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Controlling Infectious Diseases

Bacteria, viruses, and parasites are the world's leading causes of death.

Wm. Lane Porter and David P. Fidler

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ccording to the World Health Organization (WHO), infectious diseases are the world's leading cause of drath, killing at least 17 million people (about 33 percent of 52 million persons who die annually). Of the 17 million, about 9 million are young children. WHO recently stated that the world faces a crisis in connection with infectious diseases.

Background

An infectious disease is caused by the presence of bacteria, viruses, or parasites. Infectious diseases range from those found in specific geographical areas (such as typhoid fever—80 percent in Asia) to diseases found worldwide, such as acquired immunodeficiency syndrome (AIDS). The federal government's National Science and Technology Council Committee on International Science, Engineering and Technology (CISET) emphasizes

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David P. Fidler is Associate Professor of Law, Indiana University School of Law at Bloomington. He was chair for the Program on Law and Emerging and Re-Emerging Infectious Diseases at the Section of International Law and Practice of the 1996 annual meeting in Orlando, Florida. that the modern world is a very small place; any city in the world is only an airplane ride away from any other city. Infectious diseases in the form of tiny microorganisms can and do easily travel across borders within or on human or animal hosts. These diseases threaten our national health and security. Consequently, controlling disease outbreaks in other countries is important, not only for humanitarian reasons, but because such control may prevent those diseases from entering the United States.

CISET has determined that the national and international system of infectious disease surveillance, prevention, and response is inadequate to protect the health of U.S. citizens. Consequently, on June 12, 1996, Vice President Al Gore announced the Clinton administration's new policy to address the threat of infectious diseases through improved domestic and international surveillance, prevention, and response measures.

Success and Problems International

There has been much success in fighting infectious diseases. For example, as a result of international health campaigns, smallpox has been eradicated from the earth. Smallpox was an infectious virus disease characterized by fever, vomiting, and pustular eruptions that often left pitted scars, or pockmarks, when healed.

Since 1988, when WHO launched a worldwide eradication campaign, cases of poliomyelitis (popularly, polio) have fallen by about 85 percent according to WHO. Polio includes infantile paralysis, an acute infectious disease (to which children are especially susceptible) caused by a virus inflammation of the gray matter of the spinal cord; accompanied by paralysis of various muscle groups that waste away, which usually results in permanent deformities. There are now 145 countries completely free of the disease, and an estimated 82 percent of all eligible children in the world have received the recommended three doses of oral polio vaccine. In the Americas (north and south), polio has been eradicated for over four years; WHO reports the last case in 1991 in Peru.

However, despite these successes, the emergence of new infectious diseases and the re-emergence of old diseases, coupled with resistance to antibiotic drugs, has created a serious crisis. WHO has classified these infectious diseases into three categories, each of which requires a different type of intervention.

• Old diseases—old problems: This category includes diseases that can be eradicated (e.g., polio); diseases that can be eliminated as public health problems (e.g., measles, neonatal tetanus); and diseases that can be controlled (e.g., cholera and other diarrheal diseases).

• Old diseases—new problems: This category includes diseases that have been around for decades, but that are re-emerging often with resistance to antimicrobial drugs (e.g., tuberculosis, malaria).

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• New diseases—new problems: This category includes new diseases not fully understood by scientists (e.g., AIDS).

American Communities

The U.S. Centers for Disease Control and Prevention (CDC) emphasizes that infectious diseases increasingly threaten public health and contribute significantly to the escalating costs of health care in the United States. Three infectious disease occurrences in 1993 exemplify today's infectious disease problems in the United States.

• Cryptosporidium parvum parasite caused the largest waterborne disease outbreak ever recognized in the United States. In Milwaukee, Wisconsin, in April 1993, the municipal water supply (contaminated by viral and parasitic infectious agents) resulted in gastrointestinal illness that affected hundreds of thousands of people.

• Escherichia coli 0157:H7 bacteria, found in hamburgers served in (at least 93) American fast-food restaurants, caused a multistate foodborne outbreak of severe bloody diarrhea and kidney failure. Data from the ongoing investigation of this outbreak indicate that over 500 children and adults became ill and four children died.

• *Hantaan virus*, first detected in the American Southwest in 1993, and previously unknown, was linked to exposure to infected rodents in more than a dozen states. It resulted in lung infection and death for more than half of the 50 persons infected.

Laws Promoting Public Health

As part of the American Bar Association's education process, the International Health Law Committee of the ABA Section of International Law and Practice conducted a program on law and emerging and re-emerging infectious diseases at the 1996 annual meeting in Orlando. The consensus of the participants on this program was that existing domestic and international law on infectious disease control needs reform.

The ABA annual meeting program identified four ways in which lawyers can contribute to U.S. and international public health efforts to control infectious diseases.

• *Personal awareness:* Lawyers can read more about the threat posed by emerging and re-emerging infectious diseases to increase their personal awareness about the seriousness and frightening nature of the situation.

• *Raising awareness:* Lawyers can raise the legal aspects of emerging and re-emerging infectious diseases through involvement in local, state, national, and international bar activities and organizations.

• *Participation in lobbying efforts:* Communications from lawyers and legal organizations to state and federal elected officials concerning legal reform efforts can help create political will in our elected officials.

• *Reforming the law:* Lawyers can participate in reforming the law by following the legal reform efforts and offering their time and services as practitioners to the legal reform effort.

Conclusion

Crafting improvements in both domestic and international law should serve to promote good public health and control infectious diseases. American lawyers, and educators at all levels, have opportunities to intervene at the local, state, national, and international levels by encouraging changes in policies, legislation, and regulations that will strengthen public health programs. Being effective starts with education-learning what the successes and problems are concerning infectious diseases worldwide, nationally, in our communities, and in our schools; then supporting effective programs, finding out what is being done by government and nongovernment organizations about problems, and deciding where and how the law and education should intervene.

Resources

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