

# CDC Global Health *E-Brief*

## Confronting Chronic Diseases & Conditions Globally

Fourth Quarter 2007

**WELCOME** to the fourth quarter global health E-Brief, designed to inform readers about key global health activities at the CDC (Centers for Disease Control and Prevention). Our final issue for 2007 spotlights global chronic diseases and health conditions—the greatest drivers of rising health care costs around the world. Currently, they are the major cause of death among adults in almost all countries, and by 2020 are expected to account for 73% of all deaths. CDC and its partners are committed to addressing this growing burden by building a global workforce capacity in health promotion, chronic disease prevention and control, and sustainable public health infrastructures. ✧

### Chronic Disease in Jordan

The Field Epidemiology Training Program (FETP) is one of CDC's most widely disseminated global health capacity building programs. Established in 1980, and modeled after CDC's world renowned Epidemic Intelligence Service, the FETP helps foreign countries develop and implement dynamic, public health strategies to improve and strengthen their public health systems and infrastructures, predominantly through the training of epidemiologists.

To date, the FETP has primarily focused on infectious disease surveillance, epidemiology, and control, but the program is designed to be flexible and to respond to changing public health priorities. As a result, a number of countries are beginning to address the burden of chronic disease, a rising problem in the developing world, through their FETPs.

Taking the critical first step in better understanding the causes of – and finding ways to prevent and control – these diseases, the Ministry of Health in Jordan and the FETP worked with subject matter experts from CDC to develop the first Behavioral Risk Factor Surveillance System (BRFSS) in the Middle East. The survey, which has

been in operation since 2002, now covers topics on hypertension, diabetes, cholesterol, obesity, smoking, physical activity, diet, healthy behaviors, oral health, injuries, nutrition, women's health, use of medical services, and hospitalization.

FETP in-country residents, or trainees, play major roles in planning and conducting the survey and analyzing the data. Using the results of these surveys

from over a period of 5 years, in combination with mortality statistics, hospital discharge surveys, and other periodic surveys - the MOH, with input from CDC, intends to develop effective control and promotion strategies for chronic diseases.

**Survey data confirmed the need for chronic disease prevention and control programs, and as a result, Jordan increased its funding commitment for chronic disease, creating a line item in its budget to conduct the BRFSS survey on a biannual basis, and allocating 2.5 million dollars for the design and implementation of non-communicable disease prevention programs.**

Other countries in the Middle East, such as Egypt and Lebanon, used the tools developed in Jordan, such as the questionnaire, to conduct similar surveys. ✧



Jordan's FETP targets its chronic disease burden

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## Zambia's Cervical Cancer Screening Program

One of the key lessons learned from the United States' efforts to improve global health is that many of the countries we assist provide opportunities for innovative approaches to the growing problem of chronic disease in less economically developed settings.

CDC's ability to offer innovative public health solutions in challenging global settings was utilized recently in Zambia, where life expectancy has dropped from 50 years of age in 1970 to 38 years of age in 2007, and two thirds of the population lives on less than \$1 per day. In May, a team from CDC's National Center for Chronic Disease Prevention and Health Promotion visited Zambia's Center for Infectious Disease Research's (CIDRZ) Cervical Cancer See and Treat program in Lusaka.

CDC has begun to work hand in hand with this program, which is partially funded by CDC through the President's Emergency Plan for AIDS Relief (PEPFAR). CDC plans to further See and Treat's impact through technical and financial support to reduce the high incidence and mortality rates of cervical cancer in Zambia.

CIDRZ initiated a cervical cancer prevention intervention that targets both HIV-positive and non-HIV-infected female patients. Though HIV positive women live longer thanks to improved access to care and treatment programs targeting HIV/AIDS, they continue to develop and die from serious chronic diseases - such as cervical cancer. Cervical Cancer rates have declined during the past decades for most of the developed world, but are increasing or unchanged, for women in Eastern Africa, Zambia and Swaziland. In these countries, the incidence of cervical cancer is up to ten times higher than in other parts of the developing world.

The See and Treat Program is an outstanding example of CDC's commitment to comprehensive, cross-cutting global health issues and strategies, particularly the rising incidence of non-communicable disease in less economically developed countries. Based at the anti-retroviral clinics in Lusaka, Zambia, and spear-



headed by Dr. Groesbeck Parham from the University of Alabama-Birmingham School of Medicine, and Dr. Mulindi Mwanahamuntu from the University Teaching Hospital in Zambia, the See and Treat program is a low-cost, innovative approach to detecting cervical cancer. The protocol begins with visual inspections by trained nurses. If abnormal cells are found, the nurse provides basic treatment and digital images, or makes a referral for further histologic evaluation by Drs. Parham or Mwanahamuntu.

