SAMHSA Offers Ways to Help Children After Disasters

The reactions of children throughout the United States to the 1995 bombing of the Federal building in Oklahoma City underscored the fact that their mental and emotional concerns need to be addressed on an ongoing basis after all national disasters.

Brian W. Flynn, EdD, of the Public Health Service's Substance Abuse and Mental Health Services Administration (SAMHSA), who has worked in the disaster relief field for 17 years, says there are ways to reassure children—both those directly affected by the disaster and others throughout the country.

Dr. Flynn, who currently serves as Chief of the Emergency Services and Disaster Relief Branch within SAMHSA's Center for Mental Health Services, points out that SAMHSA has available printed material and videotapes that would be helpful to adults counseling disaster-affected children.

He cited the following examples of tips for dealing with children not directly affected:

- Encourage children to talk about what they are seeing on television and to ask questions.
- Don't be afraid to admit inability to answer all their questions.
- Answer questions at a level the child can understand.
- Provide ongoing opportunities for children to talk.
- They will probably have more questions as time goes on.
- Use this as an opportunity to establish a family emergency plan. Feeling that there is something you can do can be very comforting to both children and adults.
- This experience may provide an opportunity for children to discuss other fears and concerns about unrelated issues. This is a good opportunity to explore these issues also.
- Monitor children's television watching. Some parents may wish to limit their child's exposure to graphic or troubling scenes. To the extent possible, watch reports of the disaster with children. It is at these times that questions might arise.
- Help children understand that there are no bad emotions and that a wide range of reactions is normal. It is important to encourage children to express their feelings to adults (including teachers and parents) who can help them understand their sometimes strong and troubling emotions.
- Try not to focus on blame.
- In addition to the tragic things they see, help children identify good things, such as heroic actions, families who are grateful for being reunited, and the assistance offered by people throughout the country and the world.

For children closer to the disaster scene, more active interventions may be required. Dr. Flynn, who worked in the Oklahoma City recovery effort, brought back several letters out of the hundreds written by Oklahoma school children to the rescue workers.

"The letters show that almost all of the children knew someone—either a family member or a friend—injured or lost in the disaster. The letters also show their frustration at not being able to participate directly in the rescue work.

"For example, one child wrote, 'I would be right there by your side but I can't and I'm really sorry. I hope we have given all of you enough stuff to eat and everything.'"

The letters display a certain degree of magical thinking as well, which, Dr. Flynn says, is normal in young children. Another child wrote, "My mom...was in the elevator when it happened. If anything had happened to her, I would never go back to school because I would think it was my fault."

In helping children recover emotionally from disasters, Dr. Flynn recommends that the family as a unit be considered in the counseling and healing process. Disasters often reawaken a child's fear of loss of parents (frequently their greatest fear) at a time when parents may be preoccupied with their own practical and emotional difficulties. The separation anxiety experienced by children may cause them to regress to earlier behaviors such as clinging, thumb-sucking, bed-wetting, and unwillingness to go to sleep at night.

Parents are often uncertain about tolerating such behavior. "They need to be reassured that their children are behaving normally in response to an abnormal situation," says Dr. Flynn.

He recommends that families permit temporary regressive behavior, such as allowing children to sleep in the parents' bedroom for a pre-established time period so that they can feel secure again. There are several ways to help children separate gradually after the agreed-upon time limit—spending extra time with parents immediately before bedtime, leaving the child's bedroom door slightly ajar, and using a nightlight.

Many parents have their own fears of leaving a child alone after a disaster or other fears they may be unable to acknowledge. Parents often are able to seek help on the children's behalf more easily and may, in fact, use the children's problems as a way of asking for help for themselves and other family members. This implicit request should be respected and not confronted.

Parents can also help by encouraging children to paint, draw, and play with dolls or other toys, in order to act out their experiences and feelings without directly verbalizing their emotions—something most young children cannot do. Spending time playing with their children enables parents and children to re-attach to each other and calms anxieties on both sides.

Teachers also can help children with similar art and play activities and by encouraging group discussions in the classroom and informational presentations about the disaster. For example, presentations on the formation of tornadoes or hurricanes and the steps people can take to protect their property and lives give children a sense of mastery and control.

Free copies of the following SAMHSA items for adults seeking to help children may be obtained from National Mental Health Services Knowledge Exchange Network, P.O. Box 42490, Washington, DC 20015; tel. 1-800-789-2647; TTY 301-443-9006; National Mental Health Services Bulletin Board 1-800-790-2647:

ADM 86-1070 Manual for Child Health Workers in Major Disasters.

SMA 95-3022 Psychosocial Issues for Children and Families in Disasters: A Guide for the Primary Care Physician.

00-0003 Children and Trauma (videotape).

—DEBORAH GOODMAN, Writer-Editor, Substance Abuse and Mental Health Services Administration.

HRSA Report Shows Primary Care Shortage Continues

A report by the Health Resources and Services Administration (HRSA) of the Public Health Service says the United States is faced with an ongoing shortage of primary care providers—those most needed by the nation's increasingly cost-conscious health care system—in both rural and urban areas.

The biennial report, "Health Personnel in the United States 1993: Ninth Report to Congress 1993," says that about only one in three physicians is trained in general practice, the field of medicine that focuses on prevention and is the key to the managed care approach for holding down health care costs.

"This report is clearly in line with a report issued this year by the Council on Graduate Medical Education that stresses the need to increase the number of generalist physicians," said HRSA Administrator Ciro V. Sumaya, MD, MPTHTM. "At a time when managed care is fast becoming the dominant form of health insurance and the number of uninsured Americans continues to grow, we need primary care providers more than ever."

Dr. Sumaya added that market forces alone won't be sufficient to move the health care workforce in the direction it needs to go.

"HRSA's greatest challenge," he said, "will be to expand our primary care development programs. We must continue to support Federal scholarship, loan and service programs for students and assist health professions schools in expanding their primary care training programs."

(Since 1993, controversy has arisen over whether or not there is in fact a shortage of primary care providers or whether there is simply an oversupply of specialists.)

The HRSA 1993 report also found that

- Rapid overall growth in virtually all health care disciplines has not created a dramatic increase in primary care providers—generalist physicians, nurse practitioners, certified nurse-midwives, and physician assistants—needed to meet anticipated demand.
- Primary care providers are more likely than medical specialists to practice in rural communities and inner cities, where general medical care is in short supply.
- Changes in health care financing are shaping service delivery patterns and dictating the skills needed by health care professionals in all disciplines, but the provider supply is not keeping pace in all cases with the shifting demand.
- Although women, including minority women, have made considerable inroads into male-dominated health professions, African Americans and Hispanic Americans are sharply underrepresented in all health care professions. This is of special concern in light of the rapid growth of the minority population and its already limited access to care.
- The ability of nurse practitioners, certified nurse-midwives, and physician assistants to provide needed cost-conscious primary care is ham-

pered by restrictive State scope-of-practice regulations and reimbursement policies.
- Although the nurse shortage has abated, almost two-thirds of new nurse graduates have only associate degrees, while the trend toward ambulatory care and community nursing is increasing the demand for nurses with the broad-based training in a bachelor's or master's degree program.
- The spread of HIV-AIDS and the threat of drug-resistant tuberculosis continue to raise the demand for health professionals in all fields, especially those with special training in caring for vulnerable populations.
- The aging of the U.S. population and the increasing use of life-saving technology are expected to increase the demand for health care professionals to provide long-term care and rehabilitative services.

"Electronic House Calls: 21st Century Options" Predicts Home Care

The book by Mary Gardiner Jones presents the first comprehensive examination of the health care services that can be delivered directly to consumers in their homes through telecommunications.

It describes how home bound patients, using the national information superhighway and related technologies, will be able to access almost every health care service—information, consultation, treatment, and support—electronically in their own homes using a TV-like monitor as easy to use as a telephone but with the power of a home computer.

For providers, the inefficiency of making house calls, the difficulties of coordinating members of a home health care team and the high costs of training and supervising home health aides and workers can now be overcome through using high speed networks linking their offices to their patients' homes.

The report also analyzes the economics of bringing this technology to the home and discusses the legal and policy barriers that must be surmounted in order to implement this cost effective delivery of health care to patients and families.

Ms. Jones is an attorney and former Federal Trade Commissioner, a consumer specialist and founder of the Consumer Interest Research Institute, a nonprofit organization specializing in enhancing consumers' ability to make effective use of emerging technologies for communication and information access.

Information about the book can be obtained from Consumer Interest Research Institute, Washington, DC, tel. 202-333-6035.

COGME Report Calls for Better Training, Opportunities for Women

The projected eight-fold increase between 1970 and 2010 in the number of women entering the medical profession will increasingly affect all aspects of medical education, research, and practice, according to the Council on Graduate Medical Education's (COGME) "Fifth Report: Women and Medicine."

