Appendix 1  Exposure data from the SLÁN survey

Map APP1.1 Percentage of population below 60% of median equivalised income

Map APP1.2 Percentage of population in social class 6

Map APP1.3 Percentage of population in highest quintile of household equivalised income

Map APP1.4 Percentage of population covered by private health insurance

---

1 Data kindly provided by the SLÁN research group (http://www.slan06.ie/team.htm; Morgan et al, 2008)

2 Modified OECD equivalence scale
Maps:

Map APP1.5 Percentage of population with low fruit and vegetable intake (<5 servings daily)

Map APP1.6 Percentage of population with low fibre intake (<25g fibre daily)

Map APP1.7 Percentage of population with high intake of red and processed meat (>300g/week)

Map APP1.8 Percentage of population who have heavy alcohol consumption (≥14 units per week)
Map APP1.9 Percentage of population who are obese (body mass index $>30$ kg/m$^2$)

Map APP1.10 Percentage of population who are current smokers (daily or occasional smokers)

Map APP1.11 Predicted percentage of houses with radon levels exceeding 200 Bq/m$^3$

Source: Fennell et al, 2002
Appendix 2  ED characteristics and cancer incidence: summary tables

Tables APP2.1 and APP2.2 summarise, for males and females separately, the results of the modelling of the associations between ED characteristics and cancer incidence, by site of cancer. The modelling methods are described in section 2.2.3.
<table>
<thead>
<tr>
<th></th>
<th>all¹</th>
<th>non-melanoma skin</th>
<th>colorectal</th>
<th>lung</th>
<th>prostate</th>
<th>stomach</th>
<th>bladder</th>
<th>melanoma</th>
<th>head and neck</th>
<th>oesophagus</th>
</tr>
</thead>
<tbody>
<tr>
<td>deprivation²</td>
<td>1.12*</td>
<td>0.80*</td>
<td>1.06*</td>
<td>1.72*</td>
<td>0.85*</td>
<td>1.28*</td>
<td>1.09</td>
<td>0.66*</td>
<td>1.78*</td>
<td>1.22*</td>
</tr>
<tr>
<td></td>
<td>(1.09,1.14)</td>
<td>(0.77,0.83)</td>
<td>(1.00,1.12)</td>
<td>(1.63,1.83)</td>
<td>(0.81,0.89)</td>
<td>(1.16,1.42)</td>
<td>(0.99,1.20)</td>
<td>(0.58,0.76)</td>
<td>(1.60,1.98)</td>
<td>(1.07,1.39)</td>
</tr>
<tr>
<td>population density³</td>
<td>1.23*</td>
<td>1.15*</td>
<td>1.22*</td>
<td>1.62*</td>
<td>1.45*</td>
<td>1.39*</td>
<td>1.21*</td>
<td>1.26*</td>
<td>1.21*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.20,1.25)</td>
<td>(1.12,1.19)</td>
<td>(1.16,1.28)</td>
<td>(1.53,1.71)</td>
<td>(1.32,1.58)</td>
<td>(1.28,1.52)</td>
<td>(1.06,1.39)</td>
<td>(1.11,1.42)</td>
<td>(1.09,1.35)</td>
<td></td>
</tr>
<tr>
<td>% unemployed⁴</td>
<td>1.05*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.93,1.06)</td>
<td></td>
<td>(1.12,1.30)</td>
<td></td>
<td>(0.83,0.93)</td>
<td></td>
<td></td>
<td>(0.57,0.83)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% early school leavers⁴</td>
<td>1.05*</td>
<td>0.99</td>
<td>1.21*</td>
<td>1.37*</td>
<td>0.91*</td>
<td>1.11</td>
<td></td>
<td>0.69*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.02,1.08)</td>
<td>(0.93,1.06)</td>
<td>(1.12,1.30)</td>
<td>(1.20,1.56)</td>
<td>(1.02,1.25)</td>
<td></td>
<td>(0.57,0.83)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% lower social class⁴</td>
