

DEPRIVATION AND CANCER SURVIVAL IN SCOTLAND

WE ARE
MACMILLAN.
CANCER SUPPORT

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Background

Risk of death from cancer is influenced by numerous factors. This analysis concentrated on the effect of deprivation (Scottish Index of Multiple Deprivation-SIMD). Net survival was calculated for all Scotland by deprivation quintile for the most common twenty cancers. Six cancers (lung, breast, prostate, colorectal, head and neck, and liver) demonstrated statistically significant differences between SIMD 1 (most deprived) and SIMD 5 (least deprived) with numbers allowing multivariate analysis to determine what drove the variation.

Methods

Data sources

Scottish Cancer Registry

NRS Death records

Inpatient and day case records (SMR01)

Lifetables (Deprivation life tables (2001–2011))

Cohorts

Diagnosed 2004–2008: age standardised net survival; multivariate analysis, EHR

Diagnosed 2009–2013: age standardised net survival

Information

Patient characteristics

Deprivation category (SIMD 2009)

Tumour factors

Health service factors

Results

Excess risk of death for cancers with statistically significant gap between most and least deprived

Cancer Site (p<0.05)	Excess hazard ratio (baseline)	CI	Excess hazard ratio (adjusted model with treatment)	CI
Breast	1.89	1.61–2.16	1.27	1.11–1.43
Colorectal	1.45	1.33–1.57	1.21	1.11–1.30
Head and neck	1.61	1.34–1.88	1.55	1.29–1.81
Liver	1.28	1.06–1.50	1.13	0.94–1.33
Lung	1.08	1.03–1.13	0.98	0.93–1.02
Prostate	1.98	1.60–2.36	1.21	1.02–1.40

Multivariate analysis yielded two outcomes across these six cancers:

- the survival gap was explained, in which case the impact of deprivation is most prominent in the included factors
- or some disparity was explained, but a significant difference remains due to factors at play not included in the analysis.

Conclusions

This research helps to illuminate where public health efforts can make the most difference in reducing the survival gap and health inequalities, as well as where additional research activity is needed to understand the factors at play not included in this model.

Together with Macmillan