differences in change from baseline step-count and 19 providing mean between-group differences in end-point only step-counts. From the 22 studies, 16 reported the primary outcome at ≤3 months with a mean difference (MD) in step-count of 1255 [95% Confidence Interval 848, 1661]; 8 studies at ≤6 months, MD 1084 steps [647, 1520]; 9 studies at ≤1 year, MD 516 steps [273, 758]; 2 studies at ≤2 years, MD 290 steps [-7, 587]; and 4 studies at >2 years, MD 494 steps [251, 738]. The 19 studies with end-point only step-counts highlighted similar findings, but had fewer participants and reported no outcomes beyond one year.

Discussion This review demonstrated that pedometers and other step-count monitoring interventions significantly increase individuals' step-counts in the short-term, with larger trials also showing small sustained long-term effects. These interventions could therefore provide a means of addressing the public health inactivity challenge. Further work will evaluate which type of interventions are more effective and determine the effect-modifiers of physical activity maintenance.

OP66 EFFECT OF PEDOMETER-BASED WALKING INTERVENTIONS ON LONG-TERM HEALTH OUTCOMES: PROSPECTIVE 4-YEAR FOLLOW-UP OF 2 RANDOMISED CONTROLLED TRIALS USING ROUTINE PRIMARY CARE DATA

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10.1136/jech-2019-SSMabstracts.67

Background Data are lacking from physical activity (PA) trials with long-term follow-up of both objectively measured PA levels and robust health outcomes. Two primary care 12-week pedometer-based walking interventions in adults and older adults (PACE-UP and PACE-Lift) found sustained objectively measured PA increases at 3 and 4 years, respectively. Using routine primary care data, we aimed to evaluate intervention effects on long-term health outcomes relevant to walking interventions.

Methods We downloaded primary care data for trial participants who gave written informed consent, for 4-year periods after their randomisation from the 7 PACE-UP and 3 PACE-Lift English general practices. The following new events were counted masked to intervention status for all participants, including those with pre-existing diseases (apart from diabetes, where existing cases were excluded): non-fatal cardiovascular; total cardiovascular (including fatal); incident diabetes; depression; fractures; and falls. Intervention effects on time to first event post-randomisation were modelled using Cox regression for all outcomes, except for falls, which used Poisson regression to allow for multiple events, adjusting for age, sex, and study. Absolute risk reductions (ARRs) and numbers needed to treat (NNT) were estimated.

Results Data were downloaded for 1297 (98%) of 1321 trial participants. Event rates were low (<20 per group) for outcomes, apart from fractures and falls. Cox Hazard ratios for time-to-first event after randomisation for interventions versus controls were: non-fatal cardiovascular 0·24 (95% CI 0·07 to 0·77); total cardiovascular 0.35 (0.12 to 0.91); diabetes 0·75 (0·42 to 1·36); depression 0·98 (0·46 to 2·07); and fractures 0·56 (0·35 to 0·90). Poisson incident rate ratio for falls was 1.09 (95% CI 0·83–1·43). ARR and NNT (95% CI) for cardiovascular events were: non-fatal 1.7% (0.5% to 2.1%), NNT=59 (48 to 194); total 1.6% (0.2% to 2.2%), NNT=61 (46 to 472); and for fractures 3.6% (0.8% to 5.4%), NNT 28 (19 to 125).

Discussion New cardiovascular events and fractures were significantly decreased in the intervention group at 4 years. Though no significant differences between intervention and control groups were demonstrated for other events, direction of effect for diabetes was protective. Short-term primary care pedometer-based walking interventions can produce long-term health benefits and should be more widely used to help address the public health inactivity challenge.

Funding Supported by the National Institute for Health Research (NIHR)

OP67 THE PHYSICAL ACTIVITY WEARABLES IN THE POLICE FORCE (PAW-FORCE) TRIAL: FEASIBILITY, ACCEPTABILITY AND IMPACT

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10.1136/jech-2019-SSMabstracts.68

Background Policing is an increasingly sedentary occupation that is associated with high levels of physical and psychological morbidities. Mobile health (mHealth) technology is increasingly popular, low cost and accessible. The study aim was to assess the potential impact, feasibility and acceptability of an mHealth technology intervention (Fitbit® activity monitor and 'Bupa Boost' smartphone app) to promote physical activity (PA), reduce sedentary time, and improve health and well-being, perceived stress and perceived productivity in the police force.

Methods Single-group, pre-post, mixed methods exploratory trial. Police officers and staff (n=180) were recruited from two sites (Plymouth Basic Command Unit, Devon & Cornwall Police and North Dorset territorial area, Dorset Police). Participants used the technology for 12 weeks (an 'individual' then 'social' phase) followed by five months of optional use. Data sources included Fitbit®-recorded objective step count, questionnaire surveys and semi-structured interviews (n=32). Outcome assessment points were baseline (week 0), mid-intervention (week 6), post-intervention (week 12) and follow-up (month 8). Quantitative data was analysed using paired t-tests, regression and correlations. Qualitative analysis involved framework and thematic analysis. Findings were integrated during interpretation; qualitative findings confirmed, explained, and expanded on quantitative results.

Results While self-reported PA increased overall (e.g. mean increase +421 MET-minutes/week moderate to vigorous PA baseline to month 8, 95% CI 56–785), significant increases in steps were observed only in participants with a baseline mean daily step count less than 10,000 (+1028 steps/day, 95% CI 417–1,639 baseline to week 12; +810 steps/day, 95% CI 115–1,506 baseline to month 8).

Engagement and perceived acceptability were high overall, particularly for the less active participants, but some usability issues were reported with the Bupa Boost app, resulting in lower and declining engagement with this component.