

Geographical methods

Maps are accessible and comprehensible tools for epidemiologists, geographers, public health researchers and the public in general that convey instant visual information about spatial patterns in mortality data that words or statistical tables cannot easily express (26) (27). However, just as in the atlases of mortality in small areas in Spain and Catalonia, published previously (12) (28), given that there is no ideal way of visualizing spatial information, and all approaches have advantages and disadvantages, we decided to use choropleth (area-shaded) small-area maps since they are the most widely used and understandable method for identifying geographical patterns in mortality (29) (30). In order to best show the changes in risk patterns, and to facilitate comparisons between maps, we used a "standardised" method employing the same type of statistical data (bayesian estimates of relative risk), range of values (risk septiles), and colour scheme (divergent, except in those supplemental maps which simultaneously compare all specific causes of death).

In the present atlas of mortality we have used the same colour scheme already used in the Spanish and Catalan atlases of mortality in small areas (12) (28), as it is effective for representation of quantitative data. Furthermore, the sequence of tones can, with care, be interpreted correctly by persons with colour-blindness (31). The divergent hues for the colour schemes are very similar to those used by the Spanish and Catalan atlases of mortality in small areas. In the maps of the leading causes of death displayed in a double-page format (see the Reader's guide for more details), we have used a scheme with darker colours towards the extremes of the septiles scale, and lighter colours in the middle. In order to obtain good visual comparability between the maps we have used a similar sequence. In the supplemental maps, both at the beginning of the atlas we use a progressive colour sequence for risk septiles. It should be noted that the monochrome maps allow clusters of areas with similar levels of high risk to be easily identified (32). The software used to store, manage, analyse map the digital spatial information was MapInfo 7.0.