Monitoring the decrease in breast cancer mortality in Europe
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Trends in mortality from breast cancer over the period 1970–2000 were analysed for 38 European countries and the European Union (EU). Age-standardized mortality rates were computed by the direct method, and joinpoint analysis was used to identify significant changes in rates. A favourable pattern in breast cancer mortality in the 25 countries of the EU (as defined in May 2004) was observed after 1989, leading to a fall in overall rates from 21.3/100,000 in 1990 to 18.9 in 2000. The annual percentage change in the EU was \(-2.1\%\) between 1995 and 2000. Most northern European countries, including several Scandinavian countries and the UK, but also some central and southern European countries like Germany, Poland, the Czech Republic, Austria, Switzerland, Italy and Spain showed appreciable falls in rates (i.e. between 8 and 19% in the last 5 calendar years). The declines were larger below age 50, approaching 20% in several countries. The falls were smaller in France, Greece, Portugal and most eastern European countries. In the Russian Federation, all-age breast cancer mortality increased from 16.1 to 17.3/100,000 (+7.5% over the last 5 calendar years). These patterns reflect converging trends in breast cancer rates across Europe, which can be related to the more uniform reproductive and lifestyle habits. The fall in breast cancer mortality observed in most European countries over the last decade has to be attributed to earlier detection and improved treatment, although the definite reasons for the different trends in various countries remain at least in part unclear. *European Journal of Cancer Prevention* 14:497–502 \(\copyright\) 2005 Lippincott Williams & Wilkins.


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Introduction

Across Europe, breast cancer mortality had been rising until the mid-1980s. Since then, trends have changed, and falls started earlier in northern Europe, where breast cancer rates were originally higher (Levi et al., 2001, 2004a; Botha et al., 2003; Tyczynski et al., 2004). The largest falls (over 20%) were observed in the UK (Peto et al., 2000), where however part of the decline was likely due to changes in coding and registration procedures introduced in the mid-1990s, which led to a rise in the proportion of deaths attributed to unspecified neoplasms (Rooney and Devis, 1996). Since 1989 breast cancer mortality has also dropped by over 20% in US white (but not black) women, reflecting the contribution of early detection, increasing use of screening mammography and the introduction of adequate therapy (Lacey et al., 2002; Jemal et al., 2004).

We have considered trends in breast cancer mortality in the 15 countries of the European Union (EU) and other European countries between 1988 and 1998: in the EU the fall was 26% at age 20–49, 9% at age 50–69 and 4% at age 70–79 (Levi et al., 2001, 2004a). In the mid-1990s, mortality was stable, or still somewhat upwards, in Poland, Hungary and a few other central and eastern European countries which entered the EU in May 2004. This may be related to the originally lower breast cancer rates in that area of the continent, but also to a delayed adoption of advancements in early diagnosis and treatment (Levi et al., 2004b).

To further monitor recent trends in breast cancer mortality, we have updated trends in the EU, including 25 member states as of May 2004, and in separate European countries up to 2000, using jointpoint regression models (Kim et al., 2000) to define changes in trends over subsequent calendar periods.

Methods

Official death certification numbers for breast cancer up to 2000 for 38 European countries (including the Russian Federation, but excluding a few small countries such as Andorra and Liechtenstein) were derived from the World Health Organization (WHO) database as available on electronic support (World Health Organization, 2004).

The EU was defined as the 25 member states as of May 2004 (Austria, Belgium, the Czech Republic,