The Development, Achievements, and Aspirations of a University Network Dedicated to Tobacco Control Research and Education

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SYNOPSIS

The establishment of a university-based network of colleagues with a shared goal of increasing tobacco research and educational opportunities can enrich the learning environment and ultimately contribute to reducing the toll of smoking. Such a network was established at the University of Michigan, and similar approaches can be adopted at other universities, considering a range of funding levels. This article discusses the mission, structure, accomplishments, and future goals of the network, along with lessons learned and recommendations for successful initialization. Specific examples of network activities are provided, along with references to web sites and lectures. This case study will be useful to any university leader seeking to establish a network of tobacco and nicotine researchers on campus.

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Research long ago provided the rationale for combating cigarette smoking.¹ Since then, it has offered guidance to health officials charged with allocating resources with the goal of maximizing tobacco control success.^{1,2} The complex issues associated with this effort call for novel research that benefits from multiple disciplinary perspectives and that can be linked directly to tobacco control practice. Multidisciplinary initiatives do not always develop naturally; they must be created and nurtured to achieve their full potential. A university setting provides an ideal venue for the development of such efforts, if the proper leadership and funding resources are effectively applied. This article presents a case study of the establishment of an effective network of university-based researchers, intended to enhance both the quality and quantity of tobacco-related education and research on campus. It describes how the network was established and examines the original motivation and planning processes, initial organization and funding, leadership structure, management, membership composition, activities, and continuing financial support strategies. Through the experiences of this network, others interested in developing programs on a similar or even a "shoestring" budget may find useful lessons applicable to their own situations.

NETWORK DEVELOPMENT

In 1998, the University of Michigan Tobacco Research Network (UMTRN) was established with \$500,000 in start-up funding provided by the University's Office of the Executive Vice-President for Medical Affairs (EVPMA), which recognized the need for a coordinated approach to the multidisciplinary issues of tobacco control. The EVPMA appointed the senior author (KW) to serve as director. He, in turn, hired a half-time staff assistant, now designated the UMTRN coordinator (DB). The network was conceived to foster new research, disseminate information on the determinants of tobacco consumption and its avoidance, and create a forum for the exchange of ideas concerning tobacco and nicotine, both within and outside the university. The start-up funding was intended to support UMTRN over a period of three years, while the organization developed its mission statement, identified and recruited members, began programmatic operation, and sought external funding to continue its work beyond the availability of the university's financial contribution.

Mission and goals

The first task of the fledgling organization was to define its mission and goals, developed by the director and

two senior investigators who comprised the original executive committee, following conversations with university officials (the Executive Vice-President for Medical Affairs and the deans of Public Health, Medicine, and Dentistry). The goals are:

1. To enhance the quality and quantity of UM scholars' nicotine and tobacco research opportunities and output; to stimulate novel research that will expand tobacco control horizons;
2. To increase tobacco control educational opportunities at all levels (i.e., from undergraduate through post-doctoral), both formally and informally;
3. As a consequence of the first two objectives, to contribute to the development of a new cadre of researchers and practitioners to continue the battle against tobacco-produced disease;
4. To create a resource that will increase state and national access to expert consultation on many dimensions of tobacco control; and
5. To serve as a model for other schools of public health of how universities can bring diverse tobacco control resources together into a mechanism that will enhance tobacco control research and education on campus, and expand the nation's research and practice capacities.

Membership recruitment

With the goals of the network in mind, membership recruitment became the next priority. An early lesson learned by the director and staff was that in a large university such as the University of Michigan, a surprising number of researchers, previously unknown to the organizers, are engaged in nicotine and tobacco research. Drawing on the knowledge of a small group of close colleagues, the director identified prospective members of the network. The effort was aided, as well, by electronic search of the university's researcher database. By searching for words like "smoking," "tobacco," and "nicotine" in UM researchers' funded grants in the database, additional prospective members were identified. A call for interested prospective members was issued through other university channels, such as the membership of the University of Michigan Substance Abuse Research Center. UMTRN welcomed two types of members: regular members, who are active UM nicotine and tobacco researchers, and associate members, primarily including non-researchers who have programmatic responsibilities related to tobacco on campus and are interested in research or education (e.g., the director of the medical center's smoking cessation program). Also included among the associate members

are a handful of nationally prominent tobacco control researchers and advocates who, though not officially affiliated with the university, are active members of the immediate community.