The report, released by the organization supported by the Health Resources and Services Administration of the Public Health Service, focuses attention on women physicians and on gaps in medical education and practice in women's health.

"A major advantage of this report is that it deals with two important and interrelated topics of concern to women—the training of women physicians and the training of all physicians in women's health," said Modena Wilson, MD, who chaired the COGME Women and Medicine work group.

Part I of the Fifth Report describes demographic and disease trends that affect the health status of women. COGME notes that all physicians should have a broad understanding of issues relating to women's health and that physicians who deliver care to women should be trained to do so in a sensitive, competent, and comprehensive manner.

COGME makes a number of recommendations intended to redress current inadequacies in physician education in women's health and fragmentation in the delivery of health care to women.

In Part II of the Fifth Report, COGME explores the impact of gender bias toward women physicians.

"Women once had a hard time getting into medical school," said Dr. Wilson. "Now nearly half of all medical students are women, but they still face significant barriers. This report identifies changes that must occur for women to reach their full potential within the profession."

The report notes that many women physicians offer practice styles that may result in increased patient communication and satisfaction. Women are more likely to enter medical school for altruistic reasons over financial gain. Furthermore, studies indicate that the sex and age of the physician influence the care provided to women.

Among its 31 recommendations, COGME suggests how efforts can be applied throughout medical education, government, and the community to improve women's health and to encourage career opportunities for women physicians.

Among the recommendations

- Medical school curriculums should recognize how changes in national population demographics affect health delivery.
- Physicians serving as primary care providers for women should have full understanding of and competency in women's health.
- Medical education should prepare physicians to recognize how women access medical care, their roles in society, their communication methods, and their relationship to the medical system.
- There should be expanded opportunities for women in basic and clinical medical research.
- Optional career paths should be available for men and women who have child-rearing responsibilities.
- Medical schools, academic health centers, and programs should ensure accountability to principles of equal opportunity, compensation, and advancement for women.

Copies of the Fifth Report may be obtained from Debbie Jackson, 301-443-6326.

WHO Task Force Answers Questions on Oral Contraceptive Use

A study by the World Health Organization (WHO) has provided information on combined oral contraceptives that contain an estrogen and a progestogen and the risk of venous thromboembolism. The overall risk was found in the WHO study to be in the lower range of that reported in previous studies.

An unexpected result from the latest study was that users of low-estrogen dose (less than 50 micrograms) oral contraceptives containing the progestogens desogestrel or gestodene appeared to be at approximately twice the risk of venous thromboembolism, compared with users of low-estrogen dose oral contraceptives containing the newer progestogens, levonorgestrel or norethindrone. Further studies are needed to confirm the results.

Combined oral contraceptives were first introduced about 35 years ago. Shortly after their introduction, case reports in medical journals suggested that women using them might be at increased risk of ischemic stroke and venous thromboembolic disease. These findings were later confirmed by epidemiologic studies carried out in the 1960s and 1970s.

These early epidemiologic studies also showed that women using combined oral contraceptives were at increased risk of acute myocardial infarction and hemorrhagic stroke and that this risk increases if the woman smokes or has high blood pressure.

Over the years, there have been large reductions in the dosages of hormones in combined oral contraceptives. Most current brands contain less than 50 micrograms of estrogen, while in the early and mid-1960s they contained 75–100 micrograms or more.

The UNDP/UNFPA/WHO/World Bank Special Program of Research, Development, and Research Training in Human Reproduction (HRP) conducted the large epidemiologic study to gain more worldwide information on the risk of cardiovascular disease and use of hormonal contraceptives. The study was coordinated at the University College, London Medical School, London, UK.

The information from the WHO study was reviewed by the Steering Committee of the HRP Task Force for Epidemiological Research in Reproductive Health.

The Steering Committee drew attention to the fact that the possibility that these results are due to chance or bias cannot be excluded entirely and the results should be confirmed by further studies.

The Committee recommended that all relevant information should be evaluated as soon as possible to obtain a comprehensive picture of the cardiovascular effects of different oral contraceptive formulations. The Committee also stressed that health professionals and users of the pill should be provided with information on the possibility of increased risk of thromboembolic events brought about by the use of oral contraceptives containing desogestrel or gestodene.

NLM Establishes New Data Base: SPACELINE

How long can humans survive in space? How can we counteract the effects of weightlessness, cosmic radiation, and other characteristics of the space environment? Can we grow plants in space to provide food for long-term habitation? What useful clinical applications come from space research?

