

The Landscape in Global Tobacco Control Research: A Guide to Gaining a Foothold

Smoking prevalence is shifting from more- to less-developed countries. In higher-income countries, smoking surveillance data, tailored treatments, public health campaigns, and research-based policy implementation have led to a decrease in tobacco use. In low- and middle-income countries, translating research into practice and policy is integral for tobacco control.

We describe the landscape of existing resources, both financial and structural, to support global tobacco control research and strengthen research capacity in developing countries. We identify key organizations that support international efforts, provide examples of partnerships between developed and developing countries, and make recommendations for advancing global tobacco research.

There is a need for increased commitment from organizations to support global tobacco control research. (*Am J Public Health*. 2005;95:939–945. doi:10.2105/AJPH.2004.047167)

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THE DECLINE IN SMOKING

prevalence in high-income countries is attributable to a large extent to coordinated tobacco control efforts that are research-based, involving regional and population-specific epidemiological surveillance and intervention strategies that lead to implementation of tobacco control policies.^{1–4} An important first step to cultivating region-specific research is understanding the current landscape of resources available to support and strengthen research capacity as well as opportunities to foster collaboration among tobacco control researchers when appropriate. Researchers entering the tobacco control field often confront daunting challenges in identifying potential collaborators and gaining financial support for their projects. These challenges are multiplied when they undertake tobacco control efforts in developing countries in the face of cultural, political, and economic impediments.

ORGANIZATIONS SUPPORTING GLOBAL TOBACCO CONTROL RESEARCH

The first step in facilitating international collaboration and strengthening the capacity for research is to carefully assess the current landscape: to determine what resources are now available and what can be realistically accomplished with these resources. Toward this end, a list of organi-

zations that currently support research in global tobacco control has been published in a report prepared by Research for International Tobacco Control (RITC), an international multidonor secretariat housed at the International Development Research Centre in Ottawa, Ontario.⁵ Table 1 provides a brief summary of the missions of selected agencies involved in supporting global tobacco control and tobacco control research as of 2002. The landscape in global tobacco control is ever shifting, and hence this listing is not entirely up to date. However, it does provide a starting point for tobacco control researchers and health care providers who are interested in accessing funding for international research on tobacco.

It is difficult, if not impossible, to determine the amount of money available for tobacco control research per se. Although the list in Table 1 is impressive, not all these organizations are granting agencies, and funds directly allocated to tobacco control research are limited. A review of Table 1 would suggest that this amount is surely less than \$10 million for the entire globe, and perhaps closer to \$5 million annually. Compare this expenditure with the \$12.47 billion spent by the tobacco industry in 2002 on promotion and advertising in the United States alone.⁶ Researchers in basic tobacco science may have a particularly difficult time

in securing funding given that the listed granting agencies generally emphasize applied and policy research.

Governmental and Institutional Support

The Fogarty International Center of the National Institutes of Health, with the support and collaboration of 5 institutes of the National Institutes of Health, the US Centers for Disease Control and Prevention, the Canadian Institutes of Health Research, and the World Health Organization's Tobacco Free Initiative, established the International Tobacco Health Research and Capacity Building Program.⁷

This Fogarty International Center funding program is unique in supporting both transdisciplinary research, including basic tobacco science and research involving partnerships between primarily US tobacco scientists and scientists in developing countries. Fourteen grants were awarded in response to an initial request for applications issued in 2001. The goals of the program are to reduce the burden of tobacco consumption in low- and middle-income nations by conducting observational, interventional, and policy research of local relevance and to build capacity in epidemiological and behavioral research, prevention, treatment, communications, health services, and policy research. A brief description of these 14 projects is included in Table 2.

