Downloaded by on 10/08/18, Volume ${article.issue.volume}, Article Number ${article.issue.issue}

Background: Leisure centres represent the front-line of preventative care providers and understanding sector trends can offer insight into approaches to improve population health. This work aimed to determine what the UK public sector leisure landscape looks like and how this is changing over time.

Methods: Aggregated data supplied by DataHub from over 300 leisure centres across the UK over the last three years was supplied, covering over 3 million individuals and 150 million visits to leisure facilities. Key factors, including the demographic breakdown of members and peak days and times to visit were examined. Participation in individual sports were examined to find the most popular activities and identify those that were gaining in popularity. Users were segmented by age and sex to examine differences in behaviour between groups.

Results: Visits to leisure centres have increased over the last three years, with females making up over half of the membership base in 2017 (52%). Further, the 65+ age group appear to be under represented within the membership base, making up just 9% of total members. Whilst swimming remains the most popular activity, representing 35% of all visits, the prevalence of this is declining as the popularity of group workouts has grown over the last three years.

The report will be updated with the latest data in Spring 2018 to present up to date analysis and examine how the face of public sector leisure has changed over the last year.

Session: Physical Activity Epidemiology

Differences in physical activity among rural-to-urban migrant and non-migrant: the Bangladesh sibling-pair comparative study

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Introduction: The detrimental effects of urbanization in developing countries on people's lifestyles are based on the cross-sectional comparison. This study examined differences in physical activity (PA) between rural-to-urban migrants and their rural siblings in Bangladesh.

Methods: A sib-pair comparative study was designed to compare PA among 164 male migrated from Pirganj rural areas to Dhaka City and their rural siblings (total N = 328). The Global Physical Activity Questionnaire (GPAQ-V2) in the Bengali language was used. We adhered to GPAQ scoring protocol for computation of PA indicators. Generalized linear mixed effect model (GLMM) for the binary outcomes with a pair-specific random effect and SES in the fixed effect was used.

Results: Compared to migrants, rural men had higher mean ± SD age (31.87 ± 7.54 vs 33.35 ± 9.33; $p = 0.02$), lower proportion of university-level education (17.7% vs 14.6%) and higher proportion of manual worker (53% vs 66%). Rural siblings reported significantly higher total MVPA (median MET-minutes/week: 2340 vs 800, $p = 0.04$) than did migrants. The median weekly travel moderate PA (710 vs 380, $p < 0.001$) and leisure time MVPA (260 vs 0, $p < 0.001$) MET-minutes were higher in rural than migrants. Work-related MVPA did not differ significantly. The prevalence of physical inactivity was 21.30% in rural siblings and 42.70% in migrants. The adjusted odds ratios for low physical activity was 3.26 (1.73; 6.16) for migrants compared to the rural siblings.

Conclusion: Siblings who shared similar rural lifestyle but migrated to megacity were at higher risk of physical inactivity. Interventions targeting rural-to-urban migrants may help to reduce NCDs in Bangladesh.

The effect of moving to East Village (the former London 2012 Olympic Games Athletes Village) on physical activity levels

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Introduction: There has been increasing interest in whether the built environment influences health behaviours, but robust longitudinal evidence is limited. We assessed the effect of moving into East Village, a neighbourhood built on active design principles, on levels of physical activity (PA).

Methods: A cohort of 1278 adults seeking to move into social, intermediate (affordable), and market-rent East Village accommodation were recruited in 2013-2015, and followed up after two years. Objective measures of PA using accelerometry (ActiGraph GT3X) were made. We examined change in levels of PA, adjusting for sex, age group, ethnicity, housing sector and household (random effect), comparing those who moved to East Village (intervention group) with those who lived outside East Village (control group). Effects by housing sector and weekdays versus weekends were examined.

Results: 877 adults (69%) were followed-up, half had moved to East Village. Moving to East Village was associated with a small increase in daily steps (187, 95%CI -195, 569), more so in the intermediate sector (418, 95%CI -198, 1033), but effects were not statistically significant. There were no differences in time spent in moderate-to-vigorous PA (MVPA) or any appreciable weekend effects. There was evidence of less time spent in light PA (-6.8 mins/day, 95%CI -12.5, -1.1), largely in the market-rent group (-13.4 mins/day, 95%CI -25.2, -1.7).

Conclusion: At two-year follow-up, moving to East Village, did not have positive, consistent effects on objectively measured physical activity of public health importance.

External funding details: MRC National Prevention Research Initiative (MR/J000345/1) and National Institute for Health Research (12/211/69).

Relationships between outdoor time, physical activity, sedentary behavior and obesity in children: a 12-country study

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Introduction: Previous studies have shown that children spending more time outdoors accumulate more physical activity (PA), but this body of evidence is limited to high-income countries. The present study investigated the relationship between outdoor time and PA, sedentary time (SED), and BMI Z-scores among children in the International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE).