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A MIXED METHODS SYSTEMATIC REVIEW: BARRIERS AND FACILITATORS OF GUIDELINE RECOMMENDED PRACTICES TO PREVENT EARLY CHILDHOOD OBESITY

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Introduction: UK Health Visitors (HVs) are public health nurses who lead the Healthy Child programme 0-5, aimed at promoting health of 0-5-year children. Supporting HVs to implement guideline recommended practices and integrating those approaches into routine service delivery is an important public health opportunity. The aim of this mixed methods systematic review was to identify the determinants of practices of primary care health professionals (HPs) with regard to prevention of childhood obesity.

Methods: A systematic search of five databases was conducted. Forty five full text studies published in English language since 2002 were included. These studies reported data from HPs (e.g., nurses, doctors) concerning their experiences of implementing guideline recommended practices. Data were synthesised using *Joanna Briggs Institute mixed method methodology*.

Findings: Emerging themes were categorised using a socio-ecological framework into intra/inter personal factors, organisational factors and societal factors. Overall, there was decreased adherence to all guideline recommended practices. Perceived barriers and facilitators most commonly related to intra-personal level (staff and parent factors) and interpersonal level (interactions between staff and parent). HPs also identified several barriers but very few facilitators at the organisational and societal level.

Conclusions: This is the first comprehensive review on this subject, to the best of my knowledge. The findings of this review have informed the development of an intervention to support HVs' clinical practices in County Durham. Whilst it is important to address the intra/interpersonal barriers, it is crucial to consider the wider organisational and societal context in which HPs practice.

HOW COMMUNITY PHARMACY USAGE VARIES ACCORDING TO DEMOGRAPHIC AND SOCIO-ECONOMIC FACTORS IN THE NORTH EAST OF ENGLAND

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Health inequalities are systematic and socially produced differences in health. Evidence suggests these inequalities are linked with individual demographic factors and socio-economic status (Bambra, 2016). Poorer health can lead to increased health need and healthcare service utilisation. Healthcare provision is not always proportional to health need. When need is greater than provision there is an inverse care law; this has been evidenced in many areas of UK healthcare (Shaw, 2004). However, a recent study presented evidence of a positive care law in community pharmacy access in England and Wales (Todd et al., 2014).

This current study aims to investigate how community pharmacy usage varies according to demographic and socio-economic factors in the North East of England. A cross-sectional questionnaire was conducted in eight North East community pharmacies in summer 2018. 2306 respondents were surveyed with a response rate of 72.6%. Chi-squared significance testing was carried out to compare the demographic and socioeconomic characteristics of the sample against a weighted area-level comparator, based on 2011 Census data. The demographic and socio-economic factors measured in the model were:

age; gender; ethnicity; marital status; housing tenure; highest formal qualification and economic activity. Use was defined as visiting the community pharmacy during the study period.
Overall, this research presents original empirical evidence that community pharmacy usage is determined by individual demographic and socioeconomic factors. Future community pharmacy policy should take such factors into account, especially in regards to their increasing role in public health initiatives.

EXPLORATORY ANALYSIS CHARACTERISING CHILDREN WHO DRINK SUGAR-SWEETENED BEVERAGES IN THE UK

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The Soft Drinks Industry Levy (SDIL) has been mandated as part of the *Childhood Obesity Plan* and is projected to result in an 8.55% reduction in the rates of children and adolescents who are obese. This study aimed to explore the underlying characteristics of children who drink sugar-sweetened beverages (SSBs) in the UK, through the application of the hierarchical agglomerative clustering (HAC). Data from 4-day estimated food diaries of 1298 children aged 4-10 years from the National Diet and Nutrition Survey (NDNS) Rolling program from 2008 to 2016 were analysed in Rstudio. Variables included demographics, weight classification, total energy and macronutrients intake and Non-Milk Extrinsic Sugar (NMES) intake. Children were categorised as "drinkers" and "non-drinkers" of SSBs based upon their consumption or not. The process of HAC identified six different clusters, with distinct characteristics based on the combined values from the 16 variables collected as part of the NDNS. The results of the HAC shows that drinkers and non-drinkers are distributed across the clusters and there is no significant effect of bodyweight status on drinking behaviour. Also, 78% of drinkers (617/790) didn't exceed their energy requirement consumption. This analysis confirms the complexity of relationships across demographic and other health-related variables. Each cluster has a different mix of SSB drinkers and non-drinkers, emphasising the problematic nature of simplistic interventions that aim to tackle a particular behaviour or address a particular bodyweight category, without taking into consideration other health determinants and outcomes (i.e. Sugar levy in tackling childhood obesity).

EFFECTIVE IMPLEMENTATION STRATEGIES IN PROMOTING PRACTITIONER DELIVERY OF HOSPITAL-INITIATED TOBACCO DEPENDENCE TREATMENT

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Tobacco dependence is a key factor in 10% of adult deaths worldwide. Over 50% of long-term smokers die on average 10 years prematurely. Most smokers want to quit, with hospitalisation increasing receptiveness to cessation support. NHS CQUIN targets incentivise hospital-based tobacco dependence treatment. Interventions may inadvertently worsen health inequity.
A systematic evidence overview was undertaken to assess which implementation strategies successfully promote practitioner delivery of hospital-initiated smoking cessation interventions. Searching 10 databases revealed 4,811 references; 25 systematic reviews fulfilled inclusion criteria citing 540 papers, of which 51 studies were relevant. Interventions were assessed on implementation strategies (EPOC Taxonomy); health equity (PROGRESS); intervention description and delivery (TIDieR); and risk of bias (Cochrane).
Ten-percent of studies incorporated all four EPOC-taxonomy domains, 53% covered three, and 6% covered only one; 98% studies included implementation strategies, 94% and 61% covered delivery and governance arrangements respectively, however only 16% described financial arrangements. Fourteen-percent explicitly aimed to reduce health inequity, however 12% worsened equity, typically by excluding specific ethnicities/races. Studies commonly failed to

describe tailoring (45%), fidelity assessments (47%), and modifications (74%). There was significant heterogeneity and bias across the studies. Improvements were seen in provision of cessation advice; self-help literature, and medication; and one-month abstinence.

A wide variety of implementation techniques were utilised. Assessment on reducing healthcare-generated disparities is often overlooked, and reporting quality and rigour is variable. Implementation strategies increase service delivery, but this does not equate with long-term abstinence. Trusts should implement a "whole-system approach" combining hospital and community services for optimal results.