

3 All malignant cancers¹

3.1 Summary

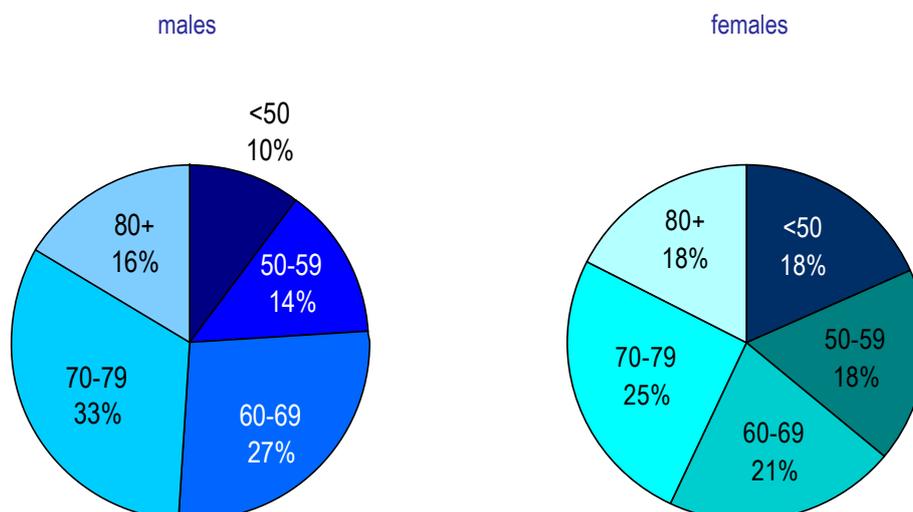
Each year approximately 6,400 men and 6,852 women are diagnosed with cancer in Ireland (table 3.1). These figures exclude cases of non-melanoma skin cancer, which are presented in chapter 4. During the period 1993-2003, the annual incidence rate of all malignant neoplasia rose by 1.2% in men and 1.1% in women.

Table 3.1 Summary information for all malignant cancers (excluding non-melanoma skin cancer) in Ireland, 1994-2003

	females	males
% of all new cancer cases	100%	100%
Average number of new cases per year	6,400	6,852
Average number of deaths per year	3,481	4,008
Age standardised incidence rate per 100,000 (European standard population)	338	422
Estimated annual percentage change in rate 1994-2003	1.1%	1.2%

The incidence of cancer increases with age (figure 3.1). The age distribution was different for males and females. 18% of cases in females, but only 10% in men, were aged under 50 at diagnosis, while one third of cases in men, and only one quarter of cases in women, were diagnosed between aged 70-79.

Figure 3.1 Age distribution of all malignant cancer cases, 1994-2003, males and females