To encourage busy colleagues to join and maintain their membership in UMTRN, the organizers made an early decision to minimize the burdens of belonging, while making the benefits of doing so available on a completely elective basis. Toward this end, the membership application form is a single page, with UMTRN offering to produce a draft application if a prospective member simply submits his or her *curriculum vitae*. (See <http://www.umtrn.sph.umich.edu/docs/membershipform.pdf>.) In the same manner, when staff need to update members' information (e.g., recent grants and publications), they use electronic resources (e.g., the university's database on funded research) or ask members simply to send a current *curriculum vitae*. Membership benefits are varied and utilized in many ways depending on the individual. Members may apply for annual small grants (up to \$80,000) intended to support pilot research studies or junior colleague development (e.g., pre- and post-doctoral support), attend UMTRN-sponsored seminars, access the members-only discussion area of the UMTRN web site (<http://www.umtrn.sph.umich.edu/>), and receive targeted listserv announcements concerning grant availability, nicotine and tobacco news of special interest, etc. There are no mandatory membership meetings or activities; participation in all meetings is elective. Strong administrative support services are available to members (e.g., the network coordinator will assist members in developing personal home pages on the web).

The initial identification and recruitment efforts resulted in approximately 40 members. The charter group represented a range of expertise, from economics to environmental health studies, cessation to pharmacology, otolaryngology to neuroscience. They represented half a dozen schools and colleges in the university. From this initial group, four prominent nicotine and tobacco scholars who reflected the intellectual diversity of the membership were selected to join an executive committee. This committee became responsible for funding decisions and overseeing programmatic activities.

NETWORK ACCOMPLISHMENTS

Over the first four years of operation, the Network accomplished the following:

1. Financial support of three junior scholars at three different levels: research associate, post-doctoral scholar, and pre-doctoral student;
2. Support of a graduate-level course on tobacco science and policy by members volunteering to guest lecture, meet with students in seminar formats, etc.;
3. Sponsorship of campus visits by nationally prominent tobacco control researchers and leaders to share their expertise on timely and controversial issues, both in lectures open to the entire community and in highly interactive invitation-only seminars;
4. Development of a web site with multiple features to serve both members and outside parties interested in tobacco;
5. Organization of a Council on Advancement and Support of Education (CASE) Media Fellowship program in which two dozen UMTRN members met with journalism fellows brought to campus for a three-day workshop on nicotine and tobacco issues; and
6. Organization of a national conference on Innovative Approaches to Youth Tobacco Control in Santa Fe, New Mexico, in July 2002, with publication of the proceedings as a special supplement to *Tobacco Control* less than a year later.³

ORGANIZATIONAL GROWTH

Employed judiciously, the initial start-up funding provided core support for the organization for four years. The accomplishments during that period vividly demonstrated UMTRN's potential to invigorate tobacco control research and education at UM, to contribute to the development of a new generation of nicotine and tobacco scientists, and to create a resource that could assist tobacco control researchers elsewhere in the nation. During the second year, UMTRN began to seek external funding for the post-start-up funding years. Initially, the search proved fruitless. As anyone familiar with external funding of university-based activities knows, finding core institutional support is challenging. For a brief period, once the university's start-up funding was exhausted, UMTRN faced a future without funding. The director approached the university's Vice President for Research for temporary bridging funds while further attempts were made to find external support. This support was provided with the condition that the director's home unit (the School of Public Health) split the burden, which the school agreed to do.

Fortunately, the "lean times" of the bridging funding were brief. In 2003, the American Legacy Foundation (Legacy) announced its intention to sponsor schools

of public health to lead university-wide initiatives to create synergistic teaching and research environments to address the compelling problems of tobacco control that might yield to science and education. UMTRN was perfectly poised to accept this challenge. In 2004, Legacy awarded the university a three-year, \$1.4 million grant to further, and expand, the work of the Network.

Due to the support of the Legacy grant, UMTRN is a thriving organization that now serves a substantially enlarged community of scholars, educators, and program providers at UM, as well as the broad community of interest outside of the university. The importance of the kind of support that UMTRN can provide is heightened substantially by the fact that, nationally, research funding priorities are shifting away from tobacco control, despite the continuing status of tobacco as the nation's, and increasingly the world's, leading cause of preventable premature death, illness, and disability.

The Legacy grant supported three primary areas of effort: a small grants program, a lecture/seminar series, and improvement of the Network's web site.