<td>1.05*</td>
<td>0.86*</td>
<td>0.99</td>
<td>1.21*</td>
<td>0.91*</td>
<td>1.11</td>
<td></td>
<td>0.69*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.02,1.08)</td>
<td>(0.93,1.06)</td>
<td>(1.12,1.30)</td>
<td>(1.20,1.56)</td>
<td>(1.02,1.25)</td>
<td></td>
<td>(0.57,0.83)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% overcrowded⁴</td>
<td>1.05*</td>
<td>0.82*</td>
<td>1.34*</td>
<td>0.91*</td>
<td>1.11</td>
<td></td>
<td></td>
<td>0.87</td>
<td>1.16*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.02,1.08)</td>
<td>(0.79,0.86)</td>
<td>(1.26,1.43)</td>
<td>(0.86,0.96)</td>
<td>(0.99,1.24)</td>
<td></td>
<td>(0.73,1.03)</td>
<td>(1.03,1.30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% local authority housing⁴</td>
<td>1.26*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% with no car⁴</td>
<td>1.05*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.12,1.30)</td>
<td></td>
<td>(1.20,1.56)</td>
<td></td>
<td>(1.02,1.25)</td>
<td></td>
<td></td>
<td>(0.57,0.83)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% aged 65+ living alone⁴</td>
<td>1.15*</td>
<td>1.10*</td>
<td>1.15*</td>
<td>1.23*</td>
<td>1.14*</td>
<td>1.11*</td>
<td>1.12*</td>
<td>1.16*</td>
<td>1.23*</td>
<td>1.28*</td>
</tr>
<tr>
<td></td>
<td>(1.13,1.18)</td>
<td>(1.06,1.14)</td>
<td>(1.09,1.22)</td>
<td>(1.16,1.30)</td>
<td>(1.08,1.20)</td>
<td>(1.00,1.24)</td>
<td>(1.00,1.24)</td>
<td>(1.00,1.35)</td>
<td>(1.09,1.39)</td>
<td>(1.12,1.47)</td>
</tr>
<tr>
<td>% agricultural workers⁵</td>
<td>0.79*</td>
<td>0.78*</td>
<td>0.79*</td>
<td>0.52*</td>
<td>0.63*</td>
<td>0.64*</td>
<td>0.85*</td>
<td>0.77*</td>
<td>0.78*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.77,0.80)</td>
<td>(0.76,0.80)</td>
<td>(0.75,0.84)</td>
<td>(0.49,0.55)</td>
<td>(0.56,0.70)</td>
<td>(0.58,0.71)</td>
<td>(0.76,0.94)</td>
<td>(0.68,0.86)</td>
<td>(0.71,0.86)</td>
<td></td>
</tr>
<tr>
<td>% non-manual workers⁵</td>
<td>1.21*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.14,1.27)</td>
<td></td>
<td>(1.15,1.27)</td>
<td></td>
<td>(1.08,1.19)</td>
<td></td>
<td></td>
<td>(1.04,1.23)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ all malignant cancers (excluding non-melanoma skin cancer); ² Relative risk of cancer in the most compared to the least deprived areas adjusted for population density; ³ Adjusted relative risks for areas with the highest density (>20 pa/ha) compared to areas with the lowest density (<1 pa/ha); ⁴ Adjusted relative risks for areas in the highest quartile compared to the lowest quartile; *p<0.05
Maps 15.1-15.7 show the smoothed relative risks for seven other cancer sites. For cancers of the brain and central nervous system, no clear geographical variation was evident. Cancers of the pancreas, corpus uteri, and leukaemia had a slightly higher incidence in the south-west. Lymphoma and cancers of the kidney were more common in the east. Incidence of ovarian cancer was slightly higher in the south-east. However, all of these patterns were weak and no inference can be drawn from them.
Appendix 3  Summary statistics for the maps