TABLE 1— Selected Organizations Involved in Global Tobacco Control Research^a

Organization and Web Site	Annual Budget, US \$ ^b	Geographic Coverage	Mission
American Cancer Society (ACS) http://www.cancer.org	Not available	All regions, especially middle- and low-income nations	ACS has launched an international tobacco control program in collaboration with the International Union Against Cancer and other key partners. Primary goals include development of a broad-based cadre of international tobacco control leaders, advocates, and researchers; support for targeted, small research grants; and development of broad-based international nongovernmental organization tobacco control coalitions.
Campaign for Tobacco-Free Kids http://www.tobaccofreekids.org	Not applicable	United States	The campaign aims to prevent tobacco use by children and youths. Although much of its efforts have focused on the United States, the campaign supports a Global Initiatives Program.
Department for International Development (DFID) http://www.dfid.gov.uk	Not applicable	Most regions of the world; the poorest countries in Asia and sub-Saharan Africa receive the bulk of DFID funding	DFID aims to promote development and reduce poverty through its commitment to achieving international development targets. Commitment to tobacco control has been primarily through support of WHO and the Tobacco Free Initiative.
Fogarty International Center (FIC) http://www.fic.nih.gov	3.5 million	Currently funded projects cover a broad geographic distribution of low- and middle-income countries	As a branch of the National Institutes of Health, FIC promotes and supports scientific research and training. FIC emphasizes international research aimed at reducing the disparities that exist in global health. FIC provides funding through institutional training grants, cooperative agreements, small research grants, fellowships, and multilateral initiatives with international organizations.
Institute for Global Tobacco Control, Johns Hopkins Bloomberg School of Public Health http://www.jhsph.edu/IGTC	1 million	Global	The institute's mission is to prevent death and disease from tobacco use around the world through research, education, and policy development. The institute collaborates on research projects that support the development of tobacco control policy and interventions, serves as an educational resource by collecting and disseminating materials and developing and offering educational programs, and synthesizes evidence in support of stronger tobacco control measures worldwide. The Institute now hosts the Global Tobacco Control Research Network.
International Tobacco Evidence Network (ITEN), University of Illinois, Chicago http://www.tobaccoevidence.net	400 000	Southeast Asia, South Africa, Latin America and the Caribbean, central and eastern Europe	ITEN was established as the result of a partnership between the World Bank and WHO. ITEN's primary aim is to maintain a formal network of economists, epidemiologists, social scientists, and other tobacco control experts to provide rapid, policy-relevant research on country-level, regional, or international tobacco control issues.
Office on Smoking and Health, Centers for Disease Control and Prevention (OSH) http://www.cdc.gov/tobacco	2.6 million ^c	All regions, with the focus on low- and middle-income countries and countries with a population of 1 billion or more	The OSH within the Centers for Disease Control and Prevention is the lead agency within the US federal government for tobacco use prevention and control. OSH oversees the Global Tobacco Prevention and Control Program and is a World Health Organization (WHO) Collaborating Center for Global Tobacco Prevention and Control.
Open Society Institute (OSI) http://www.soros.org	300 000	Central and eastern Europe	The OSI and its network of foundations seek to build free and open societies by supporting an array of activities dealing with the strengthening of civil society, economic reform, education at all levels, human rights, legal reform and public administration, media communications, and public health.
Pan American Health Association World Health Organization (PAHO) http://www.paho.org	Not applicable	Latin American and the Caribbean	Its governing bodies have mandated PAHO to move aggressively to reduce the use of tobacco, emphasizing the health aspect and the high cost to countries of tobacco use. PAHO has supported World No Tobacco Day. It also has worked to support the FCTC and the World Bank report on curbing the tobacco epidemic. PAHO has developed a number of technical reports and other resources addressing the impact of tobacco in the region and making recommendations for tobacco control policy.
Research for International Tobacco Control (RITC) http://www.idrc.ca/ritc	400 000	Main geographic focus on Latin America and the Caribbean; West Africa, East Africa, central and southern Africa; South Asia and Southeast Asia	RITC's mission is to create a strong research, funding, and knowledge base for the development of effective tobacco control policies and programs that will minimize the threat of tobacco production and consumption to health and human development in low- and middle-income countries.

