options. The cost-effectiveness of each chosen option will then be assessed.

Conclusions We have developed a provisional framework for developing policy options, initially for the prevention of CVD and diabetes. This is based on local epidemiological data, an assessment of the socioeconomic-cultural context and cost effectiveness. Policy makers are involved throughout, and will be presented with costed policy options along with their potential consequences. Implemented options will then be evaluated. The framework represents a “policy effectiveness-feasibility loop”, analogous to Tugwell’s clinical effectiveness loop. The impact of this approach, and its potential generalisability, will be rigorously evaluated.

052 SYSTEMATIC REVIEW: THE USE OF RESEARCH EVIDENCE BY PUBLIC HEALTH POLICY-MAKERS

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Objective To review: the process of public health policy-making; variations in the extent of research evidence used; other influencing factors; and barriers to and facilitators of the use of research evidence.

Design Systematic review of empirical studies reporting data on policy-making in public health.

Data Sources Databases searched: MEDLINE, SCOPUS, PsycINFO, CINAHL, The Social Science Citation Index, The Science Citation Index, The Arts and Humanities Citation Index, Applied Social Sciences Index and Abstracts, Database of Reviews of Effects, Cochrane Database of Systematic Reviews, DoPHER, the Campbell Library, and the Cochrane Register of Controlled trials. Other sources: screening of organisational websites, contacting key informants and scrutinising the bibliographies of included studies.

Review methods Two reviewers independently assessed studies for inclusion; extracted data and assessed methodological quality using predesigned forms. Disagreements were resolved by consensus or by recourse to a third reviewer. Data were synthesised as a narrative review.

Results 1216 articles were retrieved. Following screening 18 studies were included: 13 qualitative studies, four surveys and one literature review. Participants included 1200 policy-makers, 72 researchers, and 174 people involved in both activities. Studies were set in a range of country and policy-making settings. Methodological quality was mixed. The process of policy-making varies widely between settings, and is viewed differently by key players. An extensive range of types of research evidence are used in policy-making. However, it has only an indirect impact and competes with other influencing factors; and barriers to and facilitators of the use of research evidence.

Conclusions Action is required by both policy-makers and researchers to address the barriers identified in this systematic review. There is an urgent need for evidence on the best approaches to incorporating research evidence in public health policy, particularly that considering the complex effects on health inequalities.


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Objectives To assess the effect of social spending on population health.

Design Multivariate regression analysis was performed to investigate the relationship between age-standardised cause-specific mortality rates and social spending. Mortality data were collected from the European Health for All Database 2009 edition. Social spending per capita in purchasing-power-parity were taken from the OECD Social Expenditure Database (including family support, old-age pensions, healthcare, unemployment benefits, active labour market programmes, and support for people with disabilities). These relationships were compared with gross domestic product per capita (GDP), general government spending per capita (including prisons, education and defence), and healthcare spending per capita. Models also included controls for country- and period-fixed effects and expenditure was adjusted for inflation and purchasing power parity.

Setting 13 EU countries, 1980–2003: Belgium (only to 1998), Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Spain, Sweden and the UK.

Participants n/a

Main outcome measure Age-standardised all-cause and cause-specific mortality rates.

Results Each additional US$100 increase in social spending per capita is significantly associated with a 0.99% reduction in all-cause, age-standardised mortality rates (p<0.001). Healthcare spending per capita had no effect on all-cause mortality rates. Consistent with previous findings, we observed each US$100 increase in GDP was associated with a 0.28% fall in all-cause mortality rates (p<0.001), about one-fourth of the magnitude of the association of social welfare with mortality. After adjusting for social welfare spending, the association of GDP with all-cause mortality was reduced by over half (β=−0.11%, p=0.004). Healthcare spending was not associated with mortality. However, higher social welfare spending was significantly associated with reductions in alcohol-related deaths, cardiovascular disease and tuberculosis; findings which are biologically plausible.

Conclusion Reducing social spending could increase mortality rates. The majority of the benefits of wealth to health appears to be determined by the extent to which resources are invested in social welfare and healthcare systems. Investments in social protection seem to have greater protective effects on health than investments in health care. Stronger links between health and labour ministries offer an opportunity to take advantage of such positive synergies, especially important to protecting health during times of austerity.

Ethnicity

054 ANOTHER HISPANIC PARADOX? THE HEALTH BENEFITS OF HISPANIC COMMUNITIES FOR NON-HISPANIC MOTHERS AND INFANT

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Background and Objectives In the US, Hispanic mothers have rates of infant mortality and low birthweight that are comparable to non-Hispanic White mothers despite being more likely to live in socio-economically deprived areas. This well known phenomenon is...
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termed the Hispanic paradox. Recent research suggests that this phenomenon may be partly explained by the areas in which Hispanic people live. Hispanic mothers living in counties with a high proportion of Hispanic people (Hispanic density) have lower rates of infant mortality and smoking during pregnancy. In this paper, we investigate whether or not Hispanic density is associated with better birth outcomes for mothers of other ethnicities.

**Design** Multilevel analysis of the US Linked Birth and Infant Death Dataset 2000 and US census data at county level.

**Setting** USA.

**Participants** 2,274,247 White and 581,151 Black non-Hispanic mothers of singleton births.

**Main outcome measures** Infant mortality, low birthweight, preterm delivery and maternal smoking during pregnancy.

**Results** Living in counties with a higher percentage of Hispanic residents was associated with reduced risk of all outcomes for non-Hispanic White and Black mothers and infants in analyses adjusting for individual and area level socio-demographic characteristics. The reduction in odds was greatest for maternal smoking during pregnancy. White mothers living in counties where more than half the residents were Hispanic had their odds of smoking during pregnancy reduced by approximately 80% (OR 0.19 95% CI 0.11 to 0.33), relative to comparable mothers living at Hispanic densities of 0 to 1%. Similar reductions in risk of maternal smoking during pregnancy were found for Black mothers (OR 0.14 95% CI 0.14 to 0.51). Infant mortality was reduced by approximately a third for both Black and White mothers living in counties with a high proportion of Hispanic residents. In addition, higher Hispanic density was associated with modest but significant reductions in the risks of preterm delivery and low birthweight.

**Conclusions** Living in Hispanic communities appears to have health benefits for those of non-Hispanic origin.