Population-based cancer survival estimates provide valuable insights into the effectiveness of cancer services and can reflect the prospects of cure. As part of the second phase of the International Cancer Benchmarking Partnership (ICBP), the Cancer Survival in High-Income Countries (SURVMARK-2) project aims to provide a comprehensive overview of cancer survival across seven high-income countries and a comparative assessment of corresponding incidence and mortality trends.

In this longitudinal, population-based study, we collected patient-level data on 3.9 million patients with cancer from population-based cancer registries in 21 jurisdictions in seven countries (Australia, Canada, Denmark, Ireland, New Zealand, Norway, and the UK) for seven sites of cancer (oesophagus, stomach, colon, rectum, pancreas, lung, and ovary) diagnosed between 1995 and 2014, and followed up until 31 December 2015. We calculated age-standardised net survival at one year and five years after diagnosis by site, age group, and period of diagnosis. We mapped changes in incidence and mortality to changes in survival to assess progress in cancer control.

In 19 eligible jurisdictions, 3764543 cases of cancer were eligible for inclusion in the study. In the 19 included jurisdictions, over 1995-2014, one-year and five-year net survival increased in each country across almost all cancer types, with, for example, five-year rectal cancer survival increasing more than 13 percentage points in Denmark, Ireland, and the UK. For 2010-2014, survival was generally higher in Australia, Canada, and Norway than in New Zealand, Denmark, Ireland, and the UK. Over the study period, larger survival improvements were observed for patients younger than 75 years at diagnosis than those aged 75 years and older, and notably for cancers with a poor prognosis (i.e., oesophagus, stomach, pancreas, and lung). Progress in cancer control (i.e., increased survival, decreased mortality and incidence) over the study period was evident for stomach, colon, lung (in males), and ovarian cancer.

The joint evaluation of trends in incidence, mortality, and survival indicated progress in four of the seven studied cancers. Cancer survival continues to increase across high-income countries; however, international disparities persist. While truly valid comparisons require differences in registration practice, classification, and coding to be minimal, stage of disease at diagnosis,
timely access to effective treatment, and the extent of comorbidity are probably the main determinants of patient outcomes. Future studies are needed to assess the impact of these factors to further our understanding of international disparities in cancer survival.