

# Stomach Cancer Mortality in The Future: Where Are We Going?

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## INTRODUCTION

Gastric cancer mortality has been fallen throughout Europe during the past decades in terms of both incidence and mortality rates.<sup>1, 2,3</sup> It is mainly as a result of remarkable improvement of life conditions in European societies.<sup>4-7</sup> Efforts to reduce global cancer disparities begin with an understanding of geographic patterns of cancer incidence, mortality and prevalence rates, by studies such as GLOBOCAN,<sup>8,9</sup> EURO-CARE,<sup>10</sup> and Five Continents databases.<sup>11</sup> Survival increased and mortality decreased through the combination of earlier detection, better access to care and improved treatment.<sup>12</sup> There has also been a concomitant change in lifestyle and environmental exposures over successive generations,<sup>13</sup> including changes in exposures to risk factors in early decades of life.<sup>14</sup>

Several studies conducted to determine the projections of future trends in gastric cancer mortality in European countries.<sup>7,12,14-17</sup> Mortality rates were generally expected to decline further. Based on the cancer mortality trends in the European Union until 2000, one study predicted a further fall by 11% in age-standardized cancer mortality from 2000 to 2015.<sup>15</sup> A Dutch study also projected a substantial decline in gastric cancer mortality until 2015, based on trends until 2000.<sup>16</sup> Similarly, an Irish study predicted mortality from gastric cancer to fall further in the near future, although with a slower rate than in the recent past.<sup>17</sup>

Determinations of future mortality trends should be based on a careful analysis of trends in the past.<sup>18, 19</sup> Therefore, in a study, the analysis started with a description of trends in gastric cancer mortality over a long period, from 1980 up to 2005, in order to check whether mortality decline continued undiminished until recent

years.<sup>20</sup> In addition, it has been assessed whether the rate of decline was similar in all seven countries and both sexes, despite differences in overall rates of gastric mortality.

The noticeable decline in gastric cancer mortality was found to continue at an undiminished rate until 2005 in each of the seven European countries. If this decline were to continue in the future, gastric cancer mortality rates would decrease with about 66 percent between 2005 and 2030. A two-thirds decline would also observe in terms of the effect of gastric cancer on people's life expectancy at birth. The absolute number of gastric cancer deaths would diminish by about 50 percent despite the ageing of national populations. Thus, by extrapolating the strong, stable and consistent mortality rate declines in recent decades, gastric cancer was projected to become increasingly less important as a cause of death in Europe in the next decades.

Empirical support for the expectation that the decline in mortality from gastric cancer will continue in the future comes from the trends that were studied in the past 25 years. First, a strong consistency exists in the recent trends in gastric cancer mortality among both sexes and among each of the seven European countries. Second, these declines have persisted up to recent years in each of these populations, including those with the lowest initial mortality rates. Furthermore, a steady decline in gastric cancer mortality rate was observed in the middle-aged and the young population as well, suggesting that they are likely to continue in the near future.<sup>3, 4, 15</sup> The latter observation is consistent with analysis of cohort-wise patterns of decline in gastric cancer mortality in European countries,<sup>1, 13, 21</sup> which may reflect the effects of life style improvement in childhood.<sup>1</sup>

It should be emphasized that, even though future declines may seem likely, in this study, we primarily aimed to explore possible future trends by extrapolating past trends. This extrapolation would provide a baseline scenario against which new studies may formulate more specific scenarios of future trends. For example, policy-based scenarios may focus on the potential effects of specific preventive policies or advancement in the treatment of gastric cancer. As the gastric cancer may become ever less important in terms of mortality, scenario studies will need to also include measures of incidence, prognosis and prevalence of gastric cancer.

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