Areas of Employment

- Academic organizations
  - Clinical trials
- Federal/state/city government
- Health Departments
  - Cities and county
- Industry
  - Pharmaceutical companies
  - Medical device manufacturers
- Non-profits
- Private organizations

Possible Job Titles

- Data Scientist
- Bioinformatics Scientist (19-1029.01)
- Biomedical researcher
- Biostatistician (15-2041.01)
- Clinical Data Manager (15-2041.02)
- Database Administrator
- Epidemiologist (19-1041.00)
- Genetics researcher
- Statistician (15-2041.00)
- Systems Analyst
  - See also: Data Analyst

With Doctoral Training

- Professor, Biostatistics (25-1022.00)
- Program Director (27-2012.03)

Primary Competencies

- Describe the roles biostatistics serves in public health
- Apply statistical methods and descriptive techniques for summarizing public health data
- Interpret and present results from application of statistical techniques

MS Specific

- Demonstrate understanding of statistical inferences for public health, biomedical, or bioinformatics datasets across a variety of research designs
- Demonstrate ability to use appropriate computational skills to solve a problem
- Demonstrate ability to work in collaborative setting with public health investigators

MPH Specific

- Apply statistical methods for inference, using appropriate statistical software, and make proper interpretations based on the output
- Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met
- Develop written presentations based on statistical analyses for both public health professionals and educated lay audiences

PhD Specific

- Specify a research question and obtain the data for the model using appropriate computational skills
- Develop innovative design and analytical and simulated models in public health, biomedical, or biological arenas
- Report research results through scientific publication, presentation, and teaching

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Top Skills Preferred by Employers

- Appropriate use of statistical software packages
- Clear and concise verbal and written communication
- Database administration and programming
- Informatics problem solving
- Liaison between biologists and computer scientists during design of data analysis
- Filtering information
- Work independently and in team

Professional Associations

- American Public Health Association (APHA)
- American Mathematical Society
- American Statistical Association
- Bioinformatics Organization
- Institute of Mathematical Statistics
- International Biometric Society
- International Society for Clinical Biostatistics
- International Society for Computational Biology
- Mathematical Association of America (MAA)
- National Science Foundation (NSF) Section for Mathematics and Physical Sciences
- Society for Industrial and Applied Mathematics

Examples of Employers

Texas

- Baylor College of Medicine, Houston
- Cytel Corporation, Austin
- General Dynamics Information Technology, Fort Sam Houston
- Harris County Public Health
- The Henry M. Jackson Foundation, San Antonio
- Houston Health and Human Services

National

- Centers for Disease Control and Prevention (CDC), main campus in Atlanta, GA
- City of Cincinnati, Cincinnati, OH
- CyberCoders, Kalamazoo, MI
- National Institutes of Health (NIH), main campus in Bethesda, MD
- PPD, National
- State of Michigan, Lansing, MI

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