5.8. Screening, survival and mortality for breast cancer

Breast cancer is the most common form of cancer in women, with a lifetime incidence of about 11% and a lifetime mortality rate of about 3% in the United States (Feuer *et al.*, 2003). One in nine women will acquire breast cancer at some point in their life and one in thirty will die from the disease. Overall spending for breast cancer care typically amounts to about 0.5-0.6% of total health care expenditure (OECD, 2003a).

The combination of public health interventions and improved medical technology has contributed to substantial improvements in survival rates for breast cancer. Greater awareness of the disease and the promotion of self-examination and screening mammography (European Union, 2003; European Commission, 2006) have led to the detection of the disease at earlier stages. Technological improvements, such as the introduction of combined breast conserving surgery with radiation therapy and routine adjuvant chemotherapy treatment, have increased survival as well as the quality of life of survivors (Mauri *et al.*, 2008).

Three indicators are presented to reflect the variation in breast cancer care across OECD countries: mammography screening rates in women 50-69 years, relative survival rates, and mortality rates for breast cancer. Clinical studies have demonstrated the effectiveness of breast cancer screening and treatment in improving survival. Even though the optimal frequency of screening and the age-group to target are still the subject of debate, most countries have adopted screening programmes. For example, EU guidelines (European Commission, 2006) promote a target screening rate of at least 75% of eligible women in European countries.

Resources and patterns for breast cancer treatment vary substantially across OECD countries, leading to an interest in comparing survival and mortality rates (OECD, 2003a). Breast cancer survival rates have been used to compare countries in the EUROCARE study (Sant *et al.*, 2009), and in the CONCORD study (Coleman *et al.*, 2008) among other studies.

In the Netherlands and Finland, close to 90% of women aged 50-69 years are screened annually, but only around 20% in the Slovak Republic and Japan (Figure 5.8.1). Some countries with very low screening rates, like Japan, have no national screening programme; the low rates reflect opportunistic screening or local programmes. Some countries which had low rates in 2000, such as the Czech and Slovak Republics, showed substantial increases by 2006, whereas some countries with already high rates experienced declines, including the United States, Finland and Norway.

Many OECD countries have survival rates of over 80%, with rates as high as 90% for the United States (Figure 5.8.2). The United States reports the highest survival rate for women diagnosed in 2002 and a screening rate for that year which is among the highest in the OECD. Given the effect of early detection through screening requires several years before it is manifest, the impact of the decrease in the United States mammography rates between 2000 and 2006 will remain uncertain until survival rates for future years become available.

Figure 5.8.2 shows that relative five-year breast cancer survival rates have improved slightly in almost all countries between 1997-2002 and 2002-07, even though changes are usually not statistically significant. However, data from European countries over a longer time period confirm that five-year survival rates for breast cancer have increased over recent years and particularly in eastern European countries that historically had lower survival rates (Verdecchia *et al.*, 2007).

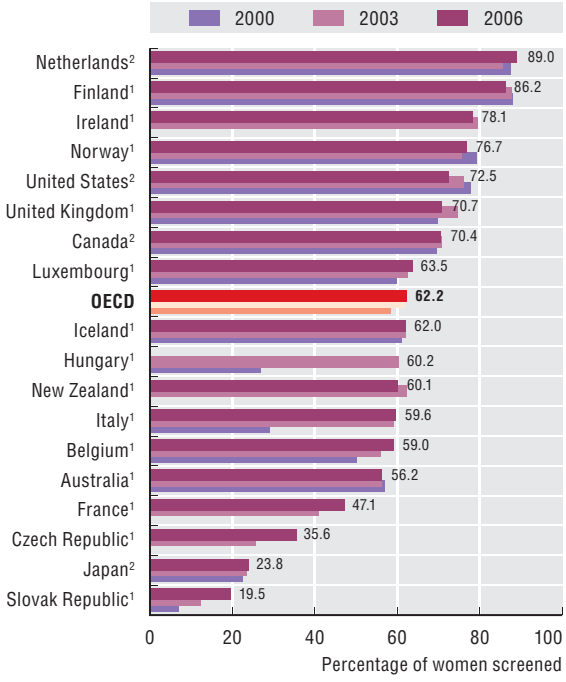
Figure 5.8.3 illustrates that breast cancer mortality rates are declining in most OECD countries. Korea and Japan are the exceptions, though the changes are small and mortality levels continue to be the lowest among OECD countries. Conversely, improvements are substantial for countries that had higher levels in 1995, like the Netherlands, the United Kingdom, Ireland and Denmark.