Searching for information on these topics may now be done through SPACELINE™—a cooperative venture of the National Library of Medicine (NLM) and the National Aeronautics and Space Administration (NASA).

SPACELINE consolidates the results of a growing body of space life sciences research into a single, easily accessible resource. Its intended audience is the space life sciences community; the medical, scientific, and scholarly communities worldwide with an interest in the field; and the general public.

SPACELINE consists of references to journal articles, technical reports, books, book chapters, conference proceedings, meeting abstracts, bibliographies, and audiovisual materials. Sources consist of all references in scope from several NLM data bases, including MEDLINE® journal article

references from 1966 and thousands of citations from 1961 to the present contributed by NASA.

The data base covers

- clinical medical support to humans in space;
- physiology, metabolism, and growth and development of the cells, organs, and systems of humans, animals, and plants as they are affected by the space environment;
- environmental protection and life support for humans in space;
- psychological, behavioral, and human factors involved in living in the space environment; and
- applications of space life sciences research to the improvement of life on earth.

A SPACELINE office has been established for NASA at the Uniformed Services University of the Health Sciences in Bethesda, MD. Questions concerning SPACELINE's coverage should be directed to SPACELINE, Department of Physiology, USUHS, 4301 Jones Bridge Rd., Bethesda, MD 20814-4799; tel. 301-295-2482; e-mail: SPACELINE@usuhsb.usuhs. mil.

Online access to SPACELINE is available to anyone holding a valid NLM user code. The cost for an average search is about $1.50. Information about how to gain access to the Library's online network is available from the NLM Public Information Office (e-mail: <publicinfo@nlm.nih.gov>).

Videoconferences Slated on Social Workers and Violence

A national campus teach-in will explore the global causes of and solutions to violence in two live interactive videoconferences hosted by noted broadcast journalist Charles Kuralt at 1 p.m. Eastern Time on February 6 and 9, 1996.

How the United States is connected to the rest of the world in such areas as unemployment and jobs, immigration and ethnic conflict, and the drug trade will be explored. Although aimed at social workers, the events are open and the public is invited to participate.

The videoconferences, entitled "Social Workers and the Challenge of Violence Worldwide," will take place over two days—Tuesday, February 6, and Friday, February 9. Both videoconferences will run for 90 minutes each.

Throughout that week, college and university campuses nationwide will conduct lectures, workshops, hunger banquets, film festivals, and other exercises to teach social workers and the general public about how communities around the globe are successfully solving problems related to violence.

Interested participants should contact their local university's school of social work to inquire where they can see the videoconference locally. The national teach-in and videoconferences are sponsored by a collaboration between the National Association of Social Workers, the Council on Social Work Education, the Benton Foundation, and the U.S. Agency for International Development.

Harvard Publishes New Minority Health Journal

The students, alumni, and faculty of the Harvard University School of Public Health have published the first issue of a new semiannual journal on minority health.

Dubbing itself "the premier venue for dialogue on the health concerns of communities of color," the Harvard Journal of Minority Public Health plans to report on health services delivery, community intervention projects, and health policy and management strategies as they affect the health of traditionally underserved populations.

The goals of the journal are *(a)* to increase the presence and impact of public health professionals of color in the academic and public arenas, *(b)* to encourage interdisciplinary research among multicultural scholars and practitioners of public health, and *(c)* to enhance the recruitment and retention of students of color into the health professions.

The journal will be published twice yearly and be dedicated to investigating the health of ethnic and racial minority groups in all its aspects. It will incorporate both top-flight peer reviewed medical articles and a news section that addresses the topical health and medical issues of the day from the perspectives of racial and ethnic minority groups.

The news section will be written in a manner accessible to interested lay persons including social workers, students, and journalists.

Commentary by public health luminaries, guidance by a select group of Harvard faculty members and news of medical achievements and available research grants will round out the journal.

The inaugural issue, Fall–Winter 1995, features a commentary on the public health challenges facing the underserved by former Surgeon General M. Joycelyn Elders, MD, an article on the principal heart disease risks faced by Hispanics by Claude Lenfant, MD, Director of the National Heart, Lung, and Blood Institute, and a new perspective on the Tuskegee Syphilis Study by Benjamin Roy, MD, of Albany Medical College.

Editors-in-chief of the new journal are Felton Earls, MD, and Anita L. Jackson, MD. Harriet Washington is the Editor.