Continued

TABLE 1—Continued

Rockefeller Foundation http://www.rockfound.org	2 million	Southeast Asia (including Vietnam, Cambodia, Thailand, and Malaysia)	The aim of the Trading Tobacco for Health initiative is to support efforts to reduce the health burden of tobacco on the poor in developing countries. By building local research capacity, the initiative seeks to enable developing countries to respond to the challenge of tobacco on their own terms for the long term.
Society for Research on Nicotine and Tobacco (SRNT) http://www.srnt.org	600 000	Primarily North America, western Europe, and Australia, although membership is increasing in developing countries	SRNT's mission is to stimulate the generation of new knowledge concerning nicotine in all its manifestations—from molecular to societal. SRNT achieves this by sponsoring scientific meetings and publications fostering the exchange of information on the biological, behavioral, social, and economic effects of nicotine; by encouraging scientific research on public health efforts for the prevention and treatment of nicotine and tobacco use; and by providing the means by which various legislative, governmental, regulatory, and other public agencies and the ethical drug industry can obtain expert advice and consultation.
Swedish International Development Cooperation Agency (Sida) http://www.sida.se/Sida/jsp/Crosslink.jsp	320 000	South Africa (Women's Health Project), Brazil, Malawi, Macedonia, Turkey, China, Zimbabwe, India, Vietnam, and Nicaragua	Sida aims to raise the standard of living in the poorer countries of the world. Sida has provided support for tobacco-relevant programs and initiatives at Research for International Tobacco Control (RITC, previously known as the International Tobacco Initiative) the World Bank, and WHO. Sida is currently establishing a set of guidelines and priorities for tobacco activities.
WHO-TFI Eastern Mediterranean Regional Office http://www.emro.who.int/index.asp	150 000 ^d	East Mediterranean region	Tobacco control research priorities include surveys related to different aspects of the tobacco epidemic, economic studies, and legislation. Key initiatives have included the Global Youth Tobacco Survey, the Global Health Professional Survey, tobacco economic studies, and studies of tobacco smuggling.
WHO-TFI European Regional Office (Euro-TFI) http://www.who.dk/eprise/main/WHO/Progs/TOB/Home	250 000 ^e	Focus on central and eastern Europe and central Asia	The Euro-TFI program works to ensure that governments, international agencies, and other partners are equipped to work together to control tobacco use by building regionwide political commitment for tobacco control and the FCTC; providing international support for building national capacity for tobacco control; strengthening international coordination; and facilitating information exchange, technical cooperation, and monitoring. Euro-TFI provides technical assistance, training, and development of guidelines on surveillance, research, legislation, economics, health promotion, smoking cessation, and advocacy through public policy.
WHO-TFI Regional Office for Africa (AFRO-TFI) http://www.afro.who.int	Not applicable	Africa	AFRO-TFI notes the increasing burden of tobacco-related diseases, especially in African countries, and the fact that African countries are experiencing the highest increase in the rate of tobacco use among developing countries at 4.3% per year. AFRO-TFI promotes World No Tobacco Day. A specific theme has been tobacco-free films and tobacco-free fashion.
WHO-TFI Western Pacific Regional Office http://www.wpro.who.int/tfi	1.8 million plus 801 000 in country budget of 9 member states	Western Pacific: 36 member states and territories	The emphasis of the Regional Action Plan on Tobacco or Health 2000–2004 is the development and implementation of National Plans of Action for Tobacco Control, the support for development and adoption of the FCTC, the timely use of health promotion and advocacy initiatives, the use of mass media campaigns for quitting tobacco use, and the improvement of coordination of tobacco or health activities at the regional and national levels.
World Bank Group http://www.worldbank.org	140 000	Low- and middle-income countries in much of the world; current projects in Africa, central and eastern Europe, and Asia	Tobacco falls under the topic area of public health. The World Bank is mandated to support tobacco control research in low- and middle-income countries. The economics of tobacco is the priority of the bank's tobacco work. More specifically, research focuses on demand, taxes, smuggling, employment, and poverty. All research is expected to be policy relevant.
World Health Organization Tobacco Free Initiative (WHO-TFI) http://www.who.int/tobacco	1 million	All regions	WHO-TFI is a cabinet project of WHO. TFI's global mission is to reduce tobacco prevalence and consumption in all countries and among all groups. A major focus of TFI was the negotiation of the Framework Convention on Tobacco Control (FCTC).

^aData collected June–August, 2002. Agencies were asked to provide the “current” figures at the time of data collection.