The See and Treat program, is the first free, public health-based cervical cancer prevention program in Zambia. Since its beginning in November 2005, more than 10,000 women have been screened, 13 nurse-midwives and 3 gynecologists have been trained, nine cervical cancer prevention clinics have been developed, and one cervical cancer peer educator for each clinic has been trained and hired.

CDC's collaboration with CIDRZ will enhance the See and Treat clinical program in Zambia through the development of a Management Information System to track the disease burden; human papillomavirus (HPV) vaccine research; digital pathology/consultation; and HPV laboratory capacity and evaluation. Plans are also underway to develop and implement an arrangement to sustain this activity in Zambia through a student and professional exchange program with U.S. medical and graduate schools, a Health Promotion/Health Education program, cervical cancer nurse certification, peer educator training, and a micro-credit lending program.

Through its careful approach to addressing one chronic disease-cervical cancer- the See and Treat screening program is a model for other countries. It creates needed community infrastructure for chronic disease prevention and enhances opportunities for on-going professional development. **This program leverages CDC's technical and scientific assets and shows that partnership is essential to solving global public health disease problems, particularly the rising burden of chronic disease in developing countries.** ✧

The CDC Global Health E-Brief is produced quarterly by the Centers for Disease Control and Prevention's (CDC) Coordinating Office for Global Health (COGH). To find out more about CDC and COGH, go to [www.cdc.gov](http://www.cdc.gov) and [www.cdc.gov/cogh](http://www.cdc.gov/cogh). If you have questions or comments relating to the E-Brief, please contact Dana Pitts at [GQ01@CDC.GOV](mailto:GQ01@CDC.GOV).





**positive influences on physical activity and quality of life could be traced to these significant policy and environmental changes in the City of Bogotá.** Further investigation into whether such policy changes and their resulting impact would be possible in other communities and other cultures is recommended. ✧



*Ciclovía / Recreovía:* During all Sundays and Holidays, 128 kilometers of the city's main streets are exclusively open to recreational and sports activities, from 7 a.m. to 2 p.m. . In addition professionally led aerobics classes, are provided in 19 different points of the city

### **TOBACCO Control—A Global Health Priority**

Each year, nearly 5 million people worldwide—14,000 people every day—are killed by tobacco-related diseases. Tobacco use accounts for more than 1 in 10 adult deaths and unless urgent action is taken, will kill 1 billion people in this century. One of the greatest challenges in determining the extent of the problem and in developing effective tobacco prevention and control programs, is the lack of data on global tobacco use behavior.

To bridge this data gap, beginning in 1999 the World Health Organization (WHO), CDC, and the Canadian Public Health Association partnered to create and implement the Global Tobacco Surveillance System (GTSS). CDC's Office on Smoking and Health (OSH) provides leadership and technical assistance to countries by providing instruments by which countries can collect this critical data and translate it into public health action. To date, CDC has supported the completion of the Global Youth Tobacco Survey (GYTS) in 140 countries, with repeat surveys in 60 countries; the Global School Personnel Survey (GSPS) in 62 countries; and the Global Health Professional Students Survey (GHPSS) in 36 countries - resulting in the world's largest body of comparable data for youth and adult tobacco use.

In January 2007 the Bloomberg Family Foundation contributed \$125 million to launch the Bloomberg Global Initiative to Reduce Tobacco Use. A significant portion of these resources has been used to help fill the data gap for adult tobacco

use building on and mirroring the now successful youth tobacco surveys and to optimize the reach and results of the ongoing GTSS. This initiative provides resources to the CDC Foundation to partner with CDC and other global partners to expand the existing GTSS through measurement of adult tobacco use in 15 low- and middle-income countries. These countries are home to more than half of the world's smokers—Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Pakistan, Philippines, Poland, the Russian Federation, Thailand, Turkey, Ukraine, and Vietnam—and bear the highest burden of tobacco use. The initiative made possible the development of a standard Global Adult Tobacco Survey (GATS). A survey questionnaire was pilot tested in India and the Philippines and protocol manuals have been completed.

Other partners in The Bloomberg Global Initiative to Reduce Tobacco Use include the WHO, the Campaign for Tobacco-Free Kids, the Johns Hopkins Bloomberg School of Public Health, and the World Lung Foundation. These critical partners are developing and implementing data driven key interventions that focus on establishing smoke-free regulations, taxing tobacco to increase price and prevent smuggling, countering the marketing efforts of the tobacco industry, encouraging community efforts to change social norms regarding tobacco use, and helping smokers quit.