GPO Launches Study of Electronic Depository Library Program

To promote and ensure the public's right to timely, equitable, and cost effective access to government information in the information age, the U.S. Government Printing Office (GPO) has initiated a cooperative study at Congressional direction to identify measures necessary for a successful transition to a more electronic Federal Depository Library Program (FDLP).

There are 1,400 public, university, and law libraries in the country that receive Federal Government documents and make them available without charge to the public. They are designated Federal Depository Libraries.

In adopting the conference report to H.R. 1854, the Legislative Branch Appropriations Act of 1996, the Congress established this cooperative effort that includes representatives from the Legislative, Executive, and Judicial Branches of government, as well as the national library community, and other appropriate government and public entities.

As outlined in the Congressional report, the dramatic advances in technology provide new opportunities for enhancing and improving public access. However, the effect on the FDLP of the increasing use of electronic technologies in support of dissemination programs by all branches of government requires careful analysis, planning, and a strongly coordinated effort.

Among other objectives, those conducting the study will

- examine the functions and services of the Federal Depository Library Program,
- survey current technological capabilities of the participating libraries in the Federal Depository Library Program,
- survey current and future information dissemination plans of originating agencies,
- identify measures that are necessary to ensure a successful transition to a more electronically based program,
- identify the possible expansion of the array of Federal information products and services made available to participating libraries, and,
- identify measures to ensure the most cost effective program to the taxpayer.

The completed study is expected to be available to the Congress by March 1996.

New Book Examines Impact of Toxic Pollution on Human Health

Controlling emissions of toxic materials to protect human health and the environment has been one of the apparent success stories of environmentalism in industrialized countries.

A few decades ago, the United States banned DDT—then the world's most popular pesticide. Since then, the United States has controlled a wide range of industrial chemicals and heavy metals, as well as banned leaded gasoline and house paint, and—spurred by the Toxic Release disclosure requirements—U.S. industry has made massive voluntary reductions in emissions.

But the story is very different outside of the wealthiest nations. In Colombia, for instance, many of the 64,000 women who grow flowers for export suffer miscarriages, recurrent headaches, and dizzy spells due to pesticide exposure. Farm workers elsewhere are similarly imperiled. Heavy metals also take a toll; so much mercury has been released into the Amazon River from goldmining, that a new group of "mercury miners" can earn a living by mining contaminated sediments on the river bottom.

In Central and Eastern Europe, many cities face agonizing choices between health risks and economic survival because they cannot afford to replace aging factories that badly pollute air and water. In Russia, physicians and public health officials—alarmed at sharply declining adult life expectancies and growing chronic illness among children—have identified widespread toxic emissions as a possible cause.

These and other case studies are discussed in "Toxics and Health," a new book by Cheryl Simon Silver and Dale S. Rothman that reports on a workshop sponsored by the 2050 Project, a joint venture of the World Resources Institute, the Brookings Institution, and the Santa Fe Institute. The workshop brought together industrial process experts, economic modelers, and health professionals to examine the potential long-term effects of current industrial activity on human and environmental health.

From the workshop's analyses, "Toxics and Health" draws three preliminary, but profoundly disturbing, conclusions:

1. The environment is becoming far more toxified than the public realizes—even in the United States and other developed countries.
2. Toxification will soar by the year 2050 if today's industrial practices continue and if the world's population and economy grow at expected rates.
3. Sweeping impacts on the environment and on human health—even on reproduction and survival—cannot be ruled out, although much of the evidence gathered so far is preliminary and circumstantial.

The 120-page paperback book may be obtained for $13.45 plus $3.50 for ship-

ping and handling from WRI Publications, P.O. Box 4852, Hampden Station, Baltimore, MD 21211; tel. 1-800-822-0504 or 410-516-6963.

WHO's Primer on AIDS

The Acquired Immunodeficiency Syndrome (AIDS) was first reported in the United States in 1981. Today, the Human Immunodeficiency Virus (HIV), the virus that causes AIDS is present in virtually all countries and has infected about 18 million adults and 1.5 million children, according to the World Health Organization (WHO).

Sexual intercourse, whether heterosexual or homosexual, is the major route of transmission. Transmission also occurs through HIV-infected blood, blood products, or transplanted organs or tissues, such as direct blood transfusion or improperly sterilized needles and syringes that have been in contact with contaminated blood. Finally, HIV can be transmitted from an HIV-infected woman to her fetus or infant before, during, or shortly after birth.

