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For millennia, humans have met their demise through violence, accidents and a fearsome array of infectious diseases. In 1900, the leading causes of death in the United States were pneumonia, influenza and tuberculosis. A century later, they are heart disease and cancer.

Antibiotics and other modern medicines have reduced the lethality of the microbial illnesses that killed our ancestors. Still, we all die of something. So we now find lying in wait for us scores of disorders characterized by the uncontrolled growth of cells. More than forty years since 'war' was declared on cancer, malignancy still casts a shadow over humanity: in 2012, 15% of deaths worldwide were attributable to cancer (page S50). The toll will almost certainly rise in the decades ahead, especially as developing countries adopt Western diets and lifestyles (S64).

This Outlook presents an overview of the current battles against cancer. We examine advances in personalized treatments (S52), nanodevices that will precisely deliver drugs to tumours (S58) and the radical changes that may be needed in clinical research as a result (S55). We explain how the terabytes of data produced by cancer research could be too much of a good thing until we figure out better ways to manage the information (S66 and S68). Clues to potential therapies may lie in an animal that is close to cancer-free (S60), but prevention seems daunting given how much of the environment is potentially carcinogenic (S62). And even as scientists begin to solve the great puzzles concerning cancer, three fundamental mysteries are proving tough to crack (S69).

To deliver this broad view of cancer widely, this Outlook is being published in both *Nature* and *Scientific American* — a collaboration that we expect to be the first of many.

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Herb Brody
Supplements Editor

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