^bBudget figures indicated are for tobacco control research and for tobacco control activities.

^cFor global work in 2001.

^dSpent last biennium on tobacco-related studies.

^eExtrabudgetary allocations range from \$150 000 to \$300 000.

TABLE 2—Fogarty International Center Tobacco Grants

No.	Principal Investigator and Affiliations	Project Description
1	David Brook, Mount Sinai School of Medicine	A collaborative epidemiological study of disease-related psychosocial determinants of tobacco use in a cohort of 700 South African adolescents from several ethnic groups and capacity-building in tobacco research in South Africa
2	Linda Ferry, Loma Linda University	A Global Tobacco Control Methods (28-unit) graduate certificate offered by Loma Linda University, Schools of Public Health and Medicine, for 16 Cambodian and Laotian health professionals who are mentored to conduct a national tobacco use prevalence study and subsequent interventions based on the prevalence data
3	Teh-Wei Hu, University of California, Berkeley	Studies of the impact of an additional tobacco tax, economic costs of smoking, and cost-effectiveness of tobacco-control interventions in China
4	Ebenezer Israel, University of Maryland School of Medicine	A project creating a new smoking prevention research institute in Egypt to establish research and research capacity-building projects to reduce tobacco use
5	Prabhat Jha, University of Toronto	The India SRS Study: a 6-year prospective study of 6 million Indians in 1 million households to document the mortality risks of smoking by age, gender, and socioeconomic group
6	Gary King, Pennsylvania State University	A study collaborating with universities in South Africa and Tanzania to investigate tobacco control among youths and to establish 2 centers of excellence, form regional networks of researchers, establish fellowships, and promote exchanges between centers of excellence
7	Harry Lando, University of Minnesota	A project building tobacco research capacity and promoting tobacco cessation in India and Indonesia
8	Deborah Ossip-Klein, University of Rochester	A program increasing tobacco awareness and cessation activities in the Dominican Republic through existing Little Intelligent Communities units that offer wireless Internet access to state-of-the-art health education, agricultural science, and global economic information
9	Eliseo Perez-Stable, University of California, San Francisco	A longitudinal school-based survey among youths aged 11 to 15 years of 2 ethnic groups (Kolla and European descent) in the province of Jujuy, Argentina, to assess the prevalence of smoking behavior, as well as the predisposing, reinforcing, and facilitating factors associated with smoking acquisition within this population
10	Cheryl Perry, University of Minnesota	A randomized multicomponent, community intervention trial in Delhi and Chennai (India) and 32 schools focused on preventing the onset and reducing the prevalence of tobacco use among adolescents in grades 6 to 9 using curricula, parent involvement, and peer leadership and activism
11	Richard Peto, Clinical Trial Service Unit in Oxford, United Kingdom	A study of death rates among approximately 2 million people in 6 large study populations in Russia, China, India, North Africa, and Central America with the goal of determining to what extent tobacco is causing deaths from particular diseases and to ensure that data from these studies are available to inform future public health strategies and other research strategies
12	Ken Resnicow, University of Michigan	A randomized trial comparing the effectiveness of 2 approaches to tobacco-use prevention in a multiethnic sample of South African youths in grades 8 to 10 and a comprehensive capacity-building initiative to enhance knowledge of tobacco control among South African educators, clinicians, researchers, and policymakers
13	Jonathon Samet, Johns Hopkins University	An intervention in China to reduce women's and children's environmental tobacco smoke exposure at home, a survey on determinants of youth smoking in Brazil, and a study of smoking-attributable deaths and diseases and the associated costs of smoking-related diseases in Mexico
14	Kenneth Ward, University of Memphis	A project establishing the Syrian Center for Tobacco Studies as a resource for tobacco-control efforts, including epidemiological study, clinical research, and prevention and cessation intervention development, and as a focal point for dissemination of information about tobacco-control efforts in the eastern Mediterranean region

Note. SRS = Sample Registration System.

