

and friends. The poorer health of carers should therefore be a priority for UK public health.

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### A SYSTEMATIC REVIEW OF PROSPECTIVE RISK AND PROTECTIVE FACTORS FOR INTIMATE PARTNER VIOLENCE VICTIMISATION AMONG WOMEN

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**Background** Rates of intimate partner violence (IPV) against women are unacceptably high worldwide. There has been no systematic review in over 10 years of all risk and protective factors without location or peer-review restrictions. Resultantly, there is no recent, systematically-developed model of the causes of IPV at all levels (individual, relationship, community, and structural) that accounts for differences, similarities, and evidence-gaps across low- to high-income contexts. This remains a barrier to the effective prevention of IPV, with significant uncertainty over what works and within which contexts. We aimed to systematically review all prospective, longitudinal risk and protective factors of IPV victimisation among women.

**Methods** Systematic searches were conducted in 16 databases and references of relevant studies were hand-searched. Published or unpublished studies in English that prospectively analysed the association between any risk or protective factor(s) and self-reported IPV victimisation among women, controlling for at least one other variable, were included. Study quality was assessed using the Cambridge Quality Checklists. Study screening, extraction, and quality appraisal were completed and checked by three independent reviewers. Results were graphically synthesised using harvest plots, which allow for the synthesis of heterogeneous evidence and identification of trends towards negative, null, or positive associations.

**Results** Searches retrieved 10 444 unique results. After title and abstract review, 387 studies were screened by full-text. Sixty studies from 35 cohorts met inclusion criteria. Most studies were from the USA (80.0%). A total of 71 risk/protective factors were identified, mostly at the individual- (n=21) or relationship-level (n=25) rather than the community- (n=7) or structural-level (n=18). Variables that showed positive or a mix of null-positive associations with women's IPV victimisation were: at the individual-level, women's identification as non-white, younger age, alcohol use, depressive symptoms, antisocial behaviour, aggressive personality, and experience of child abuse; at the relational-level, partners' identification as non-white, alcohol use, antisocial behaviour, low relationship satisfaction, poor parental relationship quality, and experience of low parental monitoring; and at the structural-level, partners' unemployment, women's lower education, and financial difficulties. Other variables were under-studied ( $\leq 2$  studies) or showed mixed or mainly null effects.

**Conclusion** Significant work is needed to develop an ecological model of IPV against women using prospective data. Many commonly accepted risk factors for IPV victimisation among women such as exposure to inter-parental violence and

community factors have little (if any) prospective evidence from outside the USA. Further prospective research on the aetiology of IPV against women is needed to inform rigorous prevention models.

## Food policy

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### STAKEHOLDERS' FRAMING OF EVIDENCE ABOUT THE UK SUGAR-SWEETENED BEVERAGE TAX: A NEWS MEDIA ANALYSIS

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**Background** In politically-contested health debates, such as sugar-sweetened beverage (SSB) taxation, stakeholders seek to present evidence and arguments for or against the specific policy initiatives, based on their interests. The news media play a crucial role in shaping public opinion by selectively choosing which messages to focus on. While the literature suggests that media debates should be a key concern for those interested in understanding public health policy processes, as yet there has been only limited research in this area. This study examined how stakeholders' positions and evidence on SSB taxation were represented in the media to inform SSB advocacy strategies.

**Methods** Quantitative and qualitative content analysis of 1632 articles about sugar consumption and SSB taxation published in eleven national UK newspapers, chosen for diversity in political views and genre. We conducted a systematic search of the Nexis database to identify all articles relating to SSBs published between 1 April 2015 and 30 November 2016. A coding frame was developed. Two reviewers then coded a 10% random sample of articles to ensure consistency in the definition and application of codes. All remaining articles were coded by one reviewer. Data were analysed thematically, following the principle of constant comparison and attention to contradictory data. We used Beauchamp's theory of market justice and social justice frames to analyse stakeholders' messages on SSB taxation.

**Results** A wide range of stakeholders sought to present evidence and arguments for or against SSB taxation. Stakeholder positions were largely shaped by their vested political interests. For example, corporate stakeholders were more likely to draw upon market justice frames promoting individual-level drivers for high rates of sugar consumption and individual-level solutions such as education. Whereas, public health advocates were more likely to draw upon social justice frames promoting population-level drivers for high sugar consumption and SSB taxation as a policy-level measure.

**Conclusion** There is a complex, poorly-understood, interdependency between the framing of evidence in public policy debates, media representations of this evidence and the influencing strategies used by stakeholders. These early insights into stakeholders' framing of evidence, both scientific and non-scientific, in the case of SSB taxation could potentially inform wider debates about the media strategies of global

producers and marketers of unhealthy commodities to ‘directly lobby’ the public.

