; identify key supporters, barriers, and obstacles, look for other implementation settings, e.g. continuing education for community practitioners, education for other health professionals	

¹ Adapted from: Richmond, 2004 (55)

Table 4

Steps in development and implementation of QTI modular cessation curriculum

Step	Activities
Situational assessment	<ul style="list-style-type: none"> • Assessment of tobacco-related knowledge, attitudes and practices among students and faculty with particular attention to cessation • Assessment of current curriculum with regard to tobacco-related content and its placement in the curriculum
Identification of module topics	<ul style="list-style-type: none"> • Discussions with academic leaders and faculty responsible for key portions of the curriculum • Identification and involvement of faculty “champions” with particular interest in tobacco • Selection of module topic based on input from above stakeholders
Development of modules	<ul style="list-style-type: none"> • Development of ready-to-use self-contained teaching modules according to a standard format • Pilot testing of modules with students
Module implementation	<ul style="list-style-type: none"> • Delivery of modules to faculty who will integrate them into courses • Collection of follow-up module evaluation data
Development of tobacco cessation skills training workshop	<ul style="list-style-type: none"> • Cultural adaptation of brief intervention skills training workshop developed by University of Arizona • Development of supporting case studies, role plays, learner materials • Pilot testing of culturally adapted workshop
Workshop implementation	<ul style="list-style-type: none"> • Brief intervention training workshops delivered to medical students, faculty and community practitioners • Collection of workshop evaluation data
Curriculum dissemination	<ul style="list-style-type: none"> • Identification of other schools interested in implementing the curriculum • Discussions with academic leaders and faculty responsible for key portions of the curriculum • Identification and involvement of faculty “champions” with particular interest in tobacco • Development implementation strategy based on input from above stakeholders