Although relative survival rates provide some indication about the average survival experience of cancer patients in a given population, they should be interpreted with caution. First, 5-year survival rates do not reflect the most recent advances in detection and treatment because they are based on patients who were diagnosed as far back as 10 years. Second, they are not equally applicable to all patients because of factors that affect individual survival, such as treatment, other illnesses, and biological or behavioral differences. Third, improvements in survival rates over time do not always indicate progress against cancer. For example, increases in average survival time can occur if screening results in the detection of some indolent cancers that would have gone undetected in the absence of screening (overdiagnosis). Screening also artificially increases survival rates when early diagnosis does not extend lifespan.

**How Is Cancer Staged?**

Staging describes the extent or spread of cancer at the time of diagnosis. Proper staging is essential for optimizing therapy and assessing prognosis. A cancer’s stage is based on the size or extent of the primary tumor and whether it has spread to nearby lymph nodes or other areas of the body. A number of different staging systems are used to classify cancer. A system of summary staging is used for descriptive and statistical analysis of tumor registry data and is particularly useful for looking at trends over time. According to this system, if cancer cells are present only in the layer of cells where they developed and have not spread, the stage is in situ. If cancer cells have penetrated beyond the original layer of tissue, the cancer has become invasive and is categorized as local, regional, or distant based on the extent of spread. (For a more detailed description of these categories, see the footnotes in Table 8 on page 21.)

Clinicians use a different staging system, called TNM, for most cancers. The TNM system assesses cancer growth and spread in 3 ways: extent of the primary tumor (T), absence or presence of regional lymph node involvement (N), and absence or presence of distant metastases (M). Once the T, N, and M categories are determined, a stage of 0, I, II, III, or IV is assigned, with stage 0 being in situ, stage I being early, and stage IV being the most advanced disease. Some cancers (e.g., lymphoma) have alternative staging systems. As the biology of cancer has become better understood, additional tumor-specific features have been incorporated into treatment plans and/or stage for some cancers.

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**Figure 2. Trends in Age-adjusted Cancer Death Rates* by Site, Females, US, 1930-2012**

*Per 100,000, age adjusted to the 2000 US standard population. †Uterus refers to uterine cervix and uterine corpus combined. ‡Mortality rates for pancreatic and liver cancers are increasing. Note: Due to changes in ICD coding, numerator information has changed over time. Rates for cancers of the liver, lung and bronchus, and colon and rectum are affected by these coding changes.