OP68 THE EFFECT OF HEALTH SHOCKS ON IMPOVERISHMENT IN SOUTH KOREA

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Background The coexistence of illness and poverty is a very common phenomenon over the world, and is one of the most intolerable forms of damage to a person's life and social stability. South Korea has the highest out-of-pocket burden for medical expense among OECD member countries and has no formal sickness benefit system, greatly increasing the risk of poverty due to sudden illness (a 'health shock). In this study, we aimed to identify the causal effect of sudden illness on impoverishment up to four years after the experience of such a health shock.
Methods For the purpose, we analyzed longitudinal data from 2007 to 2012 of 5175 households who participated in the representative Korean panel study, the Korean Welfare Panel Study. In this study, a health shock was defined as an event which increased the household's out-of-pocket medical expenses by at least three times over the previous year. A generalized estimating equation (GEE) with logit link function was used to evaluate the association between health shocks and repeated measured poverty. Because the health shock variable was not based on a random process, potential confounding and selection biases were accounted for by developing a propensity score for group allocation. All analyses were performed using *Stata* 11.0.
Results Of the 5175 households eligible for analysis, 1252 households (24.2%) were classified as who had experienced health shock. Generally, baseline characteristics (such as age, sex, subjective health, income, educational and marital status) were well balanced between groups of allocation. The results showed that a health shock increased the risk over that following four years of relative poverty by 1.18 times (OR 1.18, 95% CI 1.02 to 1.36, p 0.022). The risk of official poverty, defined as becoming a recipient of public assistance, increased by 1.54 times (OR 1.54, 95% CI 1.25 to 1.89, $p<0.001$). These findings were essentially unchanged even after performing a rigorous propensity score analysis.
Conclusion This study suggests that policy is needed for income stability to prevent impoverishment due to a health shock. Further research is needed to clarify several issues, including a definition of health shock, the role of coping strategies, and the detailed mechanism of medical impoverishment.

OP69 DO 'ENVIRONMENTAL BADS' SUCH AS ALCOHOL, FAST FOOD, TOBACCO, AND GAMBLING OUTLETS CLUSTER AND CO-LOCATE IN MORE DEPRIVED AREAS IN GLASGOW CITY, SCOTLAND?

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Background Recent research on the determinants of health-related behaviours, such as smoking, heavy drinking and poor diet, has begun to focus on physical environmental factors, such as the retail environment, and associations with area level deprivation. This study utilises an innovative application of spatial cluster analysis to examine the socio-spatial patterning of various categories of outlets, selling potentially health-damaging goods/services (alcohol, fast food, tobacco and gambling) within Glasgow. This novel application advances existing methods for quantifying spatial access to retail outlets as it is not restricted by pre-defined boundaries.
Methods Outlet address data was obtained from Glasgow City Council for 2012 (tobacco, fast food), and 2013 (alcohol, gambling) and mapped using GIS software. SaTScan, a well-established cluster analysis tool, was used to detect spatial clusters of outlets and ascertain their statistical significance (at the 5% level). Analysis was performed for all categories of outlets combined (to examine co-location), and individually for alcohol, fast food, tobacco, and gambling outlets. Software provided output for clusters centroids, size (radius) and statistical significance. Clusters were assigned a Scottish Index of Multiple Deprivation 2012 Income score; quintiles of income deprivation were calculated from 1 (most deprived) to 5 (least deprived) and compared for numbers of clusters.
Results Across the city, there were 28 areas where all four types of outlets were co-located; and for individual outlets, there were 20 alcohol outlet clusters, 16 fast food outlet clusters, 15 tobacco outlet clusters and 5 gambling outlet clusters. Co-occurrence clusters were more common in deprived areas, with ten clusters in the more deprived quintile compared to one in the most affluent quintile. In terms of individual categories of outlet, poorer areas contained the largest number of alcohol, fast food, tobacco and gambling outlet clusters. Co-location of individual types of outlets in similar geographical areas was also evident, for example: located in the central business district, other retail, office, service hubs, and also deprived areas in the 'east end'.
Conclusion The study makes use of a robust technique to detect clusters and adds to evidence that deprived areas have increased access to potentially health damaging goods/services. Such research can inform interventions to tackle the co-occurrence of health behaviours, and findings could aid authorities to develop policy/planning regulations appropriate for areas in greatest need.

Mental health and wellbeing

OP70 COULD POPULATION PREVALENCE AND SOCIO-ECONOMIC INEQUALITIES IN CHILDREN'S MENTAL HEALTH PROBLEMS BE REDUCED BY INCREASING PHYSICAL ACTIVITY? A POLICY SIMULATION IN THE UK MILLENNIUM COHORT STUDY (MCS)

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Background Greater moderate-to-vigorous physical activity (MVPA) is associated with lower risk of some child mental health problems (CMHP). However, there is no evidence showing the potential population impact of increasing MVPA on CMHP (prevalence and inequalities). We used data from the UK Millennium Cohort Study (~18 000 children born