

maintenance of interpersonal relationships with other workers, clients, patients or pupils. Information from this study may help develop workplace interventions targeted to prevent psychosocial factors affecting different sections of the workforce.

P68

#### RELATIONSHIP BETWEEN SOCIOECONOMIC STATUS AND GASTROINTESTINAL INFECTIONS IN DEVELOPED COUNTRIES: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Background** The public health impact of gastrointestinal (GI) infections is substantial, with around a quarter of individuals experiencing an episode of infectious gastroenteritis each year. Yet relatively little is known about the social patterning of these infections. Studies investigating the association between socioeconomic status (SES) and risk of GI infections have produced conflicting results, with some reporting greater risk amongst lower SES and other observing the opposite effect. This systematic review and meta-analysis aimed to assess the association between SES and risk of GI infections, and explore possible sources of heterogeneity in effect estimates reported in the literature.

**Methods** MEDLINE, Scopus, Web of Science and grey literature were searched from 1980 to October 2015 for studies reporting a quantitative association between GI infections and SES in a representative population sample from a member-country of the Organisation for Economic Co-operation and Development. Quality assessment was conducted using the Liverpool University Quality Assessment Tool. Harvest plots were created for comparison where heterogeneity between studies was high, stratified by age, SES measurement, GI infection measurement and pathogen type. Meta-analysis was conducted on a subset of data. To explore sources of heterogeneity, meta-regression and stratified meta-analyses were performed on the basis of country, age, pathogen type, GI infection measurement and SES measurement. The protocol was registered on PROSPERO: CRD42015027231.

**Results** In total, 6021 studies were identified; 102 met the inclusion criteria. Overall risk of GI infection for low versus high SES was 1.06 (95%CI 0.95–1.19). For children, risk was higher for those of low SES versus high (RR 1.51, 95% CI 1.26–1.83), but there was no association for adults (RR 0.83, 95% CI 0.61–1.14). Results were similar when sensitivity analyses were performed on the basis of study quality. Age explained a small proportion of the overall heterogeneity.

**Discussion** We quantify, for the first time, the association between SES and risk of GI infection in developed countries and show that disadvantaged children, but not adults, appear to be at greater risk of GI infection compared to their more advantaged counterparts. Increased risk may relate to differential exposures, vulnerability or healthcare-seeking behaviours by SES. It is possible that factors that could not be adjusted for may explain the high residual heterogeneity. Strategies to

improve childhood socioeconomic conditions are likely to reduce the burden of GI illness. Gaining greater insight into this relationship will help to inform policies to reduce the health inequalities identified.

P69

#### EXAMINING STRATEGIES TO INCREASE KNOWLEDGE MOBILISATION BETWEEN PUBLIC HEALTH ENGLAND AND KEY STAKEHOLDERS: A MIXED METHODS STUDY

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**Background** Public Health England (PHE) is an executive agency, sponsored by the Department of Health, which aims to protect and improve the nation's health and wellbeing, and reduce health inequalities. PHE has a number of responsibilities relating to the collection, curation and sharing of research, data and other knowledge relevant to public health. The organisations key stakeholders include local authorities and clinical commissioning groups. PHE requested that an academic partner support the organisation to develop the organisation's knowledge mobilisation function.

**Methods** We conducted a sequential mixed methods study. 1. We performed a rapid evidence review to identify strategies which improve knowledge mobilisation; 2. We held a workshop for PHE staff during which we prioritised identified strategies using Delphi methods; 3. We conducted semi-structured interviews and a focus group with a range of PHE staff to discuss the relevance of identified strategies in context; 4. We integrated findings from all three sources using the Pillar Integration Process, a technique for analytical integration of mixed data.

**Results** We identified 13 relevant reviews/meta-reviews. 16 PHE staff attended the workshop. 18 PHE staff were involved in indepth qualitative work (8 semi-structured interviews, 1 focus group of 10 people). Of strategies identified in the literature, workshop participants agreed that some were already working well at PHE, and this was echoed in the qualitative findings. Existing strengths of the organisation are that it is large and trusted, with established local networks. Short term priorities included gaining better understanding of stakeholder needs and future challenges in order make best use of social marketing, tailoring and targeting, and also to reflect narratives that are of particular interest to both immediate and downstream users of PHE evidence (e.g. the Director of Public Health who directly accesses PHE evidence, but also the councillor who ultimately makes decisions based on this). A longer term priority was to develop methods of measuring and evaluating the use of PHE knowledge products. The importance of flexibility in approaches, harmonising rather than homogenising, was a strong theme arising from the qualitative work. Integrated findings highlight the legacy of multiple previous entities having come together to form PHE and the burgeoning identity of PHE as a knowledge brokering organisation.

**Conclusion** We have identified some priority actions for both the short and long-term to improve mobilisation of knowledge