

independent researchers assessed titles and abstracts, extracted data and assessed risk of bias in the included studies, following the PRISMA guidance. Review inclusion criteria were: a) health education intervention, studies conducted in schools in high-income countries that included a control group b) participants aged 10–19 years, c) studies reporting BMI/BMI Z-score at baseline and follow-up. A meta-analysis was conducted combining findings of studies presenting data on BMI z-score ($n=13$). Heterogeneity was assessed using Cochran's Q and the percentage of variability due to heterogeneity was quantified using I^2 .

Results Searches identified 29,174 publications, of which 312 studies papers were selected as potentially meeting inclusion criteria. Twenty-five studies met the inclusion criteria. Most ($n=18$) were delivered by teachers in classroom settings, followed by researchers, schools nurses and students. Additional methods used in the interventions included out of class components, physical activity sessions, digital interventions and parent involvement. Eleven of the included studies were effective in improving BMI or BMI Z-score at follow-up periods from two months to two years post-intervention. Intervention features associated with effectiveness were the provision of training for teachers prior to intervention, and involvement of parents or families. Data from 13 of the 25 studies were included in a meta-analysis, using a random effects model given the high level of heterogeneity ($I^2=65.1\%$). The overall pooled estimate of change in BMI Z-score in the intervention group, compared with the control group, demonstrated that BMI improved in adolescents exposed to the intervention [$\beta=-0.10$, 95% CI (-0.14, -0.05); $p<0.001$].

Conclusion This systematic review demonstrates that school-based educational interventions have the potential to prevent obesity in adolescence. Mediating factors associated with effectiveness included providing training for teachers prior to the intervention and involving parents or families.

Health inequalities

RF25

EFFECTS OF HOUSING FIRST APPROACHES ON HEALTH AND WELLBEING OF ADULTS WHO ARE HOMELESS OR AT RISK OF HOMELESSNESS: SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

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10.1136/jech-2019-SSMabstracts.140

Background Access to housing is an important determinant of health, with homeless people having substantially increased morbidity and mortality compared to the housed population. Conventional 'Treatment First' (TF) models for tackling homelessness provide temporary accommodation conditional on adherence to services to address health needs, particularly substance use. A new policy approach aiming to end homelessness across Europe and North America, the 'Housing First' (HF) model, provides rapid housing, not conditional on abstinence from substance use. This has been noted by other reviewers as improving housing stability, but at the potential cost of removing incentives to use health services and abstain from harmful substances. Conversely, increased housing stability may lead to health improvements. We aimed to

systematically review the evidence from randomised controlled trials to evaluate the effects of HF on health and well-being.

Method We searched seven databases for randomised controlled trials of interventions providing rapid access to non-abstinence-contingent, permanent housing. We extracted data for the following primary outcomes: mental health; self-reported health and quality of life; substance use; non-routine use of healthcare services. Data recording housing stability was extracted as a secondary outcome. We assessed risk of bias and calculated standardised effect sizes.

Results We included four studies, all with 'high' risk of bias. The impact of HF on most short-term health outcomes was imprecisely estimated, with varying effect directions. No clear difference in substance use was seen. Intervention groups experienced fewer emergency department visits (incidence rate ratio (IRR)=0.63; 95% CI 0.48 to 0.82), fewer hospitalisations (IRR=0.76; 95% CI 0.70 to 0.83) and less time spent hospitalised (standardised mean difference (SMD)=-0.14; 95% CI -0.41 to 0.14) than control groups. In all studies intervention participants spent more days housed (SMD=1.24; 95% CI 0.86 to 1.62) and were more likely to be housed at 18–24 months (risk ratio=2.46; 95% CI 1.58 to 3.84).

Conclusion HF approaches successfully improve housing stability and may improve some aspects of health. Implementation of HF would likely reduce homelessness and non-routine health service use without an increase in problematic substance use. Impacts on long-term health outcomes require further investigation.

RF26

QUANTIFYING INEQUALITIES IN LOOKED AFTER CHILDREN IN ENGLAND

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10.1136/jech-2019-SSMabstracts.141

Background The proportion of Looked After Children (LAC) in England is rising. The high burden and consequences of child maltreatment are well documented, yet little is known about the drivers of children being taken into care in England. In order to inform policy, this analysis aimed to determine whether there were inequalities in the sustained rise in LAC in recent years.

Methods We analysed routinely available local authority level data from 152 English upper tier local authorities between 2003–4 and 2017–18. The principal outcome was the rate of children taken into care each year. Numbers of LAC were drawn from the 'children looked after data return', submitted by local authorities to the Department of Education annually. Child population data were sourced from Office of National Statistics mid-year population estimates. Local authorities were assigned to quintiles according to their income deprivation score based on 2015 Indices of Multiple Deprivation, the main exposure of interest. Trends were analysed descriptively. Longitudinal mixed effects models were used to assess changes in social inequalities in LAC over time. Analyses were performed in R version 3.5.2.

Results There was a 29.8% increase in children taken into care between 2008 and 2018 in England, which was not experienced evenly across the population. In 2008 the absolute inequalities gap between most and least deprived areas was 143 children per 100,000 (95% CI 108 to 179). Between