

Investment in research saves lives and money

The medical and health research policy program of the Mary Woodard Lasker Charitable Trust
www.fundingfirst.org
www.laskerfoundation.org

facts about:

Infectious Diseases

Infectious diseases are caused by bacteria, viruses, parasites, fungi and other agents.

"If you think research is expensive, try disease."

— Mary Lasker 1901–1994

Today:

- ⌘ Infectious diseases are a major challenge to human health. They are the leading cause of death worldwide for adults under age 60.
- ⌘ Infectious agents have been associated with specific types of cancer. For example, virtually all cervical cancers are caused by a virus called *human papillomavirus* (HPV).
- ⌘ 19 million Americans acquire sexually transmitted diseases each year; African Americans represent a disproportionate number of those cases.*
- ⌘ More could be done to prevent the spread of infectious diseases. 64 percent of health care workers have not been vaccinated against the flu. They can spread the flu to their patients and cause costly outbreaks in health care settings.**

SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION (WWW.CDC.GOV)
WORLD HEALTH ORGANIZATION (WWW.WHO.INT)
*WEINSTOCK, H., ET AL. PERSPECTIVES ON SEXUAL AND REPRODUCTIVE HEALTH 2004, 36(1): 6-10
**NATIONAL FOUNDATION FOR INFECTIOUS DISEASES (WWW.NFID.ORG)

The Cost:

- ⌘ Infectious diseases cost the U.S. \$120 billion a year.*
- ⌘ Viruses and bacteria are living organisms with the ability to evolve resistance to drugs. Antibiotic resistant bacteria currently cost the U.S. \$5 billion a year. Sustained investment in research is needed to develop new drugs and vaccines against infectious agents.**

SOURCE: *NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES (WWW.NIAID.NIH.GOV)
**INFECTIOUS DISEASES SOCIETY OF AMERICA, "BAD BUGS, NO DRUGS," JULY 2004

SAVING LIVES
SAVING MONEY

HOW RESEARCH SAVES LIVES:

- ⌘ Measles is rare in the U.S. because of the vaccine that prevents it. Before the vaccine was developed, 450,000 cases and 450 deaths were recorded each year.
- ⌘ Researchers have identified more than 30 new infectious diseases in the past 30 years. New tests, vaccines and drugs developed in response to emerging diseases have saved the lives of millions of people around the world.
- ⌘ A vaccine to protect against the seven most common types of HPV could prevent 87 percent of cervical cancer cases worldwide.*

SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION (WWW.CDC.GOV)
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES (WWW.NIAID.NIH.GOV)
*MUNOZ, N. ET AL. INTERNATIONAL JOURNAL OF CANCER 2004, 111(2): 278-85

HOW RESEARCH SAVES MONEY:

- ⌘ For every dollar spent on diphtheria/tetanus/pertussis vaccine in the U.S., \$27 are saved in direct medical costs, such as antibiotics and hospitalization, and indirect societal costs, such as lost work time.*
- ⌘ Vaccinating children against chicken pox saves the U.S. \$100 million a year in hospitalization costs.**
- ⌘ Eradication of polio worldwide would save \$1.5 billion annually in vaccine, treatment and rehabilitation costs.***

SOURCE: *CENTERS FOR DISEASE CONTROL AND PREVENTION (WWW.CDC.GOV)
**DAVIS, M.M. ET AL. PEDIATRICS 2004, 114(3):786-92
***GLOBAL ALLIANCE FOR VACCINES AND IMMUNIZATION (WWW.GAVI.ORG)

survivor



NAME: DOMENIC THOMPSON

AGE: 57

DISEASE: NOCARDIA INFECTION

Domenic Thompson of Ellicott City, Maryland, thought he might lose his right leg. In June of 1989, his thigh began to ache and swell, his knee stiffened, and he had a fever. An MRI detected a mass in his thigh that was thought to be a tumor, possibly requiring amputation.

His doctor took a sample of the mass and found two quarts of pus caused by an infection. The doctor identified the cause of the infection as bacteria called nocardia. Domenic stayed in the hospital for three weeks following surgery to receive treatment with powerful intravenous (IV) antibiotics to remove the infection.

A biology teacher at the time of his illness, Domenic appreciates the research behind the antibiotics that helped clear up his infection and prevent it from spreading. "We are lucky to live in an age when we understand the causes of many diseases and how they can be successfully treated. The doctors told me that nocardia usually infects the brain or lungs, which could have been much worse, possibly even fatal. The timely diagnosis and treatment probably saved my life and allowed me to return to teaching on the first day of school."

