Geospatial distributions of mesothelioma in Great Britain

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Key messages

1. Regional standardized mortality rates for mesothelioma (SMRs) for areas associated with dockyard exposure such as Plymouth, have been decreasing. Trends suggest the contribution of traditional asbestos exposure industries, such as shipbuilding, to mesothelioma risk is falling.
2. We find that mesothelioma deaths in Great Britain are becoming more dispersed but dockyards remain strongly spatially associated with mortality.
3. It's likely dockyards will no longer dominate UK mesothelioma mortality in the next 10-20 years. Asbestos latent in the built environment will become a more important exposure source.

Method

We used the mesothelioma register (2002-2015), ONS centroid and boundary data, and openstreetmap data to calculate regional SMR, spatial autocorrelation statistics and distance to nearest dock.

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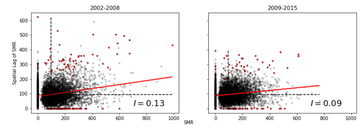
Mesothelioma deaths are **spreading out** but many are still close to **dockyards**.

visit **carlreynolds.net/mapping-mesothelioma** to download the full paper

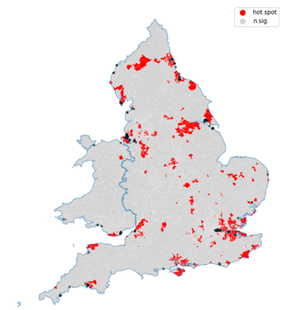
Results

SMR is spatially autocorrelated, that is areas of high mesothelioma SMR are associated with other areas of high mesothelioma SMR, and areas of low mesothelioma SMR associated with areas of low mesothelioma SMR, but it is becoming less so, or is becoming more dispersed, over time.

Moran scatter plot of ward-level male mesothelioma SMR data 2002-2015. Statistically significant local index of spatial correlation (LISA) values are shown in red.



Ward-level male mesothelioma hotspots 2002-2015 data, dockyards shown in black. Hotspots identified using local indicators of spatial association for ward standardised mortality rates.



Conclusion

Moran's **I** is lower for men in 2009-2015 than 2002-2008 suggesting mesothelioma deaths are becoming more dispersed but dockyards remain strongly spatially associated with mortality.