Obtaining Accelerometer Data Through Mail Administration: The Houston Transport Related Activity In Neighborhoods (TRAIN) Study.423 Board #274 May 27, 930 AM - 1100 AM

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A-49 Free Communication/Poster - Objective Monitoring and Biostatistics Wednesday, May 27, 2015, 7:30 AM - 12:30 PM Room: Exhibit Hall F

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PURPOSE: Recent technological advances in accelerometer design and ancillary software have improved the practicality of utilizing mail-based accelerometer data collection and retrieval in large epidemiological studies. However, this requires including written and illustrated instructions and therefore presents several challenges in obtaining useable data, including capturing data in a limited timeframe without battery replenishment capability, proper body placement, and wear time compliance. The current study presents baseline accelerometer data collection experiences from an on-going, community-based study in a low-income, urban setting.

METHODS: The TRAIN Study is a longitudinal, natural experiment, of adults (aged ≥ 18 years), living ≤ 3 miles from new light rail lines in Houston, Texas. Participants were recruited via telephone and community events and self-selected to wear an accelerometer. These data were collected through October 2014 via first class U.S. mail. After acknowledging their readiness to wear an activity monitor, an initialized accelerometer, instructions, a wear-time tracking log, and a pre-addressed and stamped return envelope was mailed to consenting participants. Two reminder postcards were sent at seven and 14 days post accelerometer mailing. Gift cards were used to enhance participation. Chi Square tests were used to examine differences in accelerometer protocol compliance by age, gender, race (non-white and white) and income (above low income [ALI; ≥200% Federal Poverty Threshold] and below low income [BLI]).

RESULTS: Through October, 2014, 791 individuals self-selected to participate in the accelerometer protocol; 253 (31.9%) consented and indicated their readiness to receive their accelerometer, while 55 (6.9%) opted-out of the study. Of the accelerometers shipped to participants, 198 (78.3%) have been returned, 33 (16.5%) are outstanding for greater

than 120 days, and 88 (44%) were returned with < 4 days of < 10 hours of wear time. The majority of compliant participants were younger (<57 years [median], p<0.0001), female (65.3%, ns), non-white (64.7%, ns), and more likely to be ALI (42%, p=0.02).

CONCLUSIONS: These data indicate that mail-based accelerometry data collection is possible in community-based studies and may be helpful in identifying strategies to improve monitor return and compliance strategies.