

Annual Report to the Nation on the Status of Cancer, 1975–2014, Featuring Survival

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Abstract

Background: The American Cancer Society (ACS), the Centers for Disease Control and Prevention (CDC), the National Cancer Institute (NCI), and the North American Association of Central Cancer Registries (NAACCR) collaborate to provide annual updates on cancer occurrence and trends in the United States. This Annual Report highlights survival rates.

Methods: Data were from the CDC- and NCI-funded population-based cancer registry programs and compiled by NAACCR. Trends in age-standardized incidence and death rates for all cancers combined and for the leading cancer types by sex were estimated by joinpoint analysis and expressed as annual percent change. We used relative survival ratios and adjusted relative risk of death after a diagnosis of cancer (hazard ratios [HRs]) using Cox regression model to examine changes or differences in survival over time and by sociodemographic factors.

Results: Overall cancer death rates from 2010 to 2014 decreased by 1.8% (95% confidence interval [CI] = -1.8 to -1.8) per year in men, by 1.4% (95% CI = -1.4 to -1.3) per year in women, and by 1.6% (95% CI = -2.0 to -1.3) per year in children. Death rates decreased for 11 of the 16 most common cancer types in men and for 13 of the 18 most common cancer types in women, including lung, colorectal, female breast, and prostate, whereas death rates increased for liver (men and women), pancreas (men), brain (men), and uterine cancers. In contrast, overall incidence rates from 2009 to 2013 decreased by 2.3% (95% CI = -3.1 to -1.4) per year in men but stabilized in women. For several but not all cancer types, survival statistically significantly improved over time for both early and late-stage diseases. Between 1975 and 1977, and 2006 and 2012, for example, five-year relative survival for distant-stage disease statistically significantly increased from 18.7% (95% CI = 16.9% to 20.6%) to 33.6% (95% CI = 32.2% to 35.0%) for female breast cancer but not for liver cancer (from 1.1%, 95% CI = 0.3% to 2.9%, to 2.3%, 95% CI = 1.6% to 3.2%). Survival varied by race/ethnicity and state. For example, the adjusted relative risk of death for all cancers combined was 33% (HR = 1.33, 95% CI = 1.32 to 1.34) higher in non-Hispanic blacks and 51% (HR = 1.51, 95% CI = 1.46 to 1.56) higher in non-Hispanic American Indian/Alaska Native compared with non-Hispanic whites.

Conclusions: Cancer death rates continue to decrease in the United States. However, progress in reducing death rates and improving survival is limited for several cancer types, underscoring the need for intensified efforts to discover new strategies for prevention, early detection, and treatment and to apply proven preventive measures broadly and equitably.