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Megan M. Marron* (mmm133@pitt.edu) and **Abdus S. Wahed** (wahed@pitt.edu). *Using Medical Research Data to Motivate Methodology Development among Undergraduates in SIBS Pittsburgh.*

Missing data mechanisms, methods of handling missing data, and the potential impact of missing data on study results are usually not taught to undergraduates because these topics are viewed as too advanced. However, the appropriate handling of missing data is fundamental to biomedical research. The Summer Institute for Training in Biostatistics (SIBS) provides practical experience to motivate students to pursue graduate training and biomedical research. For the past four years, SIBS Pittsburgh has demonstrated the feasibility of introducing missing data concepts to undergraduates in a small-group project-based setting that involves both simulation and data analysis. After learning about missing data mechanisms and statistical techniques, undergraduates apply what they have learned to an NIH/NIDDK-funded Hepatitis C treatment study, to examine how various hypothesized missing data patterns can affect results. Simulation is used to examine the bias and precision of these methods under each missing data pattern. Our experience shows that under such project-based training, advanced topics, such as missing data, can be presented to students with limited statistical preparation. Undergraduates also gain an appreciation for how new statistical methods are developed and evaluated. (Received January 26, 2014)