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EDITORIAL



Predictions of cancer mortality in Europe in 2021: room for hope in the shadow of COVID-19?

The key to understanding the past and how to approach to the future is data. Data shed light on the current disease burden and highlight trends in cancer mortality. They explain the underlying dynamics¹ and are of paramount importance in projecting what the future will look like — which is key to planning appropriate responses. Malvezzi and colleagues² first published their report on the projected mortality rates in the European Union (EU) in 2011, updating routinely since. This issue of the *Annals of Oncology* includes is the eleventh iteration.³ This consistent body of work, its sequential descriptions of the cancer situation and informed predictions are of great value. The authors are to be commended.

They have managed to assemble a comprehensive report, despite the UK's exit from the EU, which means that this year's results are not entirely comparable to the EU cumulative series so far. They examine the official death certification data from the World Health Organization Mortality Database and global cause of death statistics,⁴ with details for pancreatic cancer and female lung cancer, because of their increasing relevance. UK results are reported separately. The authors then computed predictive models to try to anticipate the mortality burden for the year 2021.

Their analysis gives cause for hope. Cancer mortality projections confirm the persistent declines in total cancer mortality in both sexes in Europe, and for several specific malignancies. Lung cancer in the EU27 still has the highest predicted mortality rates for both sexes (32.3/100 000), but rates have fallen among men by 10.2% since 2015, although for women there has been a rise. Breast cancer in women presents the second highest projected mortality rate, with 13.3/100 000 in 2021, but there has been a fall of 7.8% since 2015. Deaths from stomach cancer and leukaemias in both sexes show declines of >10%. Furthermore, trends for other major cancers, such as colorectal, prostate and ovarian cancers, suggest lower incidences. Overall, in all major Western EU countries in the study, age-adjusted cancer mortality tends to continue its steady decline.

Not all the results are as encouraging, however. The gains contrast with the continuing high mortality for pancreatic cancer, with only a minimal decline in the subgroup of young men, and there are both very high rates of lung cancer and persistent upward trends in women in the EU with an annual projected rise of 6.5%.

These examples underline the practical value of the report for health care providers and for health systems and societies more widely. It suggests a role for public health, for primary prevention and for investment in clinical responses. Efforts to reduce smoking and to tackle other risk factors (diet and dietary aspects, food preservation, limiting alcohol intake, increasing physical activity, taking precautions against radiation, etc.) seem to be paying off, with decreasing rates of associated malignant tumours, such as stomach and bladder cancer (see the article by Carioli et al.³ in this issue). It also seems that much improvement from previous reports must be attributed to enhanced primary prevention, screening, diagnosis and clinical management.⁵ Similarly, the decrease in leukaemia rates and other malignant neoplasms is likely to be due to the accumulating therapeutic advances made in treating malignancies. The report thus captures the scope for effective action across the whole spectrum of anticancer action. It demonstrates the need to pay more attention to specific areas (pancreatic cancer; female lung cancer rates) and to act more broadly, prioritising clinical and public health research and further developing coherent European responses to prevention and treatment.

The positives — the concrete evidence that there is scope for effective action which, over time, leads to positive outcomes — should not mask the shadow of the COVID-19 pandemic. Its impact on cancer patients (and the fear of that impact) is looming.⁶ Beyond the direct harm of this new coronavirus to immunocompromised and particularly vulnerable people, there is the blow to comprehensive clinical care and the interruption of research. Perhaps most worrying for the long term is the paralysis of prevention programmes, screening and early diagnosis. Since March 2020, all of the activity linked to progress over recent decades has come to a screeching halt. It is, of course, too early to characterise the impacts, but it seems inevitable they will have marked, if not dramatic, consequences.

For the time being we know that patients with cancer have increased mortality from severe acute respiratory syndrome-related coronavirus-2 (SARS-CoV-2) in comparison with patients without cancer⁷; that patients with cancer who develop COVID-19 have high probability of mortality^{8,9}; and that this mortality risk is not homogeneous, given that patients with different tumour types have differing susceptibility to SARS-CoV-2 infection.¹⁰ At the same time, the presence of cancer is a severe risk factor for COVID-19-infected patients, carrying as it does a higher probability of ICU admission, mechanical ventilation and mortality.¹¹

The impact of interruptions or delays in primary and secondary prevention (screening) programmes and the organisational impact on oncology services in hospitals^{12,13} remains to be seen. Although there are already studies that capture how screening programmes are affected,¹⁴ and which model the likely increased risk for breast cancer in women who have missed their screening,¹⁵ it is hard to assess how these screening gaps across different cancers and populations will add up. It is hard, too, to measure the real costs in human life of the interruptions in clinical research.¹⁶

To conclude, the relative decline in the trend in cancer mortality over time (even with the problems of pancreatic cancer and lung cancer in women) shown objectively by Malvezzi and colleagues² is encouraging. There is no doubt that we have made positive progress.

Nonetheless, the possible impact of the COVID-19 pandemic on actual consolidated mortality for 2020, for 2021 and beyond, demands vigilance. There are opportunities to act, not least in the context of the Europe Beating Cancer Plan, albeit that it has suffered in scale and ambition from the focus on the pandemic and future preparedness.¹⁷ It is to be hoped that a concerted European push on prevention, early detection and diagnosis, treatment and care, and quality of life¹⁸ will offset the damage done. If public health and health systems can recover with the utmost agility, and with all the attention and resources (national and European) that the challenge deserves, they may be able to fully resume their efforts to prevent cancer, and care for cancer patients. There is hope then, not just from the progress to date, but that the next iteration of today's report may not expose the backwards step any steps backwards is not right that so many fear.

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