

Full details

All details held on the selected case study are shown below.

Went live on	Title	Reference
4 May 2010	MEDix - an index of environmental deprivation from the University of Glasgow	SID0250

Synopsis

Researchers have created an index to measure how local environments affect health.

Description

How do we examine the many ways that our physical environment affects health across different socio-economic groups in the UK? That was the task a team of epidemiologists and geographers from the Universities of Glasgow, Edinburgh and Southampton set themselves when they started developing MEDix - the Multiple Environmental Deprivation Index.

MEDix is an area-based index combining different measures of environmental disadvantage, such as air pollution and access to parks, for census wards across the UK for the first time.

"By comparing the index to an area measure of income deprivation, we find that at the national-level, multiple environmental deprivation increases as the level of income deprivation rises," says Professor Richard Mitchell of the University of Glasgow.

The researchers worked with South Lanarkshire council to create an index tailored to the area - South Lanarkshire Index of Multiple Environmental Deprivation, or SLIMED. This once again revealed a close relationship between environmental and socioeconomic deprivation. With this information, South Lanarkshire Council can focus improvements on those areas likely to have the greatest impact on improving health.

The MEDix data is available on the website of the Centre for Research on Environment, Society and Health. Website traffic statistics suggest that the data is being downloaded by hundreds of users. The page that defines "environmental deprivation" has been visited 1083 times, the MEDix page visited 301 times and the "downloads" page, which links to the MEDix data, 558 times. MEDix data is also being used by the Scottish Public Health Observatory to provide public health professionals with data and statistics on which to make decisions.

Most recently, MEDix has been extended to look at environmental deprivation in New Zealand. This extension of the indices has shown that the measures can be extended to other countries than the UK and that the link between environmental and socioeconomic deprivation is not just a UK phenomenon.

MEDix is also used by the academic community, including researchers at UCL and the University of Durham in the UK, and the Universities of Otago and Canterbury in New Zealand.

The scientists reviewed all the evidence to select environmental factors that are known to affect health - both variables that are bad for health, such as air pollution, cold climate and industrial facilities, and beneficial ones like ultraviolet radiation and green space. This information was applied to the 10,654 UK Census Area Statistics wards, each containing an average population of about 5,500.

With MEDix, the team has developed a clear indicator to summarise how healthy the physical environment around us is. The work offers new opportunities to researchers and policy-makers to develop a real understanding of the role of exposure to multiple dimensions of physical environmental deprivation on health.

Alongside the MEDix index the researchers have also developed a classification system called MEDClass which groups areas with similar environmental characteristics. It is useful for exploring the health effects of specific types of environment.

"Our research shows that the physical environment we live in makes a contribution to the risk of many common causes of death (such as heart disease and some cancers), over and above how wealthy or poor we are. Perhaps the main achievement has been to bring an idea from epidemiology (in which these kinds of measures are routinely used to tell us about the socio-economic characteristics of different areas) and apply it to environmental science. Our index also includes aspects of the environment which help keep us well, as well as those things which make us sick," says Professor Mitchell.

References and links

Hyperlinks

1. [Environmental Health Journal - EHHP Science Day](#)

Impacts

Actual impacts	Policy
Impact evidence	The researchers worked with South Lanarkshire council to create an index tailored to the area - South Lanarkshire Index of Multiple Environmental Deprivation, or SLIMED. With this information, South Lanarkshire Council can focus improvements on those areas likely to have the greatest impact on improving health. The MEDix data is available on the website of the Centre for Research on Environment, Society and Health - data is being downloaded by hundreds of users MEDix is also used by the academic community, including researchers at UCL and the University of Durham in the UK, and the Universities of Otago and Canterbury in New Zealand. MEDix data is also being used by the Scottish Public Health Observatory to provide public health professionals with data and statistics on which to make decisions.

Research and funding	
Funding type	Research Programme
Date of research	September 2008 - April 2010

Researchers at Universities		
Grant reference	NE/E008720/2	
Investigator	Professor RJL Mitchell	University of Glasgow, Faculty of Medicine
Co-investigator	Dr NK Shortt	University of Edinburgh, Sch of Geosciences
Co-investigator	Professor TP Dawson	University of Southampton, School of Geography

Classification	
Science themes	Environment, pollution and human health
Science areas	Terrestrial
Policy areas	Climate/environmental change and impacts, Planning, Health
Keywords	Environment, Health, Risk