

**Cancer survival in five continents: a worldwide population-based study (CONCORD).**

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**BACKGROUND:** Cancer survival varies widely between countries. The CONCORD study provides survival estimates for 1.9 million adults (aged 15-99 years) diagnosed with a first, primary, invasive cancer of the breast (women), colon, rectum, or prostate during 1990-94 and followed up to 1999, by use of individual tumour records from 101 population-based cancer registries in 31 countries on five continents. This is, to our knowledge, the first worldwide analysis of cancer survival, with standard quality-control procedures and identical analytic methods for all datasets. **METHODS:** To compensate for wide international differences in general population (background) mortality by age, sex, country, region, calendar period, and (in the USA) ethnic origin, we estimated relative survival, the ratio of survival noted in the patients with cancer, and the survival that would have been expected had they been subject only to the background mortality rates. 2800 life tables were constructed. Survival estimates were also adjusted for differences in the age structure of populations of patients with cancer. **FINDINGS:** Global variation in cancer survival was very wide. 5-year relative survival for breast, colorectal, and prostate cancer was generally higher in North America, Australia, Japan, and northern, western, and southern Europe, and lower in Algeria, Brazil, and eastern Europe. CONCORD has provided the first opportunity to estimate cancer survival in 11 states in USA covered by the National Program of Cancer Registries (NPCR), and the study covers 42% of the US population, four-fold more than previously available. Cancer survival in black men and women was systematically and substantially lower than in white men and women in all 16 states and six metropolitan areas included. Relative survival for all ethnicities combined was 2-4% lower in states covered by NPCR than in areas covered by the Surveillance Epidemiology and End Results (SEER) Program. Age-standardised relative survival by use of the appropriate race-specific and state-specific life tables was up to 2% lower for breast cancer and up to 5% lower for prostate cancer than with the census-derived national life tables used by the SEER Program. These differences in population coverage and analytical method have both contributed to the survival deficit noted between Europe and the USA, from which only SEER data have been available until now. **INTERPRETATION:** Until now, direct comparisons of cancer survival between high-income and low-income countries have not generally been available. The information provided here might therefore be a useful stimulus for change. The findings should eventually facilitate joint assessment of international trends in incidence, survival, and mortality as indicators of cancer control.