Now in its second decade, the HIV epidemic continues to grow, invisibly, at an estimated rate of 6,000 new infections each day.

Facts and Figures

- By the end of the century, WHO estimates that between 30 to 40 million men, women, and children will have been infected with HIV.
- WHO believes that more than 4.5 million people infected with HIV have developed AIDS.
- By the end of the century, developing countries will account for more than 90 percent of all people with HIV infection.
- Sub-Sahara Africa has by far the largest number of people living with HIV—11 million. But the region where HIV is spreading fastest is South and Southeast Asia, with 3 million infected adults—double the number estimated in mid-1993.
- Women are becoming increasingly affected by HIV. Worldwide, the cumulative number of infected women is expected to reach 15 million by the year 2000.
- By the year 2000, as many as 5–10 million children may have lost their mother or both parents to AIDS.

The Impact of AIDS

The importance of the HIV-AIDS pandemic cannot be measured solely by the number of infected or ill people. Because AIDS is a sexually transmitted disease, it mainly strikes adolescents, young adults, and people in early middle age, the very people on whom society relies for production and reproduction.

As the men and women who raise the young and care for the old die of AIDS, their elderly relatives are left without support and their children become orphans.

They are the ones who grow the crops, work in the mines and factories, run the schools and the hospitals, even govern the country. Largely because of the lost productivity of this key demographic group, Thailand, for example, has estimated that the AIDS epidemic will cost its economy close to $11 billion by the year 2000.

For every person with AIDS, countless more people are affected by the impact of HIV-AIDS. Hard-won gains in child survival are being erased. In countries that are not yet industrialized, or are in the process of industrializing, AIDS threatens development itself.

WHO's Response

The WHO Global Program on AIDS, established in 1987, has achieved its primary goal—to help developing countries plan and initiate activities to combat the epidemic. More than 160 national AIDS programs have been set up with WHO's financial and technical support.

The program focuses on strengthening countries' capacity to slow HIV transmission and reduce the adverse effects of AIDS on affected people and communities. It provides technical guidance on strategies of proven effectiveness such as condom promotion, the treatment of other sexually transmitted diseases, and school education on AIDS.

The program also supports research into more effective ways of encouraging safer sexual behavior and coordinates the international search for vaccines, vaginally applied creams, and tablets that could neutralize HIV, and products for improved prevention and care.

WHO Establishes New Rapid-Response Unit to Fight Diseases

The World Health Organization (WHO) has established a new rapid response unit to control and prevent the growing incidence of new and reemerging diseases around the world, with a view to improving containment of outbreaks such as the deadly Ebola virus in Zaire.

The unit will be capable of mobilizing staff members from both WHO headquarters in Geneva and regional offices and placing teams together with the supplies and equipment required to implement epidemic control measures onsite within 24 hours' notification of an outbreak.

The new unit will be called the Division of Emerging, Viral, and Bacterial Diseases Surveillance and Control (EMC). In addition to mobilizing

WHO's own technical staff and expertise, EMC will also coordinate the activities of its traditional partners, including its international network of collaborating centers, bilateral donors, expert advisers, and nongovernmental organizations.

In the Ebola outbreak in Zaire, for example, WHO staff members from Geneva and from regional office in Brazzaville arrived at the epidemic site within 24 hours of notification, at the same time that the diagnosis of Ebola was confirmed at the WHO Collaborating Center on Viral Hemorrhagic Fevers at the Centers for Disease Control and Prevention in Atlanta, GA.

"By arriving at the epidemic site early, WHO staff and nationals from Zaire were able to set up a disease detection system and train medical students in its operation so that all cases with hemorrhagic fever could be found and isolated," said Dr. David Heymann, the Director of EMC, who led the WHO team in Zaire. The Ebola outbreak was rapidly contained and its spread to Kinshasha, the capital city of 2 million inhabitants, was prevented.

EMC will work to strengthen country surveillance and disease control so countries can develop the early warning systems necessary to detect emerging or reemerging diseases through innovative field epidemiology and public health laboratory training programs. The new division will also continue WHO's activities in developing a network of public health laboratories to strengthen regional and international collaboration in outbreak detection and control.

Another major issue to be addressed by the new division is antibiotic resistance, a phenomenon that continues to emerge as one of the most important health problems of the 1990s. Infections such as malaria, tuberculosis, and gonorrhea have already become resistant to first- and second-line drugs, and development of new antibiotics to replace them lags behind. The post-war optimism in public health, when the use of newly developed antibiotics and vaccines rapidly decreased the incidence of some infectious diseases and eradicated smallpox, has been dimmed by the development of antibiotic resistance.