Definition and deviations

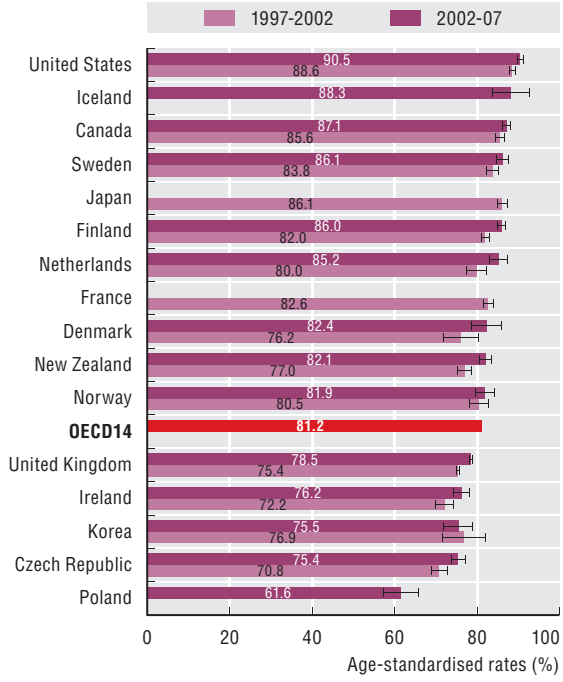
Mammography screening rates reflect the proportion of eligible women patients who are actually screened. As policies regarding target age groups and screening periodicity differ across countries, the rates are based on each country's specific policy. Some countries ascertain screening based on surveys and others based on encounter data, and this may influence results. If a country has an organised screening programme, but women receive care outside of the programme, rates may be underreported. Survey-based results may also underestimate rates due to recall bias.

Survival rates and mortality rates are defined in Indicator 5.7 "Cervical cancer".

5.8.1 Mammography screening, percentage of women aged 50-69 screened, 2000 to 2006 (or nearest year available)

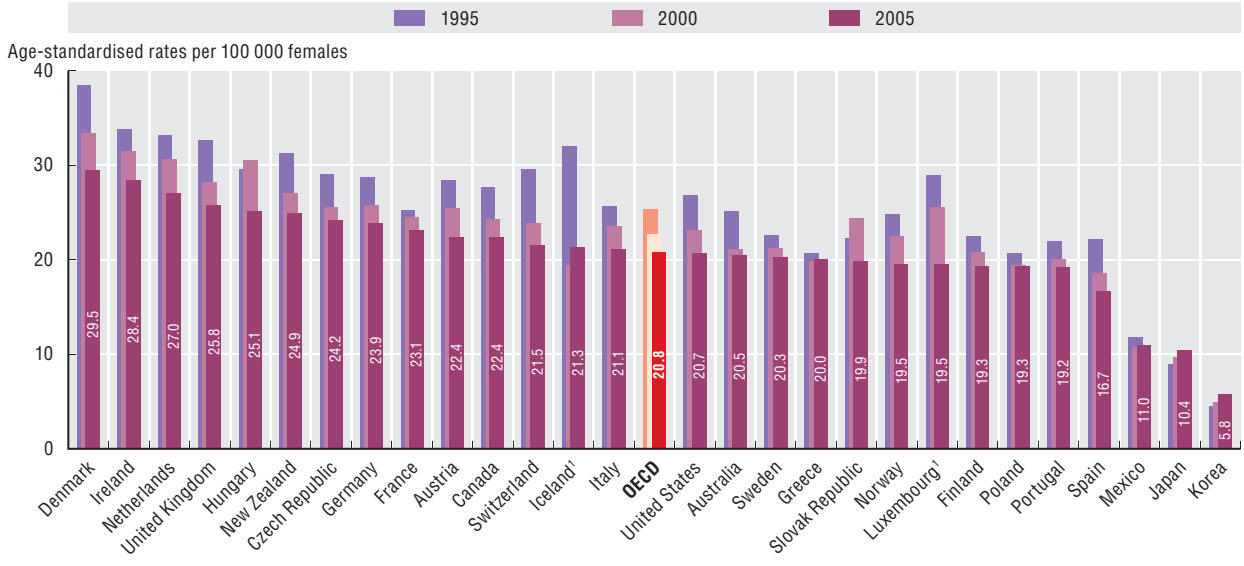


5.8.2 Breast cancer five-year relative survival rate, 1997-2002 and 2002-07 (or nearest year available)



1. Programme. 2. Survey.

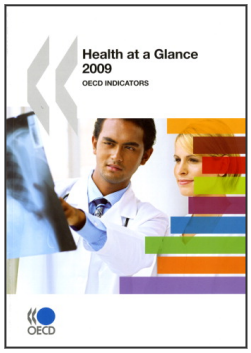
5.8.3 Breast cancer mortality, females, 1995 to 2005 (or nearest year available)



1. Rates for Iceland and Luxembourg are based on a three-year average.

Source: OECD Health Care Quality Indicators Data 2009. Survival rates are age standardised to the International Cancer Survival Standards population. *OECD Health Data 2009* (cancer screening; mortality data extracted from WHO Mortality Database and age standardised to 1980 OECD population). 95% confidence intervals are represented by ⊢⊣ in the relevant figures.

StatLink http://dx.doi.org/10.1787/718845186853



From:
Health at a Glance 2009
OECD Indicators

Access the complete publication at:
https://doi.org/10.1787/health_glance-2009-en

Please cite this chapter as:

OECD (2009), "Screening, survival and mortality for breast cancer", in *Health at a Glance 2009: OECD Indicators*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/health_glance-2009-55-en