

Statistical analyses

Evolution of relative risk of mortality

In order to study the evolution of the relative risk of mortality in each of the small areas, their trends in relative risk were compared to the relative risk trend for Spain as a whole. In order to achieve this, the deviation in the trend for each area was calculated with respect to the trend for Spain as a whole, subsequently referred to as the Differential Trend (DT). If a particular area presents $DT > 0$ [< 0], this indicates that the evolution of relative risk for that area is worse [better] than the evolution for Spain in general, in other words, the change in relative risk for each point in time is above [below] that of the general trend in Spain.

To construct maps showing the evolution of relative risk for each area compared to the trend for Spain as a whole, areas were classified according to their DT. Areas with $DT \geq 0.01$ [≤ -0.01] were considered to have a worse [better] evolution than the general trend in Spain. These cut off points were chosen in order to exclude those areas in which DT was minimal. Areas with a worse evolution have been grouped in three categories. The first consists of areas with a significant DT at 5% level. Areas where DT was not significant formed the second and third groups, according to whether DT fell in the upper quartile, or above the median of the DT distribution, respectively. For those areas with a better evolution, a similar procedure was used: one group consisting of areas with significant DT, two further groups formed from the non-significant areas having DT in the lower quartile, and below the median, respectively, of the distribution of DT.

It should be noted that, based on the differential trend alone, it is not possible to determine whether the trend in an area is rising or falling. For example, it may happen that an area presents a worse evolution than that for Spain as a whole, and yet have a declining trend over the study period. Hence, additional information has been included next to the color key for evolution, the range of values expressed as the change in relative mortality risk (SMR C) for each 3-year period. Note that SMR C is calculated based on the global trend for each area. In this way, in addition to classifying the evolution of the areas with respect to the general trend for Spain, one may also see just what the overall trend was for the areas forming a particular group. Hence if $SMR C > 1$ [< 1], then the overall trend of the areas is to increase [decrease]. Software programmes used in the statistical analyses included Excel 2000, SPSS 14.0, SAS 8.0, R 2.3.1 and WinBUGS 1.4.1.