The new division will continue to expand WHO's network to detect and monitor antibiotic resistance worldwide, called WHONET, and WHO will use the information collected to continue to advocate research and development on new antibiotics to replace those that are no longer effective.

Tuberculosis Epidemic Worldwide Emergency

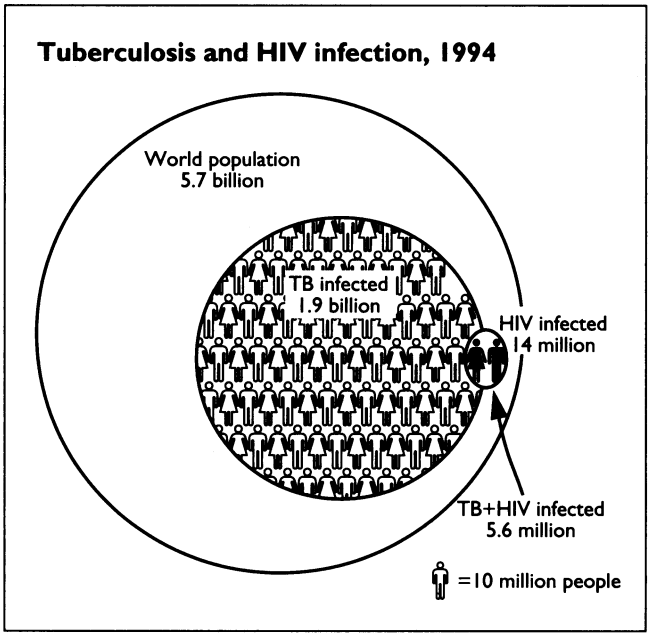
Among infectious diseases, tuberculosis is the leading killer of adults in the world today and poses a serious challenge to international public health work, according to the World Health Organization (WHO). So great is concern about the worldwide magnitude of the modern TB epidemic that in April 1993 WHO declared tuberculosis to be a "global emergency"—the first declaration of its kind in WHO history.

Incidence

Someone in the world is newly infected with TB literally with every tick of the clock—one person per second. Fully one third of the world's entire population is now infected with the TB bacillus. In the next decade, it is estimated that 300 million more people will become infected, that 90 million people will develop the disease, and 30 million people will die from it. TB currently kills more adults each year than AIDS, malaria, and tropical diseases combined, and almost 300,000 children.

The disease is especially devastating in developing countries, where it accounts for more than a quarter of all preventable adult deaths. In concert with the AIDS pandemic, TB has overwhelmed health services and devastated urban populations in parts of Africa. New outbreaks are occurring in Eastern Europe, where TB deaths are now increasing again after almost 40 years of steady decline. Asian countries, with their large cities, extremely high rates of TB bacillus infection, and growing spread of HIV virus, currently account for two-thirds of all TB cases.

TB is also resurgent in industrialized countries, where the disease was



Source: WHO TB Programme

believed for the most part to have been vanquished a generation ago. Migration, international travel, and tourism are increasingly allowing TB to penetrate borders. In the United States, one third of all those with TB are foreign-born, while in many other industrialized countries, half or more of TB cases are among the foreign-born.

Transmission

Only persons who are actually sick with TB can infect others; it is not spread by insects, blood supplies, or water. Like the common cold, and unlike AIDS, the disease is spread through the air and by relatively casual contact. When infectious people cough, sneeze, talk, or expectorate, the TB bacilli in their lungs are propelled into the air where they can remain suspended for hours and be inhaled by others.

Left untreated, a person with active TB will typically infect 10 to 15 other people in the span of a single year. However, only 5–10% of people who are infected with TB actually become sick or infectious themselves, because the immune system "walls off" the TB organisms. People with weaker immune systems have a much greater chance of developing the disease.

Tuberculosis and HIV-AIDS

The global resurgence of TB is being accelerated by the spread of human immunodeficiency virus (HIV), the causative agent for AIDS. Of the 14 million people globally who were HIV-positive in 1994, some 5.6 million were believed to be infected with TB as well (see chart).

TB and HIV form a deadly combination, each multiplying the impact of the other. When people are infected with both TB and HIV, TB is much more likely to become active because of the person's weakened immune system. As more TB cases become infectious, it means that larger numbers of people carry and spread TB to healthy populations. WHO estimates that by the end of the century, HIV infection annually will produce at least 1.4 million active cases of TB that otherwise would not have occurred.

