

"Let him who would enjoy a good future waste none of his present."
 Roger Ward Babson, American statistician, business forecaster and author (1875-1967)

Predictions are speculative, but some things are certain: the global epidemic of cancer, with its attendant health and economic burden, is not only increasing but is also shifting from developed to developing nations.

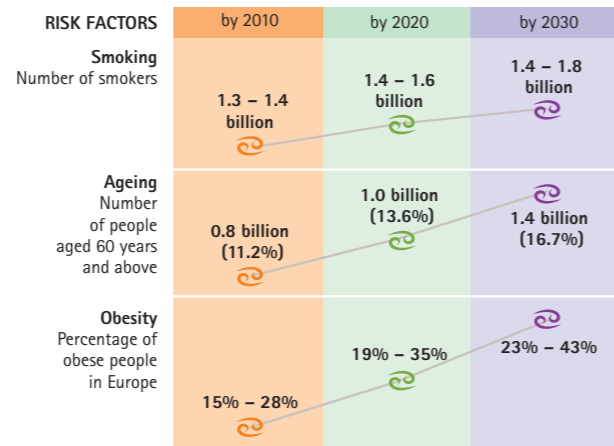
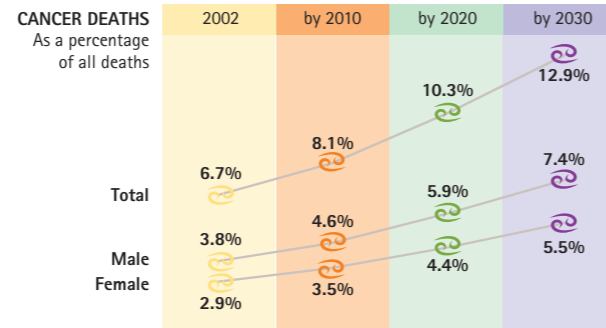
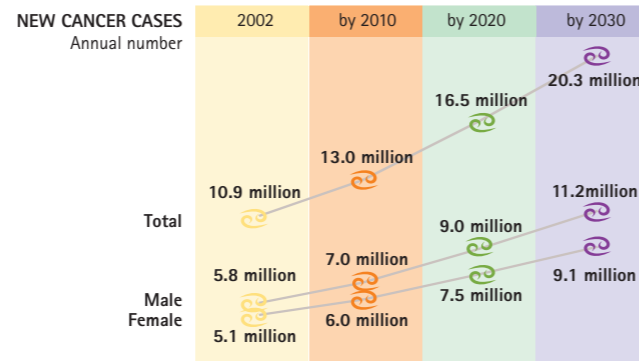
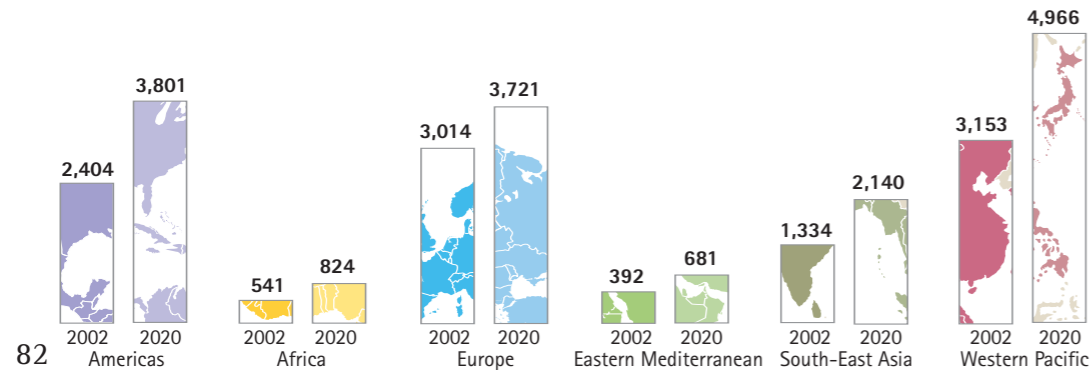
The predicted number of new cases of cancer is mostly due to a steadily increasing proportion of elderly people in the world. If current smoking levels and the adoption of unhealthy lifestyles persist, the increase will be even greater.

By 2020, cancer could kill more than 10 million people a year. If action is taken now, 2 million lives can be saved each per year by 2020, and 6.5 million by 2040.

No matter what advances there may be in high-technology medicine, any major reduction in deaths and disability from cancer will come from prevention, not from cure.

New cancer cases

Number, excluding skin cancer, by WHO region 2002 and 2020 projected thousands



ACTION	by 2010	by 2020	by 2030
Prevention	Anti-viral vaccines, currently available for hepatitis B, developed for the papilloma virus which causes cervical cancer. More drugs developed that will prevent cancer and/or the development of chemo-prevention programmes for the treatment of high-risk individuals for some cancers.	Anti-viral vaccines developed for other viruses which cause cancer. Treatment will target specific cancer cells and not affect the body's healthy cells.	Therapeutic vaccines linked to personal genetic profiles.
Research and development	New causes of cancer discovered, including bacteria, viruses, chemicals and pollution. Better understanding of the role of food and nutrition in cancer.	Self-stem cells (cells taken from patient's body) used to grow new tissues after surgery.	Bio-engineered tissues available for replacement tissues.
UN Conventions and Goals	WHO Framework Convention on Tobacco Control (FCTC) ratified by all countries. WHO Global Strategy on Cancer implemented by most countries.	WHO convention on food (covering content, labelling, taxation, advertising) ratified. Millennium Development Goals (2015): As cancer and other non-communicable diseases cause poverty, access to affordable essential drugs in developing countries provided, in cooperation with pharmaceutical companies.	Convention on universal access to essential preventive healthcare and equity in its quality and delivery.
Miscellaneous treatment	Personal medical records stored on smart card. Vaccine to boost immune system reduces relapses in people who have had cancer.	Health systems driven by primary health care to ensure universal access to quality health care services. Instantaneous language translation software enables patients to be understood by health professionals in any country.	In developed countries, patients' knowledge of their own health may equal that of their doctors in the 1990s. Cancer will be seen as a chronic disease like high-blood pressure or diabetes. Patients co-exist with their cancers as long as they take their medications.
Diagnosis and investigations	X-rays, Magnetic Resonance Imaging (MRI) and ultrasound images transmitted electronically to diagnostic centre (which may be abroad).	A minuscule computer, with micro-sensors automatically sensing and recording health data, could be part of everyday wear. Blood tests will be widely available to screen patients for cancer.	
Genetics	More cancer genes identified.	Genetic manipulation to prevent and treat cancer.	Genetic profiling will foresee the cancer risk of each individual patient, raising issues of employment, marriage, insurance, and confidentiality of information. Genetic profiling of cancer tissue predicts how individual cancers will behave and their resistance to treatment, and therefore helps choose the best drug.
Artificial body parts developed		Lungs, liver	
Transplant surgery		Xeno-transplantation with pig body parts soars as rejection problem overcome.	Pig-napping of personal transgenic pigs a new crime.
High technology		Nano-surgeons, or sub-microscopic robots, crawl around the body, targeting and eliminating cancer cells. All newborn babies given CD-ROM containing their unique genomic maps and data with summaries of cancer and other diseases for which they may be at increased risk.	Computerized "auto-doc" machine externally detects and treats cancer by MRI.
Drugs	More tumour-specific and enzyme-blocker drugs developed with very few side effects. Cancer drugs mainly taken by mouth.	Molecular-targeted drugs become routine therapy for some cancers.	"Trial and error" in drug prescription abandoned in favour of personalized prescription.

