



NCDB Survival Reports

Introduction: The *NCDB Survival Reports* are provided to allow CoC-accredited cancer programs access to AJCC stage-stratified five-year observed survival rates for all cancer sites. Computed results are available for cases diagnosed between 1994-1997 (AJCC 4th ed.), 1998-2002 (AJCC 5th ed.), or 2003-2004 (AJCC 6th ed.) and output displays can be controlled to show overall rates and 95percent confidence intervals. To facilitate local use and distribution, users are able to download reports to their computer in any one of the following file formats: Adobe Acrobat PDF, Microsoft PowerPoint, Excel, and Word.

In the documentation that follows, a general outline of how to navigate the reporting tool, specify the survival analysis of interest, and interpret the generated results is provided.

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Navigation Tips: To aid navigation, this reporting application provides background or theme-specific “assistance windows”. For additional information, users can click on any text item underlined with a green, dash line.

Case Selection Criteria: All cases were reported to the NCDB for the diagnosis years 1994-2004. The diagnosis year 2004 is the last year available to the NCDB with reported five-year follow-up information, which includes the date of last contact or date of death and the vital status of the patient on the recorded date. Cases are limited to adult (over the age of 18) male and female adult patients that are known to have only one diagnosis of cancer (sequence=00) and received all or part of their first course of therapy at the reporting cancer program (class of case=10-14 or 20-22). Cases where AJCC stage of disease is unknown have been excluded. Cases reported from hospitals that do not have cancer programs currently accredited by the Commission on Cancer are excluded. Cases are only included if the elapsed time between diagnosis and the date a case is (re)reported to the NCDB is greater than or equal to five years.

Primary Site: Sixty-one disease sites are available for the user. Cases are assigned to a disease site depending upon the ICD-O-2/3 topography code and histology code reported for each case using the NCI-SEER site-recode rules, a standard mechanism used in cancer surveillance to classify cases for analytic tasks (<http://seer.cancer.gov/>).

AJCC Stage: These survival reports include cases diagnosed between 1994 and 2004. Cases are bundled across diagnosis years by time periods covered by the 4th, 5th, and 6th editions of the AJCC Cancer Staging Manuals – 4th edition: 1994-1997; 5th edition: 1998-2002; 6th edition: 2003- 2004. A combined AJCC Stage Group is used to categorize cases for computational and display purposes which uses pathological (pAJCC) stage group where documented, augmented by the clinical (cAJCC) stage group where pathological stage is not recorded. This combination of clinical and pathological stage groupings minimizes the number of cases under analysis without AJCC stage and also avoids the exclusion of non-surgical cases from review. The stage groupings displayed are sensitive to the disease site and staging edition selected by the user. If an organ site does not have a recognized AJCC staging schema, survival results are displayed for all cases combined, without employing further stratification.

Observed Survival Rates: The *NCDB Survival Reports* provide users with unadjusted five-year observed survival rates. Rates are computed by the actuarial method, compounding survival in one-month intervals from the date of diagnosis, with death from any cause as the endpoint. Survival rates are not displayed when fewer than 30 cases are available, as survival rates calculated from small numbers of cases can yield misleading results and may have very wide confidence intervals.

For more information regarding calculation methodologies for observed survival rates, standard errors, and confidence intervals, please refer to the *AJCC Cancer Staging Manual*, 7th edition, American Joint Committee on Cancer, Chapter 2 (pp. 15-20).

Displayed Results: Displayed results are controlled by the user and may include stage-stratified rates, overall rates, or the two combined on the same display. Stage-stratified rates displayed are specific to the organ site and staging edition selected. Survival rates are not displayed when fewer than 30 cases are available within a stage group as rates calculated from small numbers of cases can yield potentially misleading results, with very wide confidence intervals. When small numbers of cases are encountered, a stage-specific curve will not be displayed, but the number of cases will be displayed in the accompanying table even though survival rates are not computed. If selected by the user, the overall rate shown in these reports is based on the total number of cases from all stage groups, including those with a small numbers of cases. The 95 percent confidence interval (CI) is displayed for computed survival rate at each year interval. The CI is calculated as +/- 1.96 standard deviations from the calculated year-specific survival rate. Users have the option to generate cancer program-specific survival rates. Users are cautioned that their program may not have encountered and reported a sufficient number of cases to the NCDB to facilitate the generation of survival rates that can be adequately generalized. A review of the confidence intervals provided as part of these reports is an important component of any interpretation of cancer program-specific rates.

Comparing Survival Rates: Calculated survival rates are not case-mix or risk adjusted, and can affect interpretation as some hospitals may care for sicker or older patients.

- It is appropriate to compare survival rates between a given facility and all other cases reported to the NCDB from CoC-accredited cancer programs if the 95% confidence intervals are included in the presentation.
- If the confidence intervals overlap, there is no statistical difference between the 5th-year survival rate at your facility with that of all other CoC-accredited cancer programs.

Comparisons using unadjusted survival may lead to erroneous conclusions based on the case mix of an individual cancer program. The NCDB Survival Reports have been available for many years, providing unadjusted survival rates, stratified only by AJCC Stage Group. While these data have been useful and interesting for internal use and benchmarking by CoC-accredited programs, comparisons using these unadjusted survival data can lead to false conclusions. With the increasing emphasis and interest in public reporting, the CoC strives to provide programs, and the patients they treat, with the most useful and valid data possible, so as not to mislead the public, or falsely advantage or disadvantage any one or combination of our accredited programs. Therefore, the NCDB Survival Reports provide programs with their observed overall and AJCC stage stratified survival rates (with 95% confidence intervals) by type of cancer, supplemented with a comparison to the aggregate survival of all cases reported to the NCDB from CoC-accredited cancer programs.

Sharing Results: Users can select from four separate formats to download the computed and displayed results. These including Adobe Acrobat (pdf); Microsoft Excel (xls), Word (rtf), and PowerPoint (ppt).