Small grants program

UMTRN initiated a small grants program with approximately \$250,000 in available annual funding dedicated to enhancing nicotine and tobacco research and education within the university. Although the grants could support any nicotine and tobacco research or educational purpose on campus, two specific priorities were enunciated: support of junior colleagues (ranging from pre-doctoral students to new junior faculty) and support of projects addressing disparities in tobacco use and its health outcomes. Grants could be awarded only to members of UMTRN, but potential project directors who were not currently members could apply for membership with their applications for grant support. Thus, in addition to its primary purpose of stimulating new research and education and new professional development, the grants program also supported recruitment of additional network members.

In 2004, the Network awarded more than \$200,000 in grants to support five junior colleagues in four distinct disciplines at UM. The investigations included: (1) the effect of cigarette smoke on innate defense mechanisms against pneumococcal pneumonia; (2) the relationship between cigarette smoking and body weight; (3) differences in the ability to stop smoking in alcoholic smokers; (4) rapid determination of airborne environmental tobacco smoke markers with a novel field instrument; and (5) the functional interaction between nicotine and amphetamine. Interest in the

grant program was such that awards constituted less than a third of the total amount for which applications were submitted. In 2005, \$220,000 in grants was awarded to fund four projects, three in support of junior colleagues.

Lecture/seminar series

The Network offered a robust lecture/seminar series, drawing on outside experts and UMTRN members to afford colleagues from different disciplines the opportunity to learn about, and from, each other's expertise. Dr. Gregory Connolly, a national expert on tobacco and health at the Harvard School of Public Health, credited with a central role in passage of the 1986 federal law on smokeless tobacco labeling, presented an evening lecture open to the public and a breakfast seminar titled "New Product Brands/PREPs," limited to UMTRN invitees, including several students. Dr. Ron Borland, an Australian expert on international tobacco control policy and director of the Anti-Cancer Council of Victoria, met with UMTRN members to discuss tobacco and health e-communications and a major international collaborative study of the impacts of tobacco control policies. UMTRN hosted a conference entitled "Identifying Genes for Smoking and Nicotine Dependence: Is It Feasible and Worthwhile?" attended by 45 participants from six universities. Additionally, the 2004 UMTRN grant awardees presented at a workshop designed to highlight their progress and to afford potential 2005 applicants an opportunity to learn more about the program and ways to successfully apply for funding.

UMTRN also supported the university's principal ongoing tobacco educational activity, a graduate-level tobacco policy course with 20 students, "Tobacco: From Seedling to Social Policy," taught by the senior author. Seven UMTRN members, several unknown to the instructor prior to the formation of UMTRN, participated in the seminar.

Web site improvements

UMTRN's frequently visited web site underwent substantial updating and modernization to reflect the growing needs of the organization for communication and expertise identification, made even more necessary by the addition of 22 new members who joined the Network in 2004 and 2005, bringing the total number of members to 58. Enhancements included an interactive messaging system for members, a separate messaging system for executive committee communiqués, and improved search functions and navigational design. To create an educational resource for students and faculty around the world, we added a new page to the site that

presents information (including syllabi) on tobacco courses offered at 15 universities. Other updates to the site included extensive membership information (list of members, individual profiles of each, a subject expertise list, and application materials), a news and events column, a listing of prominent tobacco web sites listed by type (e.g., governmental agency, tobacco control organization, tobacco company), and contact information for journalists who write about tobacco (available for researchers and others seeking media outlets for their endeavors).

LESSONS LEARNED

The success of the UMTRN experience has been noteworthy. As with all innovative ventures, critical and useful lessons have been learned that may benefit other universities interested in undertaking a similar initiative. Primary among these are the needs to be flexible with available funding, persistent in the pursuit of future funding, and creative in programming in the absence of funding. Our lean times forced creative use of the then-limited resources. That experience suggests lessons worthy of communication to colleagues at other universities who might wish to develop a network of their own, but do not have access to the level of resources provided to us. First, a basic network can be developed with minimal financial resources. The essential human resources include a committed faculty member and a staff member, available at least quarter time, who possesses excellent organizational skills and strong information technology skills. Using readily available software, a basic network web site can be developed. Seminars introducing colleagues from diverse disciplines can be organized on a shoestring budget. News and information useful to the membership can be conveyed at virtually no cost via listservs or the web site. Given the demands on the time of the lead faculty member and staff assistant, fractions of their salaries must be covered, either through dedicated funding or an agreement with their superiors, to free up time to permit them to organize and run the network. The bottom line is that many elements of a successful networking of nicotine and tobacco research and education colleagues can be created with modest resources.

