

# Food Insecurity Risk and Adverse Health Outcomes- a GWR approach to identify policy interventions.

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Financial austerity, the recent pandemic, and soaring living costs have increased the UK's food insecurity levels, with an estimated that 9 million adults in the UK (17% of households) experiencing food insecurity in June 2023. Food insecurity can lead to under and over-nutrition thus increasing the risks of various non-communicable diseases, including diabetes, hypertension, stroke, cardiovascular disease, and several cancers. Food-insecure individuals also report feelings of depression and anxiety due to restricted food choices and limited access.

The Priority Places for Food Index (PPFI) was developed to capture neighbourhood level food insecurity risk by combining measures of access to affordable food and indicators of barriers to affording food across seven domains: Proximity to supermarket retail facilities, Accessibility of supermarket retail facilities, Access to online deliveries, Proximity to non-supermarket food provision, Socio-economic barriers, Fuel Poverty and Family Food for support. The PPFI uses open data, combining traditional census data metrics, scaled survey and government data with smart data.

In this study we developed Geographically Weighted regression models to identify areas where tackling specific food insecurity risk factors could cut health inequalities by reducing the prevalence of selected health outcomes. The outcomes of which have been used to inform local food insecurity and wider food systems interventions in Oxfordshire, UK.

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