Source. Adapted and updated September 2004 from Fogarty International Center.⁷

Several institutes of the National Institutes of Health have also supported global tobacco research through other initiatives. The National Cancer Institute, for example, supports the Global Tobacco Research Network.⁸ The National Institute on Drug Abuse allows grantees to apply for administrative supplements to existing grants to add components focusing on international research. The institute also supports several types of programs for international scientists in collaboration with US grantees, including the possibility of bringing researchers from developing countries to the United States for pre- and postdoctoral training. The Environmental Protection Agency supported work in China to combat environmental tobacco smoke. Health Canada and the Canadian Institutes of Health Research support global tobacco research including the Canadian Tobacco Control Research Initiative.

RITC was established in 1995 and has had multiple funding partners, including the International Development Research Centre, Health Canada, the Swedish International Development Cooperation Agency, and the Canadian International Development Agency. RITC was invited to take the lead in developing tobacco control research strategies and global partnerships that would respond to tobacco as a major threat to equitable and sustainable development.

For the past 10 years, RITC has supported tobacco control research and has worked to strengthen research capacity in low- and middle-income countries. RITC accepts investigator-initiated research proposals that are based in developing country institutions. The RITC secretariat

works closely with research proponents to refine research proposals and to provide technical support as needed. Priority is given to research that is policy relevant and multidisciplinary and includes a capacity-building component.

Private Foundations

Private foundations have provided support for tobacco control initiatives around the globe. The Trading Tobacco for Health initiative of the Rockefeller Foundation included developing a partnership between US researchers and the Thailand Health Promotion Foundation to support research capacity and skill development throughout Southeast Asia by providing seed funding to local investigators and by supporting workshops and training. The Open Society Institute focuses on central and eastern Europe, specifically former Soviet Union and satellite countries. The tobacco initiative is mandated to fund policy research in order to establish an evidence base for the development of advocacy strategies. Priorities include critical tobacco-related issues such as price policy, taxation, and smuggling.

International Organizations

The World Health Organization (WHO) and its regional offices have worked to support the Framework Convention on Tobacco Control, a momentous step for tobacco control in which nations have united around a treaty to protect public health by reducing the harmful impact of tobacco use. Countries that sign the treaty agree to design, implement, and periodically update their national tobacco control strategies and programs, including public education, product regulation, and taxation, in accor-

dance with treaty requirements. WHO also implemented the Tobacco Free Initiative, which supports communication, media, and advocacy for policy change and works with countries to strengthen national capacity for the development of sustainable tobacco control activities. WHO regional offices have varied in their emphasis on tobacco control initiatives.

The World Bank has made critical contributions to global tobacco control research, especially through its emphasis on research on the economics of tobacco. The World Bank's widely disseminated report *Curbing the Epidemic: Governments and the Economics of Tobacco Control*⁹ has become a major resource for tobacco control advocates and researchers worldwide.

CAPACITY-BUILDING ORGANIZATIONS THAT DO NOT PROVIDE RESEARCH GRANTS

The International Tobacco Evidence Network emphasizes both interdisciplinary collaboration and communication between researchers in low- and middle-income countries and international experts in tobacco control. The network conducts country-specific research; has established regional centers in South Africa, Mexico, and Poland; provides peer reviews of manuscripts submitted by researchers from developing countries; and organizes regional workshops to promote research capacity building.

The International Tobacco Evidence Network emphasizes the economic research of tobacco control-related issues and provides technical support for such research. It seeks to encourage colleagues in low- and middle-

income countries to undertake interdisciplinary analyses of tobacco consumption, providing them with both technical and strategic advice and helping them to identify research priorities. The network seeks to disseminate existing research-based knowledge and to monitor tobacco control research activities with an international aspect to identify research gaps.

The research capacity-building efforts by the network in Southeast Asia have demonstrated knowledge transfer by a series of successful grant applications from the region and by influence on formulating tobacco control policies in participating countries. One such success story is Vietnam, where analyses produced by a participant were presented at the ministerial level and were followed by the decision to increase taxes on tobacco products nationwide.

