

Main outcome measures (1) Selected to be offered an accelerometer versus not. (2) Characteristics of participants who: (a) provided accelerometry data (minimum 10 h/day) on 7 days; (b) provided sufficient data on 4–6 days; or (c) provided less data than that (less than 4 days, accelerometer provided no data, or declined).

Results Those selected to be offered an accelerometer were older, more likely to be retired and to have a limiting long-standing illness than participants not in the accelerometry subsample. Seven-day accelerometer wearers were older (OR 1.02, 95% CI 1.02 to 1.03) though less likely to be retired (0.77, 0.62 to 0.97) or otherwise economically inactive (0.62, 0.49 to 0.78) or live in a deprived area (0.78, 0.62 to 0.96), and more likely to be ex- (1.42, 1.14 to 1.78) or never-smokers (1.37, 1.13 to 1.67), and to have been moderately physically active in the past month (1.45, 1.20 to 1.75) or met the physical activity recommendations (1.45, 1.17 to 1.79). Four- to seven-day wearers were also older (1.01, 1.01 to 1.02), less likely to be retired (0.77, 0.62 to 0.95) or otherwise economically inactive (0.60, 0.50 to 0.73), but were more likely to have a limiting longstanding illness; differences in self-reported activity were less marked.

Conclusion We found response bias in wearing the accelerometers. Differences should be acknowledged by data users. Four- to seven-day wearers are more representative of the general population than seven-day wearers.

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WHO WEARS AN ACCELEROMETER? CORRELATES OF ADHERENCE TO WEARING AN ACCELEROMETRY MOTION SENSOR: THE 2008 HEALTH SURVEY FOR ENGLAND

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Background Devices are increasingly used to assess objective physical activity levels but compliance problems replace the recall and social desirability bias of self-reported activity. The information available on whether those who wear an accelerometer for enough hours and days to yield useful data are representative of all study participants is limited.

Objective To investigate the representativeness of study participants who agreed to wear an accelerometer, and of those providing sufficient data for analysis, compared with all participants.

Design Cross-sectional health examination survey

Setting Health Survey for England (HSE) 2008, a survey of a random sample of the general population living in private households in England

Participants All 15,102 adults (6,760 male) aged 16+ interviewed in the HSE 2008 (58% response rate in the general population) were included in the initial component of the study, which explored how representative the participants randomly selected to be offered an accelerometer were of all study participants. The second component compared the representativeness of participants who provided sufficient accelerometer data with those who did not, among the 4,273 (1,910 male) adults aged 16+ selected to be offered an accelerometer.