

Public Health

Biostatistician, Environmental Health Specialist, Epidemiologist, Health Educator



Biostatistician, Environmental Health Specialist

Biostatistician

JOB DESCRIPTION

Biostatisticians apply mathematics and statistics to the compilation, analysis, and reporting of health-related information. They also play a role in decision-making and strategic planning of health programs. They might estimate what percentage of a certain population is likely to develop a disease, consider the likelihood of disease transmission, and look at data from clinical trails and studies to determine the best method of intervention. Biostatisticians also use their expertise in sampling and hypothesis testing to assist health investigators designing studies. They may specialize in demography or health data systems/vital statistics.

WORK ENVIRONMENT

Biostatisticians work for state and federal government agencies, health departments, private industry, and education and research institutions.

ANNUAL WAGES

National\$59,571
 New York State\$56,077

National and New York State median annual earnings for Statisticians for 2003. U.S. Department of Labor, Bureau of Labor Statistics.

ACADEMIC REQUIREMENTS

Generally biostatisticians hold either a master's or doctoral degree. Undergraduate work should include calculus, matrix algebra, computer programming, and a major in statistics. Students with a bachelor's degree can gain employment, but they must be able to show that they have gained the necessary knowledge and experience to work in public health.

PROFESSIONAL ORGANIZATIONS

American Public Health Association
 American Statistical Association

For professional organization address and phone information see Appendix B.

EDUCATIONAL INSTITUTIONS

For a listing of educational programs in New York State for Public Health see page 58.

Environmental Health Specialist

JOB DESCRIPTION

Environmental health specialists plan, develop, implement, and evaluate standards and systems to improve the quality of the physical environment as it affects health. They also manage environmental health problems and promote public awareness of the need to prevent and eliminate environmental health hazards. Environmental health specialists may specialize in food protection, radiological health, environmental health, medicine, sanitation, water quality/resources, air pollution/resources, noise pollution, and toxicology.

WORK ENVIRONMENT

Environmental health specialists work in a variety of settings, including public health departments, government agencies, universities, and private industry.

ANNUAL WAGES

National\$48,797
 New York State\$52,104

National and New York State median annual earnings for Environmental Scientists for 2003. U.S. Department of Labor, Bureau of Labor Statistics.

ACADEMIC REQUIREMENTS

Individuals should start out seeking a bachelor's degree in a general science. To acquire positions that offer more responsibilities and the possibility of working on leading projects, it is important to have a master's or doctoral degree in environmental science or a related area.

PROFESSIONAL ORGANIZATIONS

American Public Health Association

For professional organization address and phone information see Appendix B.

EDUCATIONAL INSTITUTIONS

For a listing of educational programs in New York State for Public Health see page 58.

Epidemiologist, Health Educator

Epidemiologist

JOB DESCRIPTION

Epidemiologists analyze the occurrence and distribution of diseases within a population by determining the possible mode of disease transmission and by examining the efficiency of intervention programs. Epidemiologists may specialize in infectious disease, chronic disease, environmental/occupational, epidemiology, psycho/social epidemiology, health care evaluation, and human genetics.

WORK ENVIRONMENT

Epidemiologists work at universities, research institutions, state and federal health agencies, major health organizations, and large corporations. Many epidemiologists are employed by the Centers for Disease Control, where they attempt to analyze and eliminate disease from the population.

ANNUAL WAGES

National\$54,538
 New York State\$44,325

National and New York State median annual earnings for 2003. U.S. Department of Labor, Bureau of Labor Statistics.

ACADEMIC REQUIREMENTS

Undergraduate preparation for a graduate program in this field would include a bachelor's degree in the health sciences, mathematics, biological science, or behavioral science. A doctoral degree is usually required to be an epidemiologist, and some epidemiologists have an MD degree in addition to holding a master's degree in epidemiology.

PROFESSIONAL ORGANIZATIONS

American College of Epidemiology
 Council of State and Territorial Epidemiologist
 Society for Pediatric and Perinatal Epidemiology
 Society of Epidemiologic Research

For professional organization address and phone information see Appendix B.

EDUCATIONAL INSTITUTIONS

For a listing of educational programs in New York State for Public Health see page 58.

Health Educator

JOB DESCRIPTION

Health educators present information about how to improve health, prevent disease, and modify behaviors to individual patients as well as community groups. Health educators create and write educational materials, conduct meetings, and plan informative programs.

AREAS OF SPECIALIZATION

School Health Educators – teach personal hygiene and the impacts of tobacco, alcohol, and drugs.

Community Health Educators – use employers, media, and workshops to send the message of prevention and wellness.

Public Health Educators – work with public health issues as a liaison between governmental agencies and the public.

WORK ENVIRONMENT

Health educators are employed by public health departments, schools, corporations, and community, government, and voluntary agencies.

ANNUAL WAGES

National\$37,440
 New York State\$37,814

National and New York State median annual earnings for 2003. U.S. Department of Labor, Bureau of Labor Statistics.

ACADEMIC REQUIREMENTS

Health educators must have a bachelor's degree in health education or another health-related subject. Many universities also offer a master's degree in health education. If teaching in the schools, health educators must have a teaching certificate. To be recognized as a Certified Health Education Specialist, health educators must successfully complete a certification examination.

PROFESSIONAL ORGANIZATIONS

American Public Health Association

For professional organization address and phone information see Appendix B.

EDUCATIONAL INSTITUTIONS

For a listing of educational programs in New York State for Public Health see page 58.

*New York State Educational Institutions***EDUCATIONAL INSTITUTIONS IN NEW YORK
STATE FOR PUBLIC HEALTH**

*(For New York State educational institution address
and phone informations, see Appendix A.)*

Columbia University in the City of New York
Cornell University Medical College
New York Medical College
Rochester Institute of Technology
State University of New York at Albany
State University of New York at Buffalo
State University of New York College at Cortland
State University of New York Stony Brook
Touro College

*Source: U.S. Department of Education –
Integrated Postsecondary Education Data System
(www.nces.ed.gov/ipeds/) and the New York State Area
Health Education Center System Data Resource Center,
September 2003.*