The Campaign for Tobacco-Free Kids primarily focuses on the United States and emphasizes policy and advocacy issues while providing technical assistance in these areas to both individuals and organizations. Moreover, the campaign synthesizes and disseminates the evidence-based literature to support important policy decisions. At this time, the campaign does not have a specific mandate to support international tobacco control research, but it was involved in assisting researchers from low- and middle-income countries to locate US partners to apply for funding from the Fogarty International Center. The campaign played a key role in drafting and gathering support for a concept statement identifying tobacco control research as a priority area for the Gates Foundation's "grand challenges" in global medical research. The campaign

was also a major supporter of the Framework Convention on Tobacco Control treaty described previously, through its work with the Framework Convention Alliance, an international network of tobacco control nongovernmental organizations.

The Society for Research on Nicotine and Tobacco, more than any other single organization, has emphasized nicotine and tobacco research. One of its key missions is to stimulate the generation of new knowledge concerning nicotine in all areas, from molecular to societal. However, SRNT's membership and focus have been primarily on a relatively few high-income regions, namely, North America, Europe, and Australia, with only 15% of its membership from outside North America. More recently, SRNT has sought to expand its work and membership into other regions. The 2003 annual meeting included a preconference meeting led by H. A. L. that included scientists from North America and abroad reporting on progress made in international collaborative efforts in terms of country-specific research and on strengthening research capacity in developing countries.

The 2005 SRNT scientific meeting will be held in Prague; this is the first time the annual meeting will take place outside North America. SRNT is continuing to promote membership of international researchers, especially from developing countries, by waiving conference registration fees, sponsoring travel to conferences, offering a limited number of free memberships, and sponsoring receptions and scientific sessions at international conferences.

The Institute for Global Tobacco Control at the Johns Hop-

kins Bloomberg School of Public Health is another important resource that is helping to broaden and expand global tobacco control research. The institute has been a major source of training and technical assistance and has conducted survey research and convened a number of conferences and workshops focused on global tobacco control work. The institute, through funding from the Rockefeller Foundation, has been able to support a number of small seed projects, primarily in Southeast Asian countries, and is conducting research and infrastructure development in Mexico, Brazil, and China as part of its Fogarty Initiative.

The Global Tobacco Research Network, which is supported by funding from the National Cancer Institute, is now housed under the umbrella of the Institute for Global Tobacco Control. Stillman and colleagues describe the network in greater detail in this issue.⁸

GLOBALink is another critical resource that has unique potential for linking researchers and advocates internationally and for disseminating information on tobacco control. Since 1993, GLOBALink has been bringing together tobacco control professionals around the world with a view to providing them with the opportunity to network, exchange ideas, and share information. With a membership of more than 4000 tobacco control advocates, GLOBALink is a recognized catalyst for dialogue and collective action.

EXAMPLES OF SUCCESSFUL RESEARCH CAPACITY BUILDING

A few thousand dollars in developing countries can support

substantial research projects that may include collection of extensive survey data, moderate-sized randomized clinical trials, and stipends for investigators. H. A. L., for example, has worked with a student to conduct a comparative assessment of Chinese and US college student attitudes and behaviors relevant to tobacco and alcohol. This work was funded by a \$2500 graduate research award.¹⁰ RITC has supported similar efforts with relatively modest funding. For example, RITC supported the fieldwork of master's and doctoral degree students from low-income countries such as Nepal and Turkey for less than Can\$5000 each. RITC has funded small grant competitions in the southern Africa region and the Middle East for as little as Can\$20 000. Researchers in South Africa contributed to the evidence base that spawned that country's tobacco control legislation. The resulting tobacco tax increases led to a decrease in smoking prevalence in South Africa. Most recently, RITC partnered with the Canadian Tobacco Control Research Initiative and the American Cancer Society on a research competition for small grants to support ratification, implementation, or enforcement of the Framework Convention on Tobacco Control.

RITC also promotes dissemination of research results, particularly to policymakers. A recent publication with the World Bank, *Tobacco Control Policy: Strategies, Successes and Setbacks*,¹¹ tells the stories of tobacco control policymaking in 6 diverse countries and demonstrates the varied and important roles played by activists, health practitioners, policymakers, researchers, non-

governmental organizations, politicians, and the press.

