Cancer Atlas of the United Kingdom and Ireland 1991–2000

Studies on Medical and Population Subjects No. 68

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F1 Deprivation by local authority (England and Wales) and health board (Scotland) in 1991 showing health authorities in 2001 378
Maps – of all types – are fascinating, and are an extremely useful way of enabling the assimilation and understanding of large amounts of often complex geographical information. Many atlases of cancer incidence or mortality have been published around the world, and have led to the identification of areas with previously unsuspected high rates or to advances in knowledge about the causes of cancer.

Two cancer atlases for England and Wales (one of incidence and one of mortality) and one for Scotland (of incidence) have previously been published, and the UK was included in a cancer mortality atlas of the European Economic Community; these atlases, all published in the past 20 years, used data for different periods during the late 1960s to the mid-1980s. This atlas brings the information on geographical patterns of cancer up to date; it includes both incidence and mortality; and it covers not only all the four countries of the UK, but also Ireland.

It is well known that there are wide inequalities within the UK and Ireland in terms of who gets cancer, and what happens to them when they do. People in deprived areas are more likely to get some types of cancer and their survival from most types of cancer is lower. This atlas complements our current knowledge, and will prove invaluable in several ways. It enables rapid visual assessment of the range of variability in cancer incidence and mortality at the health authority level; it shows the locations of groups of areas adjacent to each other that have higher rates within larger areas for which the overall rate is not raised; and it identifies geographical patterns that cross administrative boundaries. The charts and maps also facilitate the assessment of the similarity – or otherwise – of the geographical patterns for diseases with related aetiology, such as those for which smoking tobacco is a major risk factor. The vast majority of cases of lung cancer are avoidable. But the wide differences around the world in the incidence of most of the other major cancers suggest that they too are largely avoidable. The results and analyses in this atlas show that despite all previous efforts to reduce the cancer burden, wide geographical differences in incidence still exist for many cancers in the UK and Ireland. This atlas highlights those cancers and areas where further education, provision of services, or attention to the environment – in the broadest sense, including diet – could markedly reduce the numbers of cancer cases and deaths.

Better recognition and understanding of the geographical patterns in cancer incidence and mortality will assist in ensuring that resources can be appropriately targeted, and that suitable baselines can be set against which the impact of policies and initiatives to tackle the problems can be measured.

This atlas was edited, collated, and in part written by staff at the National Cancer Intelligence Centre at the Office for National Statistics (ONS) with the collaboration of many experts, mostly from the cancer registries of the UK and Ireland. The authors of the 21 chapters on each of the specific types of cancer have taken particular care to discuss those aspects of data collection and data quality that may influence the interpretation of the results. They have also discussed the probable impact of the distribution of known risk factors and of socio-economic deprivation on the observed geographical patterns of cancer incidence and mortality. All of these chapters were peer reviewed by experts in the field of cancer epidemiology.

ONS and its predecessors have for many years published annual statistics on both cancer incidence and mortality (for England and Wales), and a compendium of trends in cancer incidence, mortality and survival was published in 2001. In collaboration with the London School of Hygiene and Tropical Medicine, extensive analyses of cancer survival trends over time by region and socio-economic deprivation have been published. Annual data on incidence and mortality and analyses of survival trends have also long been published for Scotland, and by the
cancer registries in Northern Ireland and Ireland that began operation in the early 1990s. In addition, they and the regional cancer registries in England publish a vast amount of detailed information relating to their geographical areas, as well as conducting research which is published in peer reviewed scientific and medical journals.

So much more is known about cancer than for many other diseases because for many years population based – and hence unbiased – data have been collected and collated through the cancer registration system. The cancer registries are essential for monitoring incidence, the effectiveness of screening programmes, and outcomes – particularly survival rates in relation to treatment. The NHS Cancer Plan for England, and similar plans in the other countries of the UK, recognise that these public health benefits depend on the completeness of cancer registration, and on its quality and timeliness. The Government strengthened the cancer registries in England following the review undertaken by Professor Charles Gillis in 2000. And with the current development of large and complex IT systems in the NHS, and the general concerns about the confidentiality of patients’ information, the Government is determined to secure the future of the registries. The comprehensive information on cancer mortality presented in this atlas was based on the data collected by the four General Register Offices in the UK and Ireland. The high quality of those data and the validity of the results described in this atlas are due to the expertise and vigilance of all their staff.

I warmly welcome the publication of this atlas, which expertly illustrates the detailed picture of the cancer burden in the UK and Ireland and relates the geographical patterns in all of the major cancers to known risk factors and to levels of socio-economic deprivation.

Professor M A Richards, National Cancer Director (England)
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Abbreviations

ALL  acute lymphoblastic leukaemia
AML  acute myeloid leukaemia
CIN  cervical intraepithelial neoplasia
CLL  chronic lymphocytic leukaemia
CML  chronic myeloid leukaemia
CT   computed tomography
DCO  death certificate only
DH   Department of Health
EBV  Epstein-Barr virus
EEC  European Economic Community
FOBt faecal occult blood test
GOR  government office region
GRO  General Register Office (England and Wales)
GRONI General Register Office for Northern Ireland
GROS General Register Office for Scotland
H pylori helicobacter pylori
HD   Hodgkin’s disease
HHV-6 human herpes virus type 6
HIV  human immunodeficiency virus
HPV  human papillomavirus
HRT  hormone replacement therapy
ICD  International Classification of Diseases (ICD9, ninth revision; ICD10, tenth revision)
ICDO International Classification of Diseases for Oncology (ICDO2, second edition)
LA   local authority
MGUS monoclonal gammopathy of unknown significance
M:I  mortality-to-incidence ratio
MRI  magnetic resonance imaging
NAW  National Assembly of Wales
NCIC National Cancer Intelligence Centre (at the Office for National Statistics)
NCRI National Cancer Registry of Ireland
NHL  non-Hodgkin’s lymphoma
NHS  National Health Service
NHSCR National Health Service Central Register
NICR Northern Ireland Cancer Registry
NMSC non-melanoma skin cancer
NSAID non-steroidal anti-inflammatory drug
ONS  Office for National Statistics
OPCS Office of Population Censuses and Surveys
PAS  patient administration system
PCT  primary care trust
PSA  prostate-specific antigen (test)
SCC  squamous cell carcinoma
SHA  strategic health authority
SIR  standardised incidence ratio
SMR  standardised mortality ratio
UK   United Kingdom
UKACR United Kingdom Association of Cancer Registries
USA  United States of America
WAG  Welsh Assembly Government
WCISU Welsh Cancer Intelligence and Surveillance Unit
WHO  World Health Organisation