

showed a similar propensity to do any active travel, but on average spent less time engaged in active travel. Findings were robust to different model specifications (e.g. using two-part models).

Conclusion Monitoring inequalities in PA requires assessing different aspects of the distribution within each domain.

P67 USUAL PHYSICAL ACTIVITY AND SUBSEQUENT HOSPITAL USAGE OVER 20 YEARS IN A GENERAL POPULATION: THE EPIC-NORFOLK COHORT

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Background UK government spending on health has risen on average by 3.7% per year since 1948, outpacing economic growth over the period, with approximately a half of this expenditure used for hospitals. While physical activity interventions have been reported to reduce hospital stays, it is not clear if usual physical activity patterns may be associated with subsequent hospital use independently of other lifestyle factors. We examined the relationship between reported usual physical activity, change in usual physical activity and subsequent admissions to hospital and time spent in hospital for 11 228 men and 13 786 women aged 40–79 years in the general population over two sequential 10-year follow-up period taking into account demographic and lifestyle factors.

Methods Participants from EPIC-Norfolk, a British prospective population-based cohort study were followed for 20 years (1999–2019) using record linkage to document hospital usage. Total physical activity was estimated by combining workplace and leisure time activity reported in a baseline lifestyle questionnaire and repeated with independent measures in a subset at a second time point approximately 12 years later.

Results Compared to those reporting no physical activity, participants who were the most active had a lower likelihood of spending more than 20 days in hospital odds ratio (OR) 0.75 (95% confidence interval (CI) 0.67–0.83) over the next 10 years after multivariable adjustment for age, sex, smoking status, education, social class and body mass index. Similar results were seen for 10-year follow-up after the second time point OR 0.60 (95% CI 0.50–0.72). Participants reporting any activity had a mean of 0.42 fewer hospital days per year between 1999 and 2009 compared to inactive participants, an estimated potential saving to the National Health Service (NHS) of £247 per person per year, or approximately 7% of UK health expenditure. Participants who remained physically active or became active 12 years later had lower risk of subsequent hospital usage than those who remained inactive or became inactive, p -trend < 0.001.

Conclusion Usual physical activity in this middle-aged and older population predicts lower future hospitalisations - time spent in hospital and number of admissions independently of behavioural and sociodemographic factors. Small feasible differences in usual physical activity in the general population may potentially have a substantial impact on hospital usage and costs.

P68 ABSTRACT WITHDRAWN

P69 FAMILY-BASED PHYSICAL ACTIVITY PROMOTION: RESULTS FROM THE FAMILIES REPORTING EVERY STEP TO HEALTH (FRESH) PILOT RANDOMISED CONTROLLED TRIAL

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Background Family physical activity (PA) promotion holds promise, but there is little high quality research evaluating its potential and impact. Following successful feasibility assessment and adaptation, this pilot study assessed the acceptability of FRESH, a child-led family-based PA intervention delivered online, and explored preliminary effectiveness.

Methods In a three-armed pilot randomised controlled trial (prospectively registered: ISRCTN12789422), 41 families (with 7–11-year-old index child) were allocated to a standard care control (CON), ‘pedometer’ (PED), or ‘family’ (FAM) group of the Self-Determination Theory-guided FRESH intervention. All family members in PED and FAM received pedometers and generic walking information; FAM additionally received access to the FRESH website, enabling participants to select step challenges, log steps, and track progress as they virtually globetrotted. All family members were eligible to participate; follow-up occurred 8-weeks and 52-weeks post-baseline. During home visits, research assistants assessed physical (e.g., fitness), psychosocial (e.g., social support), and behavioural (e.g., device-measured family PA) measures. Process evaluation questionnaires assessed acceptability of the intervention and accompanying evaluation. Semi-structured focus groups were conducted and website engagement explored.

Results Of 41 families recruited (149 participants; 4.0 ± 1.0 (mean \pm SD) people/family), 40 (98%) and 36 (88%) were retained at 8-week and 52-weeks follow-up, respectively. Compared to CON and PED, a greater percentage of FAM children self-reported doing more family PA (CON: 35%, PED: 45%, FAM: 83%) and found FRESH fun (CON: 93%, PED: 81%, FAM: 94%). Higher mean (\pm SD) scores were reported by parents in FAM for improved PA awareness (3.6 ± 0.6 vs. 3.2 ± 0.7) and increased family PA (3.0 ± 0.8 vs. 2.5 ± 0.8) compared to PED. Approximately 82% of FAM children wanted to keep using the FRESH website and 93% found it easy to use. Focus groups revealed FAM families enjoyed choosing weekly step challenges and were capable of identifying ways of meeting daily steps goals. In children, there were no notable between-group differences found for change in minutes in moderate-to-vigorous PA (MVPA) at 8 or 52 weeks. In contrast, change in MVPA minutes differed between adults in the FAM group and those in PED or CON groups (FAM vs CON: 9.4 [95%CI: 0.4, 18.4]; FAM vs PED: 15.3 [95%CI: 6.0, 24.5]; PED vs CON: -5.8 [95%CI: -15.1, 3.3]), however this was not maintained at 52-weeks.

Conclusion Preliminary process evaluation findings related to the FRESH intervention and evaluation were promising,