nature
index

Survival at all costs

Nature Index Cancer 2020
Nature Index Cancer 2020, a supplement to *Nature*, is produced by Nature Research, the flagship science portfolio of Springer Nature. This publication is based on data from Nature Index, a Nature Research database with a website maintained and made freely available at natureindex.com.

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Some analysts are cynical about the apparent mismatch between spending and outcomes in what's disparagingly called 'the cancer industry'. How can cancer be the second leading cause of death globally, responsible for an estimated 9.6 million deaths in 2018, when a single institution (the US National Institutes of Health, NIH) spent US$24.4 billion on cancer research in the past four years, not to mention outlays by so many other funders?

As the graph on page S7 shows, researchers are nudging the dial on some types of cancer more than others. This Nature Index supplement focuses on three – cervical, prostate and melanoma – as a lens through which to view the kinds of preventions and treatments that are lengthening survival rates, at least in high-income countries.

Dimensions data provide interesting comparisons on value for money. As a rough indication, looking at the top ten funders' total grants for cancer research from 2010 to 2019 beside their cancer research publications over the same period, the average for the National Natural Science Foundation of China is US$21,902 per publication. By contrast, for the US National Cancer Institute, part of the NIH and the world's biggest funder of cancer research, it is US$129,624 per article.

The above analysis is blind to article quality. For that, the indicator is publication in the 82 high-quality journals selected by experts for inclusion in the Nature Index, which, it should be noted, does not include clinical sciences journals. In cancer, as in every other field, China's rise is striking. Its cancer research in the Nature Index rose by an estimated 114.9% from 2015 to 2019, according to our key metric, Share, a fractional count of the proportion of the country's affiliated authors on each article. The number of cancer research articles published in Nature Index journals, identified through a search using Dimensions, grew by 25.8% over the same period, more than four times the growth for articles overall. One reason that cancer outcomes seem not to be improving in line with research output is that improved treatments have not been accessible to all, as our stories about cervical and prostate cancer explain (pages S2 and S5). Therapies, let alone the latest treatments, may be out of reach in the low- and middle-income countries where 70% of global cancer deaths occur. That's not a problem science alone can solve.

Catherine Armitage
Chief editor

On the cover
Artistic rendition of a breast cancer cell disintegrating, from an image by Anne Weston, Francis Crick Institute.

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