

THELANCET-D-17-06977R2

S0140-6736(17)33326-3

Embargo: January 30, 2018—23:30 (GMT)

Doctopic: Primary Research

Global surveillance of trends in cancer survival 2000–14 (CONCORD-3): analysis of individual records for 37 513 025 patients from 322 population-based registries in 71 countries



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Summary

Background In 2015, the second cycle of the CONCORD programme established global surveillance of cancer survival as a metric of the effectiveness of health systems and to inform global policy on cancer control. CONCORD-3 updates the worldwide surveillance of cancer survival to 2014.

Methods CONCORD-3 includes individual records for 37·5 million patients diagnosed with cancer during the 15-year period 2000–14. Data were provided by 322 population-based cancer registries in 71 countries and territories, 47 of which provided data with 100% population coverage. The study includes 18 cancers or groups of cancers: oesophagus, stomach, colon, rectum, liver, pancreas, lung, breast (women), cervix, ovary, prostate, and melanoma of the skin in adults, and brain tumours, leukaemias, and lymphomas in both adults and children. Standardised quality control procedures were applied; errors were rectified by the registry concerned. We estimated 5-year net survival. Estimates were age-standardised with the International Cancer Survival Standard weights.

Findings For most cancers, 5-year net survival remains among the highest in the world in the USA and Canada, in Australia and New Zealand, and in Finland, Iceland, Norway, and Sweden. For many cancers, Denmark is closing the survival gap with the other Nordic countries. Survival trends are generally increasing, even for some of the more lethal cancers: in some countries, survival has increased by up to 5% for cancers of the liver, pancreas, and lung. For women diagnosed during 2010–14, 5-year survival for breast cancer is now 89·5% in Australia and 90·2% in the USA, but international differences remain very wide, with levels as low as 66·1% in India. For gastrointestinal cancers, the highest levels of 5-year survival are seen in southeast Asia: in South Korea for cancers of the stomach (68·9%), colon (71·8%), and rectum (71·1%); in Japan for oesophageal cancer (36·0%); and in Taiwan for liver cancer (27·9%). By contrast, in the same world region, survival is generally lower than elsewhere for melanoma of the skin (59·9% in South Korea, 52·1% in Taiwan, and 49·6% in China), and for both lymphoid malignancies (52·5%, 50·5% and 38·3%) and myeloid malignancies (45·9%, 33·4%, and 24·8%). For children diagnosed during 2010–14, 5-year survival for acute lymphoblastic leukaemia ranged from 49·8% in Ecuador to 95·2% in Finland. 5-year survival from brain tumours in children is higher than for adults but the global range is very wide (from 28·9% in Brazil to nearly 80% in Sweden and Denmark).

Interpretation The CONCORD programme enables timely comparisons of the overall effectiveness of health systems in providing care for 18 cancers that collectively represent 75% of all cancers diagnosed worldwide every year. It contributes to the evidence base for global policy on cancer control. From 2017, the Organisation for Economic Co-operation and Development will use findings from the CONCORD programme as the official benchmark of cancer survival, among their indicators of the quality of health care in 48 countries worldwide. Governments must recognise population-based cancer registries as key policy tools that can be used to evaluate both the impact of cancer prevention strategies and the effectiveness of health systems for all patients diagnosed with cancer.

Funding American Cancer Society; Centers for Disease Control and Prevention; Swiss Re; Swiss Cancer Research foundation; Swiss Cancer League; Institut National du Cancer; La Ligue Contre le Cancer; Rossy Family Foundation; US National Cancer Institute; and the Susan G Komen Foundation.

Introduction

The incidence of cancer continues to rise, both in high-income countries and, especially, in low-income and middle-income countries. Prevention is crucial, but implementation has been slow and incomplete, even in high-income countries. Prevention is a long-term

strategy, and not all cancers can be prevented.¹ To reduce cancer mortality, reduction of cancer incidence and improvement of cancer survival are both necessary.

Many patients will continue to be diagnosed with cancer every year for decades to come: an estimated 14 million patients a year worldwide around 2012,² with a

Published Online
January 30, 2018
[http://dx.doi.org/10.1016/S0140-6736\(17\)33326-3](http://dx.doi.org/10.1016/S0140-6736(17)33326-3)

See Online/Comment
[http://dx.doi.org/10.1016/S0140-6736\(17\)33326-3](http://dx.doi.org/10.1016/S0140-6736(17)33326-3)

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