A second lesson learned from our experience, hardly novel to this situation, is that a network has to be diligent in seeking essential levels of funding well in advance of the immediate need to ensure continuity in operations. UMTRN's failure to generate substantial support by the time our start-up funding was consumed, our best efforts notwithstanding, led to a frustrating and

distressing cut-back in our programming. Fortunately, our persistence paid off and our "lean period" did not last long. Based on our experience, we recommend seeking support from a diverse set of institutions, including state and federal government agencies, foundations, and even individual donors. Finding core institutional support is especially challenging. We recommend that would-be networks develop project-specific proposals for potential supporters.

A third lesson relates to a network's leadership. Almost by definition, the network will rely on a single leader to "make things happen." But the diversity of issues and skills in nicotine and tobacco research is so great that no one person can hope to understand, much less represent, all of them adequately. Therefore, appointing an advisory board or executive committee broadly representative of the membership will greatly assist in developing the organization in a manner that will address the multiple and often very different interests and needs of the membership. A couple of examples from our experience clarify this point. Our genetics and smoking conference, held in June 2005, could not have happened without the leadership of a UMTRN member who possessed the requisite scientific knowledge of the issues and the individuals who would best represent them in a meeting setting. In our case, Dr. Ovide Pomerleau, a founding member of the UMTRN Executive Committee, possessed that knowledge and the motivation to organize the highly successful conference.

A second example relates to the planning and administration of our small grants program. Our scientifically diverse executive committee contains the expertise needed to evaluate nearly all the applications submitted to the program. When specialized expertise has not been represented on the committee, we have had sufficient breadth in our coverage of the various areas of work that a member has been able to identify a colleague outside the committee to assist with review.

A fourth lesson from our experience is that, from the outset, budding networks should work with both the news and development services of the lead faculty member's school or university. The news service spreads the message of the existence, purpose, and functions of the network, and the development office can assist in identifying and contacting potential funding sources.

Finally, the availability of a qualified administrative coordinator to oversee the activities of the network greatly advances the progress and successes of the program through effective development and execution of communication strategies, financial oversight, and project management. It is difficult to imagine an already-busy faculty member handling all of the

functions necessary to bring a network into existence, and then develop and manage it effectively, without effective staff assistance.

Collectively, properly applied, these lessons can greatly increase the chance of success for a vital and effective network development.

CONCLUSION

UMTRN's mission continues to focus on increasing both the quality and utility of research and education on nicotine and tobacco. Through training in both the classroom and the lab, the Network emphasizes the development of future research leaders. The successes of the Network's efforts over the past six years are impressive and diverse. UMTRN members have published scores of papers in peer-reviewed journals, as well as several books addressing a variety of tobacco and nicotine research topics. (See member profiles at http://www.umtrn.sph.umich.edu/Member_Search.php) They have served on the editorial boards of tobacco journals and as board members of tobacco control research and action organizations. UMTRN members' expertise ranges from the effects of second-hand smoke on children to genetic impacts on addiction, from legal strategies for regulating industry behavior to the impact of peer pressure on youth smoking decisions. Collectively, the UMTRN membership possesses expertise on virtually every aspect of nicotine and tobacco control. This affords a unique institutional opportunity to share insights among the membership and with the world, toward the goal of further taming the global pandemic of tobacco-produced disease.

UMTRN also has the potential to add important new contributions. The most recent example is our current effort to stimulate tobacco control course development throughout the nation and the world by identifying and posting syllabi from existing courses on the UMTRN web site, allowing potential students to identify available avenues of study as well as facilitating new course development by faculty (and enhancement of existing courses through examination of colleagues' efforts).

We are contemplating a venture to invite visiting scholars to the campus for a semester, or send UMTRN members to other campuses to facilitate research collaboration and knowledge creation. Freeing time for

junior colleagues to expand their research horizons or to prepare new tobacco-related courses, primarily through the provision of salary support, would enrich both the present and future of research and tobacco control.

The Centers for Disease Control and Prevention designated tobacco control as one of our nation's top 10 public health achievements in the 20th century.⁴ Still, smoking remains by far this nation's and increasingly the world's most important cause of avoidable disease and death.^{5,6} By its multifaceted nature—its biological and psychological origins and its political, social, and economic determinants—the tobacco problem resists resolution through conventional disciplinary science. It demands the kind of interdisciplinary research and policy involvement that UMTRN strives to foster. The growth of similar programs in other schools of public health will hasten progress in nicotine and tobacco research and education. Taming the burden of tobacco-produced disease will inevitably follow.

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