TB is already the leading cause of death among people who are HIV-positive, accounting for almost one-third of fatalities worldwide and about 40% in Africa. Preliminary studies show that it is the leading opportunistic disease in 50–70% of AIDS patients in parts of Asia, where the HIV virus is spreading more rapidly than anywhere else in the world.

To worsen matters, WHO estimates that as many as two-thirds of all HIV-positive people who seek treatment are being misdiagnosed or treated improperly for TB, the most common error being the failure by health workers to ensure that patients actually take their anti-TB medicine.

Drug-Resistant Strains

Of particular concern to WHO is the emergence of drug-resistant strains of TB that are threatening to make the disease incurable again, as it was before the discovery of antibiotics in 1944. This phenomenon is purely the result of poor administration of anti-TB drugs. Ironically, badly managed control projects are the primary source of multidrug-resistant TB.

People who fail to complete treatment regimens or have been improperly treated may remain infectious to other people. They often carry bacilli in their lungs that have become resistant to anti-TB drugs, meaning persons whom they infect will have the same drug-resistant strain. When the disease actually develops in such cases, it is much more difficult and expensive to treat than normal TB and much more likely to be fatal.

There is no cure for some multidrug-resistant strains of TB, and there is concern that they may spread rapidly around the world. While hard data remain scarce, researchers estimate upwards of 50 million people are infected with strains of TB that are resistant to at least one of the common anti-TB drugs. WHO has initiated a global surveillance project to determine the extent of multidrug-resistant TB and encourage countries to control its spread.

Control Strategy—DOTS

The most cost-effective way to stop the spread of tuberculosis in communities with a high incidence is by curing it. The best curative method for TB is known as Directly Observed Treatment, Short Course (DOTS), in which health workers ensure that TB patients take their full course of medicine by watching them swallow each and every dose. By guaranteeing that treatment regimens are completed, DOTS prevents the further spread of infection and development of multidrug-resistant TB.

TB drugs for the treatment regimen recommended by WHO cost as little as $13 per person in some parts of the world. The medicines must be taken for at least six months. DOTS uses a combination of medicines that do not cause serious side effects in HIV- positive people and are nearly 100% effective in curing TB in both HIV-positive and HIV-negative people.

Fight Against Ebola Epidemic in Zaire Flies Many Flags

The work done in Zaire since the Spring of 1995 by the International Scientific and Technical Committee of the World Health Organization (WHO) for control of the epidemic of Ebola hemorrhagic fever has been a model of effective

international collaboration, say WHO officials.

The team sent by WHO Headquarters and Regional Office for Africa, which has been working on site since May 1995, was joined quickly by specialists from other institutions and organizations, whose work has done much to stop the epidemic.

The Centers for Disease Control and Prevention (CDC), Atlanta, GA, helped with patients' care, training in protection against infection, and in epidemiologic surveillance. In addition, CDC representatives identified and began work on priority areas of research, especially into possible animal reservoirs of the virus.

Médecins Sans Frontieres (MSF) of Belgium helped improve sanitation and isolation procedures at Kikwit General Hospital and in regional health facilities. MSF also helped with training in barrier protection, epidemiologic surveillance, and distribution of emergency medical kits to health centers.

The Institute of Tropical Medicine of Antwerp, Belgium, oversaw the training of health personnel in the transfer of patients from emergency departments to isolation units and took part in the study of the epidemic and in epidemiologic monitoring.

The Pasteur Institute of France concentrated on a study of the epidemic and on epidemiologic monitoring.

A team of Swedish specialists took charge of assessing material needs and medium-term planning, as well as planning and strengthening of sanitation and hygiene in the health centers.

South African virology laboratories provided the means to carry out blood and antibody tests on patients. They also took part in ecological studies with a view to identifying any animal reservoirs of the virus and in clinical pathology research.

The Federation of Red Cross and Red Crescent Societies made an evaluation of needs in Kikwit and contributed resources to meet them and helped with monitoring in Kinshasa, the capital of Zaire.

When the acute phase of the epidemic appeared to be over, the International Scientific and Technical Committee turned, as was intended, towards research. A WHO team of eight specialists conducted ecological research to identify any animal reservoir.

The team consisted of five scientists from CDC, Atlanta—three epidemiologists, one zoologist specializing in vertebrate animals, and a medical entomologist; two specialists from the United States Army, and a research scientist at the University of Antwerp who specializes in small mammals and arthropods.