When “Alive After 5 Years” does not mean “Cured”: International Patterns in Cancer 10- to 20-Year Relative Survival Rates

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Objectives
Traditionally, patients who survive 5 years from diagnosis of cancer are considered to be cured. Analysis of unadjusted mortality rates can fail to account for competing causes of death and frailty effects. We sought to identify data on relative survival at 10 to 20 years for common cancers to determine which showed a longer-term impact on mortality beyond 5 years.

Methods
National or regional databases reporting cancer net or relative survival beyond 5 years from diagnosis were identified, with 5- to 10-year data available from England and Wales, Scotland, the USA, Switzerland and Slovakia; 5-, 10-, and 15-year data from Norway; and 5-, 10-, 15-, and 20-year data from Germany and Sweden. The percentage decrease in net survival was calculated at 10, 15 and 20 years to identify where there was a persistent increase in all-cause mortality above that expected for the age- and sex-adjusted cancer-free population.

Results
Regional setting had a large impact on relative survival for each type of cancer. However, chronic lymphocytic leukaemia, oropharyngeal, head and neck, liver, lung, pancreatic and ovarian cancers, mesothelioma, multiple myeloma, and Kaposi’s sarcoma consistently showed between a 10% and 70% further decrease in relative survival since last timepoint. Regional or National databases reporting cancer net or relative survival beyond 5 years from diagnosis were identified, with 5- to 10-year data available from England and Wales, Scotland, the USA, Switzerland and Slovakia; 5-, 10-, and 15-year data from Norway; and 5-, 10-, 15-, and 20-year data from Germany and Sweden. The percentage decrease in net survival was calculated at 10, 15 and 20 years to identify where there was a persistent increase in all-cause mortality above that expected for the age- and sex-adjusted cancer-free population.

Conclusions
When modelling the impact of treatments for cancer, it is important to consider the whole period of increased risk of mortality. For certain cancers, in particular multiple myeloma, lung, prostate and laryngeal cancer, this may require a time horizon of 20 years or longer.