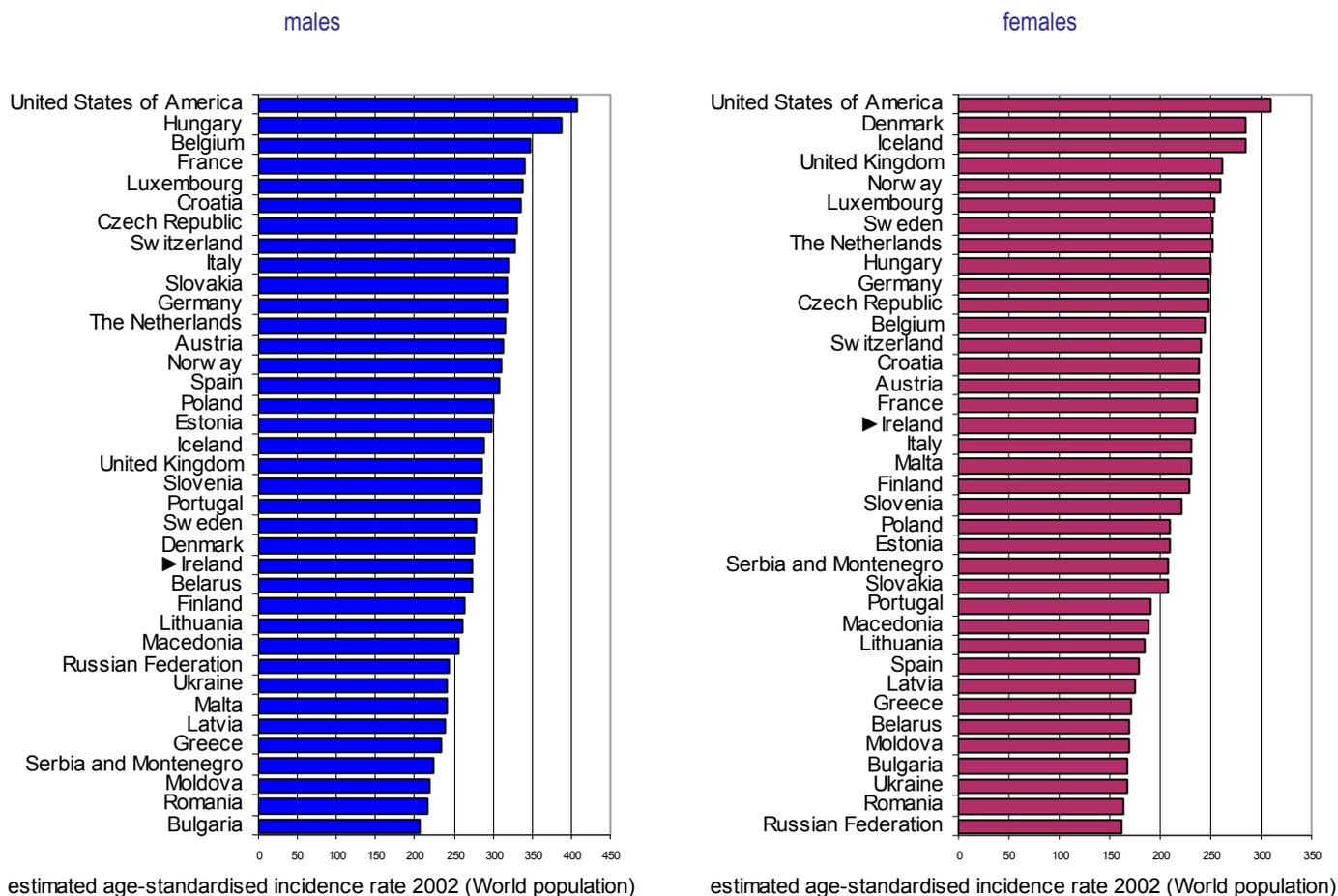


¹ The figures in this chapter exclude non-melanoma skin cancer.

3.2 International variations in incidence

Cancer incidence in men in Ireland is in the lower half of incidence rates across Europe (figure 3.1) and below most other western European countries. For females, the incidence rates are just above the median.

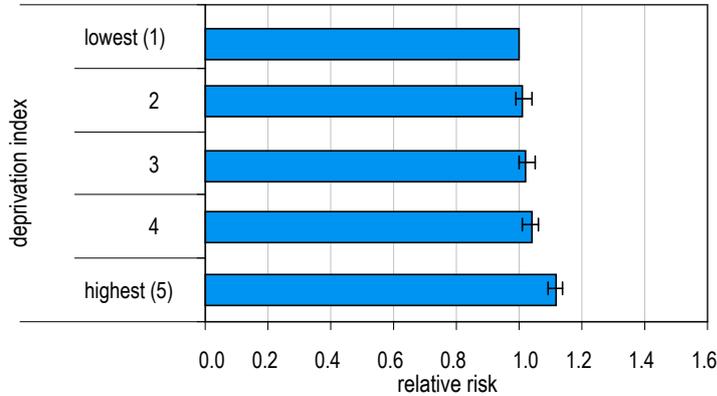
Figure 3.2 Estimated incidence rate per 100,000 in 2002 for Europe and USA: all malignant cancers, excluding non-melanoma skin cancer



