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**Workshop on Statistical Data Collection: Riding the Data Deluge**

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**Objective Physical Activity Data from the National Health and Nutrition Examination Survey (NHANES), 2011-2014: The Challenges of Data Management, Processing, and Public Release**

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*Abstract*

Researchers and public health surveillance systems are increasingly utilizing accelerometers for the objective assessment of physical activity, which allow for more reliable and complete measurement of physical activity with relatively low subject burden compared to self-report measures. During NHANES 2011-2014, Actigraph accelerometers were used to collect high frequency data for the monitoring of population levels of physical activity.

Several data management and data processing concerns arise when considering the collection of accelerometer measured physical activity. Procedural considerations may include device selection, wear location, and device settings. Data management issues could include demand for computational resources including equipment and time, need for subject matter expertise, and managing participant compliance. Data release considerations include ongoing debate in the accelerometer field as to the best practices for data reduction and processing, concerns with a potential for disclosure risk from high-frequency data collected on wrist-worn devices (e.g., handwriting identification, rare activity patterns), and the potential for multiple data release products targeted at different physical activity researcher audiences.

Though the area is gaining traction and represents a cutting edge field, a minority of movement researchers are currently equipped with the necessary computational resources and expertise to utilize raw high-frequency accelerometer data. At the same time, there is disagreement within the field as to the best methods for reducing accelerometer data and logistical challenges to processing very large, raw high-frequency data. The presentation will further discuss the physical activity accelerometer data collected by NHANES, its processing, the potential for disclosure risk, and plans for public release.

