

## **Programmatic Competencies for the MPH in Biostatistics**

In addition to the core competencies developed in the core MPH curriculum, MPH in Biostatistics graduates should be able to:

- Demonstrate knowledge of health/medical issues when viewed from the perspective of the other disciplines of public health;
- Demonstrate knowledge of the principles of hypothesis testing and estimation of population parameters from observed data;
- Demonstrate knowledge of the design of a study and determine the most appropriate statistical analysis;
- Demonstrate the knowledge of the advantages and disadvantages of basic statistical procedures;
- Demonstrate knowledge of the ethical issues involved in research, especially issues pertaining to data;
- Critically review and summarize statistical analyses presented in public health literature;
- Train and supervise junior analysts and serve as a liaison between a senior statistical consultant and a junior analyst;
- Serve as an integral team member and actively participate in the research design, analysis and aspects of data collection and management;
- Determine appropriate the appropriate sample size necessary for a specific research hypothesis;
- Use computer software for data entry and data base management and use computer programs for summarizing, analyzing and displaying research results;
- Analyze and interpret data appropriate for nonparametric and parametric analysis of variance, regression and categorical data techniques;
- Develop a data base and establish quality controls, using computer software for data base set-up and management;
- Communicate to others the assumptions of the procedures used and their limitations;
- Present both oral and written reports of the methods and results of the statistical analysis.