Table APP3.1 provides summary statistics for the maps for each cancer site, for males and female separately where relevant. The average number of cases per ED and the mean crude and smoothed RRs are shown, together with the minimum and maximum values, to give some idea of the range of risk estimates observed.
<table>
<thead>
<tr>
<th>Cancer site</th>
<th>no. of cases per ED</th>
<th>crude RR</th>
<th>Smoothed RR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>females (min-max)</td>
<td>mean²</td>
<td>mean²</td>
</tr>
<tr>
<td></td>
<td>males</td>
<td>(min-max)</td>
<td>(min-max)</td>
</tr>
<tr>
<td>all malignant cancers¹</td>
<td>17.5 (0 - 358)</td>
<td>0.96</td>
<td>0.96 (0 - 3.42)</td>
</tr>
<tr>
<td></td>
<td>18.4 (0 - 351)</td>
<td>0.96</td>
<td>0.97 (0 - 1.35)</td>
</tr>
<tr>
<td>non-melanoma skin</td>
<td>6.5 (0 - 194)</td>
<td>0.94</td>
<td>0.94 (0 - 2.16)</td>
</tr>
<tr>
<td></td>
<td>7.2 (0 - 175)</td>
<td>0.94</td>
<td>0.94 (0 - 1.85)</td>
</tr>
<tr>
<td>breast</td>
<td>5.1 (0 - 113)</td>
<td>0.96</td>
<td>0.96 (0 - 1.28)</td>
</tr>
<tr>
<td>colorectal</td>
<td>2.2 (0 - 46)</td>
<td>0.94</td>
<td>0.94 (0 - 1.46)</td>
</tr>
<tr>
<td>lung</td>
<td>1.6 (0 - 37)</td>
<td>0.91</td>
<td>0.91 (0 - 2.49)</td>
</tr>
<tr>
<td>prostate</td>
<td>- 4.2 (0 - 80)</td>
<td>- 0.99</td>
<td>- 0.99</td>
</tr>
<tr>
<td>lymphoma</td>
<td>0.7 (0 - 15)</td>
<td>0.96</td>
<td>0.96 (0 - 1.75)</td>
</tr>
<tr>
<td>stomach</td>
<td>0.5 (0 - 13)</td>
<td>0.96</td>
<td>0.96 (0 - 1.75)</td>
</tr>
<tr>
<td>bladder</td>
<td>0.4 (0 - 10)</td>
<td>0.90</td>
<td>0.90 (0 - 1.75)</td>
</tr>
<tr>
<td>melanoma of the skin</td>
<td>0.7 (0 - 16)</td>
<td>0.87</td>
<td>0.87 (0 - 1.75)</td>
</tr>
<tr>
<td>leukaemia</td>
<td>0.4 (0 - 12)</td>
<td>0.92</td>
<td>0.92 (0 - 1.75)</td>
</tr>
<tr>
<td>head and neck</td>
<td>0.3 (0 - 9)</td>
<td>0.91</td>
<td>0.91 (0 - 1.75)</td>
</tr>
<tr>
<td>pancreas</td>
<td>0.5 (0 - 20)</td>
<td>0.94</td>
<td>0.94 (0 - 1.75)</td>
</tr>
<tr>
<td>ovary</td>
<td>1.0 (0 - 18)</td>
<td>1.00</td>
<td>1.00 (0 - 1.75)</td>
</tr>
<tr>
<td>brain and other CNS</td>
<td>0.4 (0 - 10)</td>
<td>0.96</td>
<td>0.96 (0 - 1.75)</td>
</tr>
<tr>
<td>kidney</td>
<td>0.3 (0 - 6)</td>
<td>0.95</td>
<td>0.95 (0 - 1.75)</td>
</tr>
<tr>
<td>oesophagus</td>
<td>0.3 (0 - 7)</td>
<td>0.99</td>
<td>0.99 (0 - 1.75)</td>
</tr>
<tr>
<td>corpus uteri</td>
<td>0.7 (0 - 12)</td>
<td>0.94</td>
<td>0.94 (0 - 1.75)</td>
</tr>
<tr>
<td>cervix uteri</td>
<td>0.5 (0 - 19)</td>
<td>0.96</td>
<td>0.96 (0 - 1.75)</td>
</tr>
</tbody>
</table>

¹ excludes non-melanoma skin cancer; ² mean relative risk (RR) across EDs, not weighted by population distribution (mean RR weighted by population is always 1.0); ³ smoothed RRs computed for males and females combined
Appendix 4 County and district council boundaries in Ireland
References


International Agency for Research on Cancer. IARC working group on the evaluation of carcinogenic risks to humans. Some drinking-water disinfectants and contaminants, including arsenic. Summary of data reported and evaluation. Volume 84. IARC, Lyon, 2004a.


Shah S, Harris T J, Cook D G. Differences in hormone replacement therapy use by social class, region and psychological symptoms. BJOG 2001; 108 (3): 269-75.


