

# **Analysis of cancer incidence, mortality and survival combined reveals encouraging European trends**

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The first research to look at recent trends in European cancer incidence, mortality and survival together has shown that cancer prevention and management in Europe is moving in the right direction. However, the research reveals that variations between countries in policies for mass screening, access to health care and treatment are reflected in the different cancer rates.

The research is published in a special issue of the European Journal of Cancer (the official journal of ECCO – the European Cancer Organisation) on cancer control and coincides with the start of work by the European Commission to draw up a new EU Cancer Action Plan. The co-editors of the issue, Jan Willem Coebergh and Tit Albrecht, expect the special issue to inform the discussions during the drawing up of the Cancer Action Plan, as well as providing information for an updated version of the European Cancer Code.

In "Recent trends in cancer in Europe: a combined approach of incidence, survival and mortality for 17 cancer sites since the 1990s", one of ten papers published in the EJC special issue, Prof Coebergh and his team obtained data on incidence, mortality and five-year survival from the mid-1990s to the mid-2000s from cancer registries in 21 European countries, and used it to analyse trends.

Prof Coebergh, of Erasmus MC University Medical Centre, Rotterdam,

The Netherlands, said: "Over the past 20 years, studies have produced a lot of comparative data on cancer, but often it has been one-dimensional and fragmented. We rarely see the often intertwined changes in cancer incidence, survival and mortality discussed in a systematic way for different tumours and in different countries. We have addressed it now and expect this approach to be followed. For the sake of prevention and organisation of treatment, it is vital to correctly interpret trends in cancer rates: has real progress been made or are we looking at artefacts?

Observed increases in cancer incidence, for example, might be real, i.e. because of increasing risks due to previous cancer-causing or promoting agents, or they might be due to improvements in the completeness of the cancer registry, changes in diagnostic criteria, or effects of early detection methods such as population screening. Likewise, improving cancer survival could be due to better treatment, but also because of earlier diagnosis of patients in whom cancer would otherwise be detected much later or who would even never have had clinical disease."

The researchers found that generally in the more prosperous countries of Northern and Western Europe the trend was downwards for cancer incidence; the exceptions were for obesity-related cancers such as colorectal and postmenopausal breast cancer, and for tobacco-related cancers in women, such as lung cancer.

Incidence and mortality from tobacco-related cancer decreased for men in Northern, Western and Southern Europe, they increased for both sexes in Central Europe and for women nearly everywhere in Europe. With the exception of smoking-related cancers, mortality trends generally in most cancers were moving downwards for most of Europe.

Survival rates for most cancers generally improved. The researchers say this is due to better access to specialised diagnostics, staging and treatment. "Marked effects of organised or opportunistic screening became visible for breast, prostate and melanoma in the wealthier

countries," they report. For instance, although the incidence of breast cancer continues to rise in most countries, deaths are declining and survival is improving. The rising incidence and survival rates are partly influenced by the presence of organised breast cancer screening programmes and even opportunistic screening that increases the detection of smaller and less aggressive tumours, resulting in decreased mortality after five to eight years. Survival and mortality is influenced also by improved staging and treatment, such as the use of tamoxifen in postmenopausal patients and chemotherapy in premenopausal patients.

The authors write: "We observed the highest incidence of breast, prostate, testicular cancer and melanomas in Northern and Western Europe. However, cancers of the lung, cervix and stomach were more common in the South and Central parts of Europe. Within Northern Europe, for many tumours, we observed a distinction between the Scandinavian countries (often excluding Denmark) and the United Kingdom and Denmark, with higher rates for most cancers in the latter two countries."

They continue: "Europe is a large continent with large variations in life-style patterns, climate and healthcare systems. Variation in healthcare systems, e.g. professional organisation, has a large influence on the possibility of the population to attend programmes for early detection and access to care and treatment.

"Some of the improvements in cancer survival may be due to earlier detection (breast, prostate) but also due to increasing proportions of elderly patients receiving new or more aggressive treatment. Cervical cancer screening, on the other hand, resulted in poorer survival rates: the effect of screening is that fewer cancers develop, but those which do develop are often more aggressive. For some tumours, such as rectal tumours and Hodgkin's disease, staging procedures have improved treatment efficacy and survival rates. In many countries, cancer care has

been regionalised, also driven by more specialised oncologists and, resulting in more optimal care for cancer patients and thus an improved survival."

The authors conclude: "Cancer prevention and management in Europe is moving in the right direction. Survival increased and mortality decreased through the combination of earlier detection, better access to care and improved treatment. Still, cancer prevention efforts have much to attain, especially in the domain of female smoking and the emerging obesity epidemic."

The impact of mass screening is investigated in greater depth in another paper in the EJC special issue and in a further paper on the potential ways of closing the gap between Central and Eastern Europe through changes in lifestyles which could reduce the incidence of some cancers.

A paper by Dr Albrecht, of the Institute of Public Health of the Republic of Slovenia in Ljubljana, and colleagues outlines some of the issues for Europe highlighted by the EJC papers.

He said: "As outlined in the paper 'Making progress against cancer in 2008', we clearly see five groups of key stakeholders – patients, health policy, reimbursement and financing agencies, research and finally, pharmaceutical and medical technology industries. Four key resources are identified as the most relevant to successful cancer management: human resources, physical resources, knowledge resources and social resources."

His paper says that Europe must focus on four types of interventions: "primary prevention and health promotion; secondary prevention with proven screening programmes; more equitable access to optimal treatment and integration of all cancer care services; and sustained and consistent support for advanced independent research".

Dr Albrecht said the conclusions from this paper and from the EJC special issue as a whole were the result of consultations, meetings and workshops held under the auspices of the Slovenian and Portuguese EU presidencies. "All the efforts were summarised in the book 'Responding to the challenge of cancer in the EU' which was presented at the conference on cancer in Brdo, Slovenia in February 2008," he said. Papers in the EJC are adapted from some of the chapters in the book.

Professor Alexander M.M. Eggermont, President of ECCO, said: "The EJC's special issue on cancer control comes at a very opportune moment when the European Commission is starting to draw up plans for an EU Cancer Action Plan.

"It highlights several areas that the Commission will need to take into its considerations, as well as important issues that individual Members States are in the process of tackling. The paper on recent trends of cancer in Europe shows how useful epidemiology is in helping to identify areas that governments and healthcare professionals need to focus on.

"This EJC issue shows the disparities in cancer prevention, treatment and care between different European countries, but also shows how countries can learn from each other's experiences so that evidence-based best practice can be disseminated across Europe.

"It is through initiatives such as the EJC special issue that we can improve information and collaboration, enabling us all to work towards ironing out inequalities in access to optimal prevention, treatment and care across amongst cancer patients in Europe.

"ECCO will be working with the European Commission to help with the preparations for drawing up the EU cancer action plan. We will be using this EJC issue to inform our discussions."

Source: ECCO-the European CanCer Organisation

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