Training international tobacco researchers is a critical step to ensure international collaboration and solid science. Kassel and Ross consider training issues in an accompanying commentary in this issue.¹²

DISCUSSION: RECOMMENDATIONS FOR GAINING A Foothold

The global tobacco epidemic continues to grow and spread to less developed countries that do not have the resources or infrastructure for tobacco control. Partnerships between the research community and those who apply research findings (practitioners, advocates, and representatives of both non-governmental organizations and governmental organizations) are essential for success. These partnerships can mobilize financial resources and can facilitate knowledge transfer both to policymakers who need an evidence base on which to build policy recommendations and to the general public to increase awareness of the consequences of tobacco use.

Financial Resources

Tobacco control researchers and advocates should encourage the organizations listed in Table 1 to increase their financial commitments to tobacco control, as well as target other organizations to add tobacco control to their portfolio.

The United Nations Children's Fund (UNICEF) has focused primarily on children's health globally and is thus well positioned to support global tobacco prevention efforts. Although UNICEF has indicated interest in tobacco

control issues, it has not yet made a major financial commitment to tobacco control efforts directed at children. Development agencies, most notably the US Agency for International Development, could also increase attention to economic threats posed to poorer countries by tobacco production and consumption and could provide dramatically greater financial support for initiatives to reduce tobacco's adverse impact on health and society. Perhaps in the future, the Gates Foundation can be persuaded to recognize tobacco control research as a grand challenge in global health, especially given its partnership with the National Institutes of Health. In the Ottawa Declaration on Tobacco and Sustainable Development¹³ resulting from the November 2002 RITC-hosted meeting, *Bridging the Research Gaps in Global Tobacco Control*,⁵ participants called on the development community to recognize the enormous threat to human life and health and, more broadly, to sustainable development and poverty reduction posed by tobacco use.

A key question is whether a sufficiently compelling case can be made to governments to devote tobacco tax monies to tobacco control efforts, including research. Thailand, for example, increased taxes on tobacco products, and the resulting revenues have been used to fund a comprehensive tobacco control program.¹¹ The message should be clearly communicated that research can help to inform and drive policy and that locally relevant research can be especially important in this regard (see Warner¹⁴ in this issue). In Taiwan, for example, researchers estimate that tobacco-related dis-

ease is costing the government \$571 million per year, with 20% of illnesses and deaths directly related to tobacco smoking. Nearly 48% of Taiwanese men smoke, compared with 5.1% of women, although the percentage of adolescent girls who smoke is on the rise.¹⁵ Fortunately, Taiwanese officials have taken notice of these alarming data and, as a result, have passed various tobacco acts and Department of Health initiatives to promote tobacco control.¹⁶

International Linkages

Home to active and aggressive multinational tobacco industries, wealthier countries would appear to have an obligation to poorer regions of the world increasingly being targeted for tobacco sales. These developed countries also should be encouraged to build linkages with governing health organizations of less developed countries, working with them on ways to provide funding and resources to local tobacco control researchers and advocates. The May 2003 approval of the Framework Convention on Tobacco Control is an important first step in this direction.¹⁷

We hope that tobacco research will be viewed in developing countries as a worthwhile endeavor and that those individuals who engage in such research will have opportunities for appropriate academic and research appointments and professional advancement. Organizations such as SRNT can play a critical role in bringing together diverse constituencies of researchers, practitioners, and advocates to identify common interests. Currently there may be little contact among professionals concerned with tobacco control even when they are operating in close physi-

cal proximity. Establishing closer linkages is especially important in developing countries where the tobacco control infrastructure may be extremely limited.

CONCLUSION

In less developed countries, even relatively modest financial resources can be parlayed into large tobacco control initiatives that have the potential to save millions of lives around the globe. It is our hope that the landscape for global tobacco control will improve dramatically in the future and that far more coordinated efforts, additional resources, enhanced infrastructure, and a substantially increased cadre of researchers across disciplines will focus on confronting the rising tobacco epidemic. The Framework Convention on Tobacco Control treaty is a momentous step that, among other things, legitimizes tobacco control efforts, enabling tobacco researchers to use the treaty as leverage for motivating their own countries to shift priorities and support tobacco control research and policy. The potential for success is great; the consequences of failure to act are literally millions of preventable deaths around the world, primarily in developing countries. ■

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