Source: GLOBOCAN 2002 (Ferlay et al, 2004)

3.3 Electoral district characteristics and cancer incidence

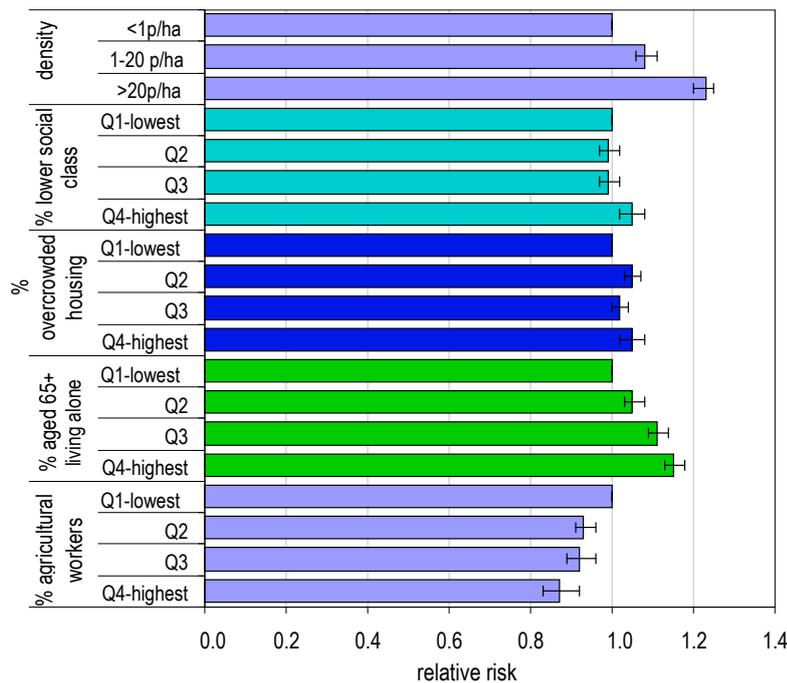
Figure 3.3 Adjusted relative risks of cancer by deprivation index: males



Adjusted for population density

In men, overall cancer incidence was significantly associated with the deprivation index of the area of residence. There was a modest trend of increasing risk with increasing deprivation. The risk of cancer was 12% higher in the most, compared to the least, deprived areas (RR=1.12, 95% CI 1.09-1.14).

Figure 3.4 Adjusted relative risks by area characteristics: males



All variables mutually adjusted except % of agricultural workers (not adjusted for density)

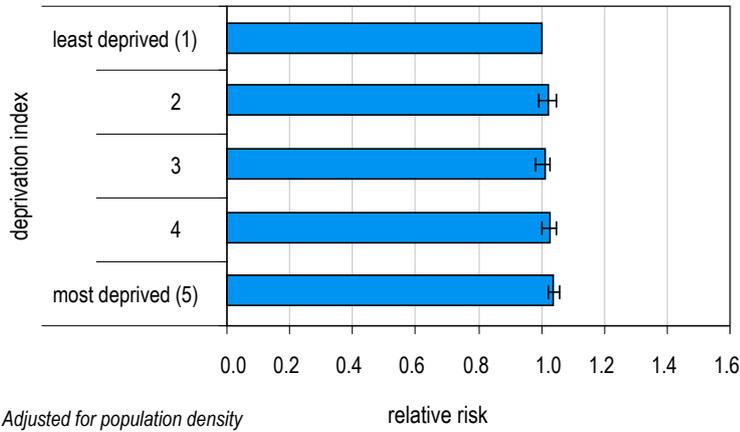
Population density was strongly associated with cancer incidence in men. The risk of cancer was 23% higher in the highest density (>20 persons/hectare) compared to the lowest density (<1 p/ha) areas.

Areas with the highest proportion of persons in social class 5 of 6, and those with the most overcrowded housing, had a slightly higher risk of cancer in men, compared to areas with the lowest proportions of these factors.