facts about: } Infectious Diseases

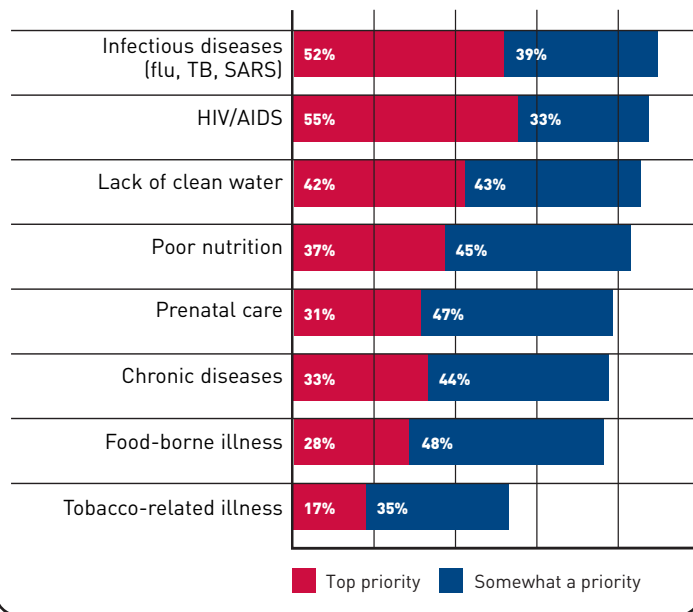
Hope for the Future:

- Researchers identified the flu virus in 30 years, the AIDS virus in 3 years, and the SARS virus in less than 3 months. Better disease surveillance and research have dramatically decreased the length of time it takes to identify emerging infectious agents, allowing for faster containment of outbreaks.
- HIV/AIDS, tuberculosis and malaria sap economic growth, reduce educational opportunities, decrease life expectancy and increase child and maternal mortality in developing countries. As the world leader in medical and health research, the U.S. has the ability to discover new ways to prevent and treat these diseases enabling developing nations to become economically self-sustaining and productive.*

SOURCE: NATIONAL INSTITUTES OF HEALTH (WWW.NIH.GOV)
*WORLD HEALTH ORGANIZATION (WWW.WHO.INT)

Priorities in Global Health

How much of a priority is it that money for medical and health research designed to improve health around the world be spent on each of the following?



GLOBAL HEALTH POLL, HARRIS INTERACTIVE FOR RESEARCH!AMERICA, 2004

Research!America
AN ALLIANCE FOR DISCOVERIES IN HEALTH®

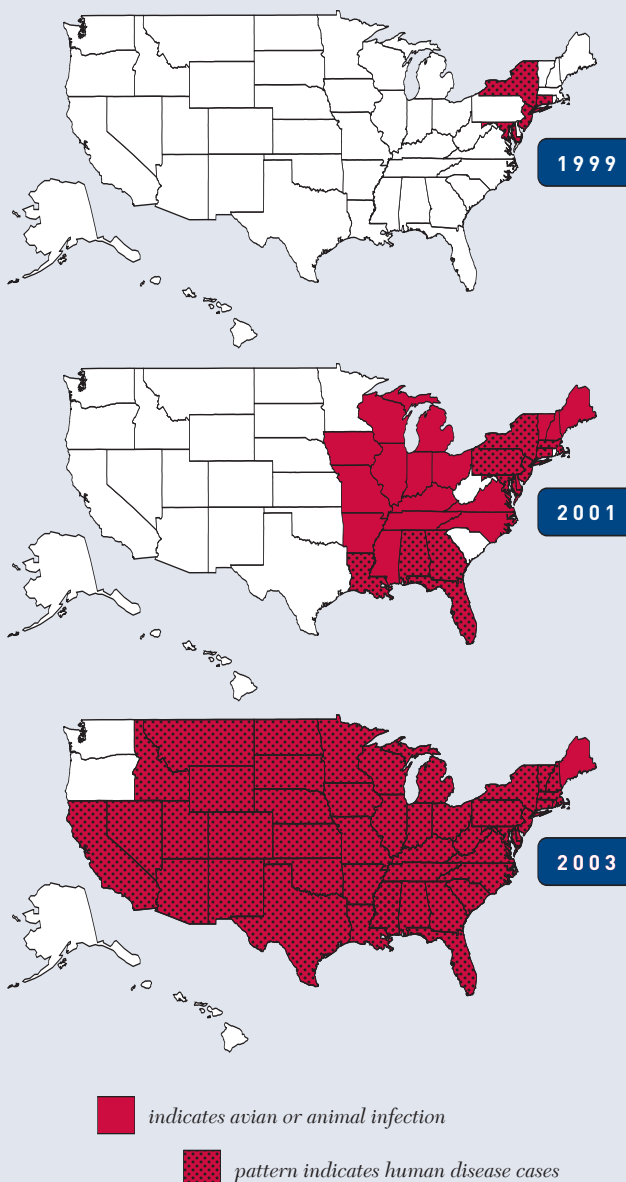
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703.739.2577
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For additional information, contact the Centers for Disease Control and Prevention at 800-311-3435; www.cdc.gov OR the American Society for Microbiology at 202-737-3600; www.asm.org.

The Bottom Line:

As seen from the recent outbreaks of SARS and West Nile Virus, infectious diseases spread around the world with no regard for national boundaries. Increased investment in research is needed to improve current vaccines, develop new vaccines and identify better ways to diagnose and treat infectious diseases in our increasingly global community.

West Nile Virus Activity in the U.S.



SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION, NATIONAL CENTER FOR INFECTIOUS DISEASES, DIVISION OF VECTOR-BORNE INFECTIOUS DISEASES, 2004. (WWW.CDC.GOV/NCIDOD/DVBIID)