Using analyses derived from the compilation of these global tobacco surveys, the GTSS now provides the data needed for countries to effectively design, implement, and evaluate their own national comprehensive tobacco action plans, as well as to monitor the key articles of the WHO's 2003 Framework Convention on Tobacco Control (FCTC). **In less than a decade, the GTSS has evolved into a leading public health surveillance system providing data on a variety of indicators important for tobacco control. The GTSS is the most comprehensive tobacco surveillance system ever developed and implemented on a global scale.** ✧



## The Americas Silicosis Initiative

When Chilean artisans worked in the past, they used hand tools to artfully shape and cut stone. Today, craftsman working in small open-air settings with two to four workers, use power tools for the same tasks. While efficient, these contemporary tools pose a major health risk by generating dust with high levels of airborne crystalline silica. When workers breathe in this dust, it can result in silicosis, a serious but preventable lung disease. Occupational exposure to crystalline silica inhaled in the lungs is also associated with lung cancer, pulmonary tuberculosis and airway diseases, and may be related to the development of autoimmune disorders, chronic renal disease, and other adverse health effects.

Concerned about these threats, the Chilean National Institute for Public Health (ISP) invited three industrial hygienists from CDC's National Institute for Occupational Safety and Health (NIOSH) to examine high-risk work conditions among ornamental stone carvers in Pelequén, Chile. A NIOSH industrial hygienist said "the silica dust levels were some of the highest I've seen anywhere in the world – and there were no controls to prevent silicosis." NIOSH plans to assist ISP in implementing interventions to introduce dust control measures in these small shops. NIOSH has expertise in all aspects of silica measurement, including control of exposure, diagnosis, treatment and medical surveillance of silica-related diseases. This expertise is sought by international and national organizations to address the problems in developed and developing countries, where occupational silicosis is believed to be widespread.

For many exposed workers, prevention measures are non-existent. China recorded more than 500,000 cases of silicosis from 1991- 1995. In Brazil, more than 4,500 workers with silicosis have been cumulatively reported in the state of Minas Gerais. In India alone, millions of workers are at risk. In 1995, the World Health Organization (WHO) and the International Labour Organization (ILO) began a campaign to eliminate silicosis from the world by 2030. In 2005, WHO and its regional office, the Pan American Health Organization (PAHO), ILO, and the Chilean Health Ministry (MOH) requested that NIOSH provide technical assistance to build adequate capacity to eliminate silicosis in the Americas. In response to this request, NIOSH initiated a program called the "Americas Silicosis Initiative" in partnership with WHO, PAHO, and ILO. It is the first regional approach to silicosis and is based upon the sharing of expertise to benefit many countries. Substantial work was accomplished in Chile in 2006 and is underway in 2007 in Chile, Brazil, and Peru, including:

- Training of physicians from Chile, Brazil, and Peru by US, Chilean and Brazilian experts
- Development of a silica laboratory at the ISP in Santiago (including training for laboratory technicians from Chile, Brazil, Peru and Uruguay)
- Training of workshop participants from Chile, Peru, Brazil and Uruguay in methods of dust control

- Development of simple guidance for employers to put controls in place
- Provision of field visits to small quarries and stone crushing and stone craft worksites to develop customized guidance sheets

The impact of NIOSH's technical assistance was seen in July 2007, when Chilean Ministries of Health and Labor jointly hosted representatives of the Ministries of Brazil, Argentina, Uruguay, Mexico and Peru for a regional planning meeting that brought these countries into the Americas' partnership.

The Americas Silicosis Initiative includes a cost-effective, novel educational approach called "Control Banding" to control exposures to the hazardous crystalline silica dust. NIOSH's technical assistance to partners in Brazil, Chile, and Peru enables these countries to develop their own capacity to implement National Plans to eliminate silicosis. This partnership is a model for other countries and is helping to meet the ILO/WHO goal to eliminate silicosis by 2030.

Global collaboration in silicosis benefits NIOSH in its effort to reach small business in the United States though experience and lessons learned in applying simple guidance to control silica exposures in small enterprises with partner countries in the Americas. At least 1.7 million United States' workers are potentially exposed to respirable crystalline silica in a variety of industries and occupations, including mining and construction, and many are exposed to concentrations that exceed limits defined by current regulations and standards. OSHA is currently working on new regulations and NIOSH is developing new forms of simple guidance for employers and workers.

In October, a NIOSH technical expert visited Chile to present the United States' experience in controlling silicosis with the use of respirators in the workplace at the "Breathe Safely" seminar. He met with the Chilean ISP on silica control topics related to respiratory protection, and proposed a joint project on developing respiratory protection programs for small and medium business enterprises. **Prevention activities with the cooperation of government, labor, and industry are ongoing, and are the keys to silicosis elimination.** ✧