Areas with the highest percentage of persons aged over 65 living alone had higher cancer incidence in men compared to areas with the lowest percentage.

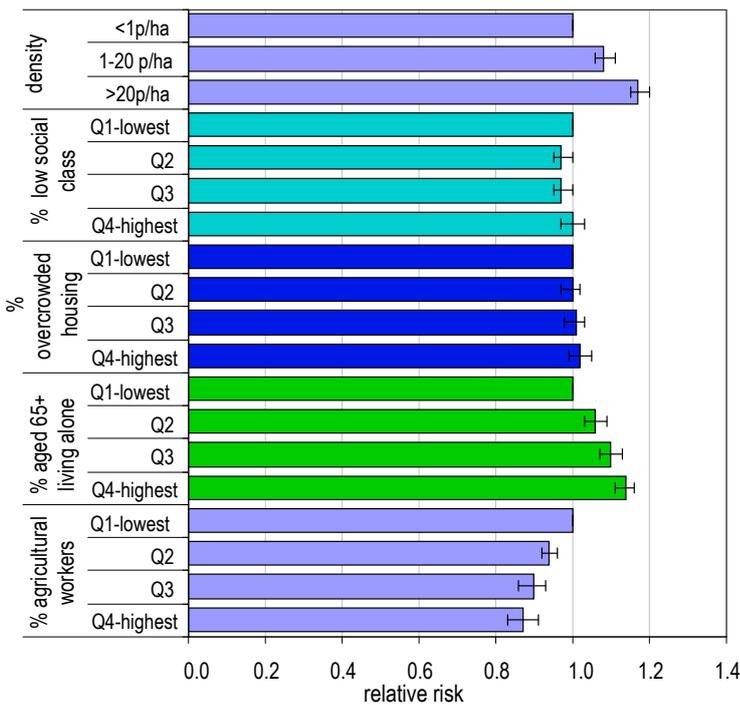
Areas with a higher proportion of agricultural workers had a lower cancer incidence.

Figure 3.4 Adjusted relative risks of cancer by deprivation index: females



As with men, cancer incidence in women increased with increasing deprivation, but the trend was modest and the relative risk in the most deprived, compared to the least deprived areas, was lower than for men (RR=1.04, 95% CI 1.02-1.06).

Figure 3.5 Adjusted relative risks of cancer by area characteristics: females



Increased population density was also associated with higher cancer incidence in women. Urban areas (density >20 p/ha) had a 17% greater incidence of cancer than the most rural areas (density <1 p/ha). This is also illustrated by the lower cancer incidence in areas with the highest proportion of agricultural workers.

Unlike for men, lower social class and overcrowded housing were not significantly associated with risk of cancer in women.

Areas with the highest percentage of people over 65 living alone had the highest incidence of cancer in women.

All variables mutually adjusted except % of agricultural workers (not adjusted for density)

Socio-economic variation

The strongest associations with increased cancer incidence at area level were higher population density and the proportion of people aged 65 and older living alone. For males, and to a lesser extent females, deprivation was also associated with risk. For men also, the percentage of residents in lower social classes and the proportion in overcrowded housing were associated with risk of cancer. The reasons for these associations, and for the

difference between males and females, are complex, as these results are a composite of many cancers and risk factors. They will be explored in more detail in the chapters relating to individual cancer sites.

