Introduction

This report describes the incidence of, and mortality from, cancer across New South Wales by local government area (LGA) for the period 1998 to 2002. Maps of cancer incidence and mortality give the reader a visual representation of the disease distribution and provide additional information on geographic locations. The aims of mapping are to: describe geographical patterns in cancer incidence and mortality; support hypothesis generation about risk factors and causes; identify areas of unusually high risk; and allow better resource allocation and risk assessment.

The report includes maps of the standardised incidence ratios (SIRs) for 21 major cancers and all cancers combined, and maps of the standardised mortality ratios (SMRs) for 11 major cancers and all cancers combined. For detailed tables of the standardised incidence and mortality ratios for each of the 176 LGAs, see The Cancer Council NSW web site http://www.cancercouncil.com.au

Limitations of maps

Caution must be applied when interpreting geographic variation. In addition to lifestyle and other environmental variables, many other factors may contribute to geographic variation of cancer patterns such as differences in screening activities, quality of diagnosis, classification and reporting, variations in accuracy of population estimates, genetic factors, ethnic mix, treatment availability and chance.

The relative size and shape of an area can be visually misleading. The large area of some sparsely populated LGAs tends to dominate the map particularly in the west of the State. In areas with small populations, the occurrence of one additional cancer case can result in high rates; larger populations have more chance of producing significant differences as their SIR or SMR will be more precise\(^1\). The smoothing techniques applied in the analysis for this report attempt to address these issues; these are described in the Methods section and in more detail in Appendix 5. The approach taken here is to visually represent the smoothed estimates, with some measure of whether an area’s smoothed rate is appreciably higher or lower than the state mean; we are not formally testing for individual geographical clusters\(^2\).

Finally, data averaged over all individuals in a local government area do not indicate the level of risk for any specific individual.