#### OP94 HOW DOES THE ALCOHOL INDUSTRY DEFINE “RESPONSIBLE DRINKING”? A QUALITATIVE ANALYSIS

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**Background** Alcohol is the third largest risk factor for disease burden worldwide, after hypertension and tobacco use. Although there is an extensive evidence base on the most effective interventions to reduce alcohol harms at a population level (through targeting marketing, availability and price), the main focus of alcohol industry initiatives has been on providing information and education. “Responsible drinking” messaging (e.g. “Drink [product] Responsibly”) which frequently appears on product labels and adverts is a central element of such corporate social responsibility (CSR) activities. It has been argued that such messaging is vague, and potentially part of broader CSR activities to protect industry interests at the expense of public health. This study aimed to identify how industry defines responsible drinking, and in what contexts it is used.

**Methods** Qualitative documentary analysis A document search was carried out to identify publicly available documents (annual reports, shareholder communications, press releases and website content), published or available between January 2014 and July 2016, from two representative multinational alcohol producers (Diageo and AB InBev), Diageo’s DrinkIQ website, the Portman Group, the International Alliance for Responsible Drinking, the International Centre for Alcohol Policy or ICAP, and the DrinkAware Trust (all organisations funded by alcohol producers). These were compared to alcohol-related documents from Public Health England, WHO, Alcohol Concern and Addaction during this period.

Coding was performed iteratively using NVivo 11 (version 11.2.2), and analysed using the hermeneutic approach, which involves reading and understanding meanings of individual texts, identifying sub-themes or ‘codes’, identifying thematic clusters of codes, triangulation between sources, checking reliability/validity, and illustrative use of representative case material.

**Results** In total, 321 documents were evaluated, of which 101 referred to responsible drinking and were therefore included in the analysis.

The term “responsible drinking” was used almost exclusively by industry or industry-funded organisations. Responsible drinking was not clearly defined with relation to any particular level of alcohol consumption, and government alcohol guidelines were rarely referenced. Long-term health harms (such as non-communicable diseases) were not mentioned in association with responsible drinking. Instead, responsible drinking was typically linked to behaviours (such as underage drinking).

**Conclusion** Responsible drinking is a strategically ambiguous, industry-affiliated term allowing multiple interpretations. Industry sources rarely reference government drinking guidelines in the context of responsible drinking, instead stressing individual responsibility and risk management. Public health practitioners should be aware of these distinctions, and the industry

framing of ‘responsible’ drinking, and use clear language regarding lower-risk drinking.

#### OP95 QUANTIFYING THE POTENTIAL US HEALTH AND ECONOMIC EFFECTS OF THE FDA VOLUNTARY SALT REFORMULATION PROPOSAL

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**Background** Salt consumption is a major modifiable risk factor for cardiovascular disease (CVD), the leading cause of mortality and morbidity in the US. Voluntary reformulation policies targeting salt have been deployed in several countries with varying effectiveness—high in Finland and the UK, low in Australia. The US Food and Drug Administration (FDA) has proposed voluntary salt reduction goals targeting processed and commercially prepared foods. We aim to quantify the potential CVD and economic impact of the FDA reformulation policy.

**Methods** We extended the previously validated US IMPACT Food Policy Model. We then estimated the CVD cases averted, Quality Adjusted Life Years (QALYs) generated and cost-effectiveness from 2017–2036 of the proposed FDA reformulation policy. We used datasets including the National Health and Nutrition Examination Survey, cost information from the National Sodium Reduction Initiative and meta-analysis for salt consumption effects upon blood pressure and CVD.

Costs included government costs to administer and monitor the policy and industry reformulation costs, under the assumption that estimated 75% of food products would be applicable for the salt reduction targets. Savings included healthcare and productivity costs. All costs were inflated to 2017 dollars and outputs were discounted at 3%.

We modelled the 10 year reformulation targets under 2 scenarios: a) Full industry compliance in all applicable food groups b) 50% compliance in applicable food groups

We then conducted a rigorous probabilistic sensitivity analysis.

**Results** Achieving the salt reduction targets under a full compliance scenario could prevent approximately 516,000 CVD cases (95% uncertainty intervals 300,000–752,000) and gain some 2.7 (2.4–3.1) million discounted QALYs between 2017 and 2036. The policy could produce discounted cost savings of approximately \$62bn (\$35.3bn–\$86.2bn), with total net costs of approximately +\$15.7bn (policy), \$37.6bn (healthcare), and \$41.3bn (indirect costs) over the same period.

Under the 50% compliance scenario, health gains would be approximately half as large, approximately 1.4 (1.3–1.7) million QALYs with discounted savings of \$33bn (\$19.4bn–45.9bn).

From a societal cost perspective, both scenarios would have an 80% chance of being cost effective after 4 years (Willingness to pay of \$50,000/QALY) and cost saving after 10 years.

**Discussion** Achieving the FDA salt reduction targets in processed foods could generate substantial health gains and cost savings in the US, assuming industry compliance. Policy makers should therefore focus on encouraging high compliance by