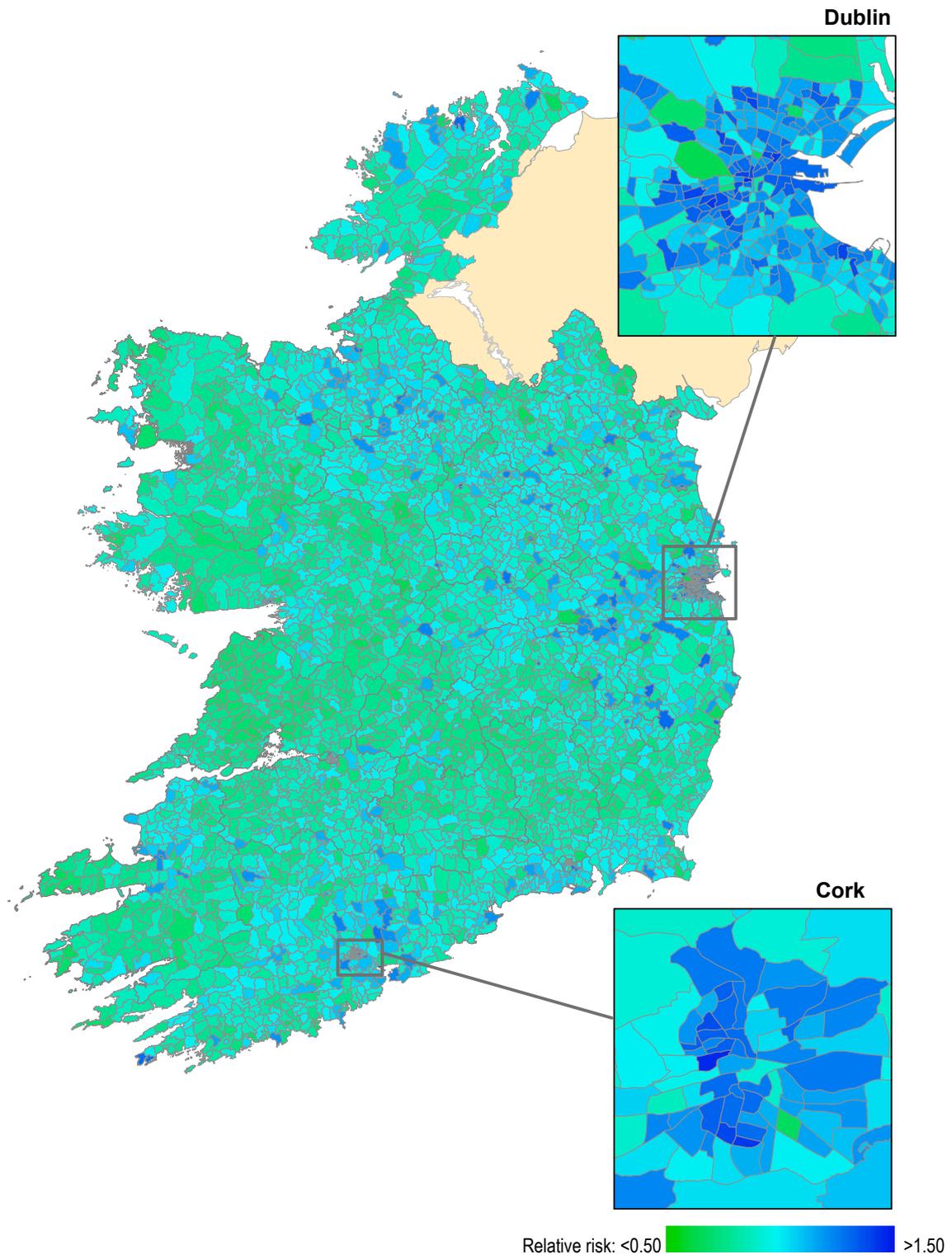
3.4 Mapping and geographical variation

Geographical variation

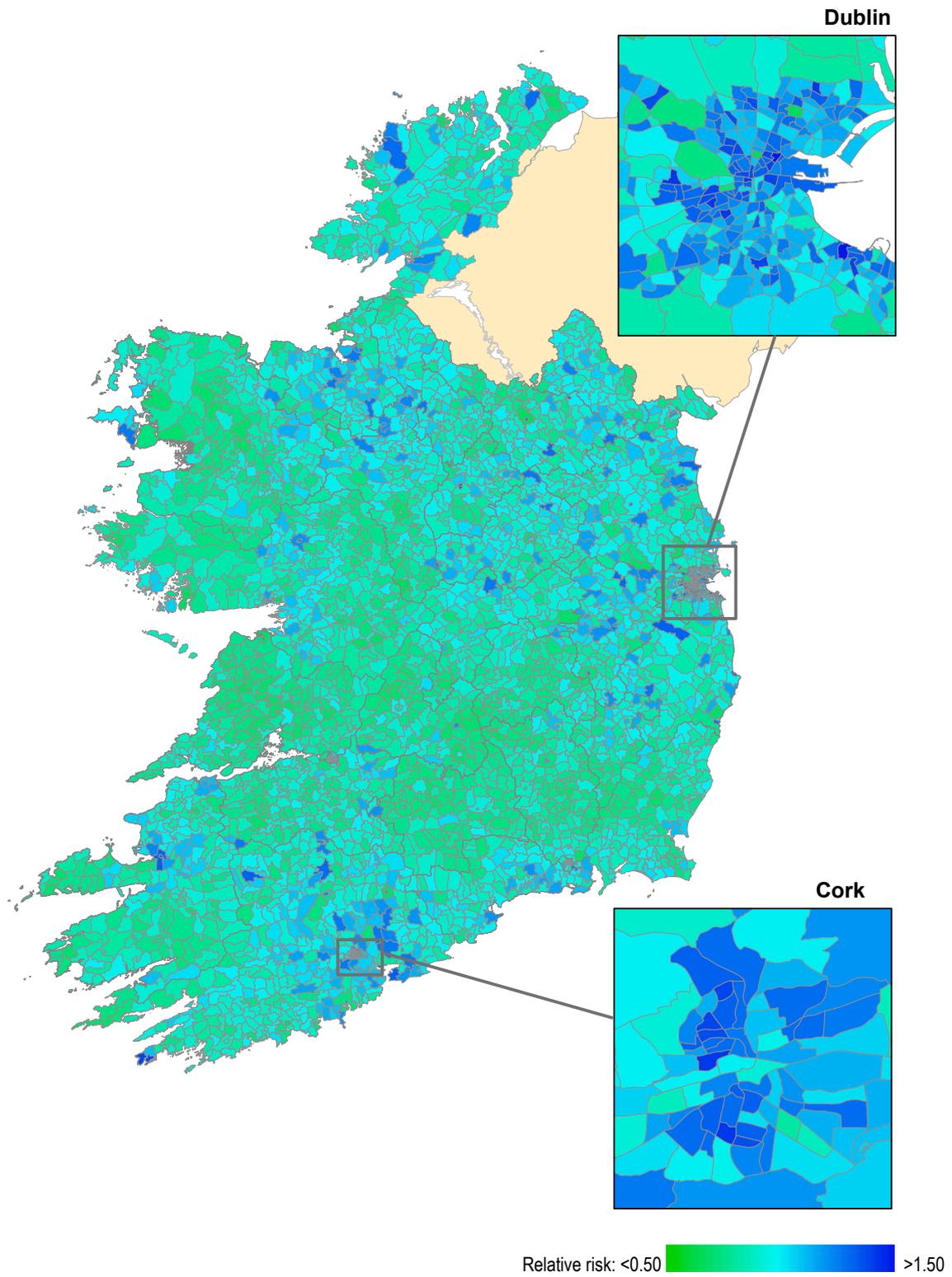
Cancer incidence in men showed more geographical variation than in women (maps 3.1-3.3). There were areas of higher incidence around Dublin and Cork and, for men, around some other urban centres. Incidence for both sexes also seemed to be higher in a band running across the northeast and north midlands, from Dublin to Sligo. There was no clear geographical pattern of incidence within either Dublin or Cork cities.

As with the associations between cancer incidence and population density, deprivation and other socio-economic variables, these geographical variations are a function of many cancers and many risk factors and are, therefore, almost impossible to interpret. Subsequent chapters provide information on geographical variation for individual cancer sites.

Map 3.1 All malignant cancers, smoothed relative risks: both sexes



Map 3.2 All malignant cancers, smoothed relative risks: males



Map 3.3 All malignant cancers, smoothed relative risks: females

