

was designed to support delivery of CHERIsH by healthcare practitioners (HCPs) delivering the intervention. This strategy included appointing a local opinion leader and providing two incentivised training sessions and educational materials. The aim of this study was to examine the acceptability and feasibility of this HCP-level implementation strategy.

**Methods** A mixed-methods approach using qualitative and quantitative methods was used to investigate the acceptability and feasibility of the HCP-level implementation strategy. HCPs were recruited from three practices within a Healthcare Centre involved in the implementation of the intervention. Data were collected using researcher observations and field notes; HCP checklists, questionnaires and focus groups with Practice Nurses (PNs) and General Practitioners (GPs). Thematic analysis of qualitative data and statistical analysis of quantitative data is on-going.

**Results** Of the 21 HCPs involved in the implementation strategy, 18 (85.7%) completed both the pre and post-training questionnaires (GPs=9; PNs=9). Prior to training, 88% of HCPs considered discussing infant feeding as part of their professional role; however, only 44% reported feeling confident in doing so, with no HCPs discussing infant feeding at 4 and 6 months. The most common source of infant feeding information reported by HCPs included health service leaflets, discussions with colleagues and information leaflets from infant formula manufacturers. After training, all HCPs considered infant feeding to be part of their professional role, with 31% now discussing infant feeding with parents for infants aged 4 and 6 months. Qualitative data indicate that HCPs felt that both training sessions which provided resources and educational materials, were 'useful and very productive'.

**Conclusion** CHERIsH training sessions delivered as part of the implementation strategy were considered acceptable and feasible by the HCPs, and improved their confidence in providing infant feeding advice. These training sessions, which include information on current national feeding guidelines and feeding issues, should be delivered as part of routine HCP training. This will ensure that all HCPs have evidence-based training to support the delivery of consistent infant feeding messages at infant vaccination visits in primary care practice.

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#### CUTS TO SPENDING ON SURE START CHILDREN'S CENTRES AND CHILDHOOD OBESITY: EVIDENCE FROM A NATIONAL, LONGITUDINAL ECOLOGICAL STUDY IN ENGLAND

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**Background** Childhood obesity is rising in disadvantaged areas in the UK. Whilst the causes of childhood obesity are multiple and complex, modifiable pathways may operate through provision of community-based services in the early years, where healthy nutrition and physical activity can be supported in numerous direct and indirect ways. In England, local authority-run Sure Start children's centres have been an important source of parenting programmes; early learning and childcare; promotion of breastfeeding, active play and good nutrition; and links with employment and welfare support.

Austerity measures adopted by the UK government since 2010 resulted in large cuts to local authority (LA) budgets

and, consequently, dramatic reductions in many councils' expenditure on non-statutory services, including Sure Start centres. Reduced investment in these centres may affect a range of child health and development outcomes, including childhood obesity. We assessed whether spending cuts were associated with the prevalence of obesity at school reception (age 4–5 years).

**Methods** This is a longitudinal ecological study over the period 2010–2017. Our main exposure was LA expenditure on Sure Start centres using data from the Department for Education. Our outcome was obesity prevalence at reception, using data from the National Child Measurement Programme. We used fixed-effects panel regression, controlling for secular changes in obesity prevalence and time-varying confounding by local economic conditions and levels of child poverty. We examined interactions with LA deprivation and pre-2010 obesity trends, and conducted a negative control analysis using spending on services for older children as a control exposure.

**Results** Between 2010 and 2017, spending on Sure Start and early years' services decreased by 56% on average across LAs in England, and more in deprived areas. Childhood obesity prevalence plateaued overall, but continued to increase in some areas, particularly more deprived areas. Our analysis indicates that, on average, obesity prevalence increased in areas with larger cuts to Sure Start spending. We estimate that each 10% spending cut is associated with a 0.34% relative increase in obesity prevalence (95% CI:0.15%–0.53%). There is some evidence that this association is stronger in the most deprived areas and in areas where obesity prevalence had been falling prior to 2010.

**Conclusion** Our findings suggest cuts to local authority spending on children's centres are associated with increased childhood obesity. Disinvestment in the services these centres provide in the early years may be undermining progress in reducing the prevalence of childhood obesity. Limitations of the study include a reliance on area-level obesity data.

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#### COMBINED EFFECTS OF SOCIAL RELATIONSHIPS AND VISCERAL ADIPOSITY IN WOMEN AND MEN

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**Background** Social connections are recognized as a major determinant of survival and wellbeing. Around half of Canadians aged 80 and older live alone and more senior women live alone than senior men. The link between different social ties and central obesity in women and men is poorly understood, and the interplay of different social ties is seldom studied. This population-based study examined multiple structural social ties in relation to waist circumference (WC) among women and men in Canada.

**Methods** We used baseline data from the population-based Canadian Longitudinal Study on Aging (2012–2015) Comprehensive cohort of 28,238 adults (45–85 years), and gender-stratified multivariable linear regression models with interaction terms for each pair of social ties. Regression coefficients were used in post-estimation calculation of adjusted means and 95% confidence intervals.