

CANCER IN NORTH AMERICA, 1995-1999

VOLUME THREE: NAACCR COMBINED INCIDENCE RATES

PURPOSE

The Data Evaluation and Publication Committee, a standing committee of the North American Association of Central Cancer Registries (NAACCR), produced this monograph. The NAACCR bylaws charge the Data Evaluation and Publication Committee to gather data from member registries, review, evaluate, and compile them for publication. The year 2002 marks the 12th release of the annual publication of *Cancer in North America (CINA)* series and the 6th monograph to include cancer mortality data. This monograph reflects the enthusiastic participation of NAACCR member registries, with cancer incidence coverage in all Canadian provinces and territories, 43 U.S. states, the District of Columbia, and five metropolitan areas in the United States (U.S.). We hope this effort continues to improve the completeness, the timeliness and the quality of data collected by member registries; to promote the use of their cancer registry data; and to provide cancer statistics that are inclusive of all racial/ethnic groups and geographic coverage of North America.

MONOGRAPH FORMAT

The *Cancer in North America (CINA), 1995-1999* monograph includes three volumes: Volume One contains cancer incidence data, Volume Two contains cancer mortality data, and Volume Three is comprised of NAACCR Combined Incidence Rates. The data in Volume Three of this monograph include cancer incidence data for the years 1995 through 1999 from registries that meet the criteria for inclusion in the combined rates. Data from 28 U.S. central cancer registries (23 states and five metropolitan areas) and seven Canadian cancer registries met the criteria for inclusion in the combined rates. Volume Three has four major sections as described below.

VOLUME THREE, SECTION I: Introduction and Technical Notes

This section states the purpose of the monograph, describes the monograph format, details the various data sources and the NAACCR criteria for the combined rates for the United States, Canada, and North America, and data interpretation. It also provides some background information on NAACCR and lists member rosters of the Data Evaluation and Publication Committee and its subcommittees.

VOLUME THREE, SECTION II: NAACCR Combined Incidence Rates for the United States, Canada, and North America

The inclusion of registry data in the combined rates is reserved for those registries of highest quality, as demonstrated by meeting all criteria of completeness and standards of high quality data for each single year of all five years, 1995-1999. The standards for such selection are described below under Technical Notes. All cases from qualified registries were included in the calculation of combined rates. However, in states where a SEER program is located within their boundaries, when both SEER area and state (e.g., Detroit, Metropolitan area and Michigan) were qualified for inclusion, only the state (e.g., Michigan) data were included in the combined rates.

In this section, combined rates and population estimates are presented for the United States, Canada, and North America. A general description regarding the population covered and several data quality indicators (both general and cancer site-specific) are provided for each of these three geographic areas with a map showing the registries meeting inclusion criteria for the combined rates. Combined rates for the major and minor cancer sites by the SEER groups are presented, using the same table format as those in Sections II and III of Volume One for individual registries. For the United States, combined rates are provided for all races (age-adjusted to four standard populations: 2000 U.S., 1970 U.S., 1996 Canadian, and World), and for whites and blacks (age-adjusted to two standard populations: 2000 U.S. and 1970 U.S.). For Canada, combined rates are presented for all races

combined (age-adjusted to four standard populations: 2000 U.S., 1970 U.S., 1996 Canadian, and World). Rates for North America are provided for all races combined (age-adjusted to four standard populations: 2000 U.S., 1970 U.S., 1996 Canadian, and World).

In addition, summary tables of sex-specific counts and incidence rates for selected major cancer sites are presented for all races, whites (U.S. only), and blacks (U.S. only) for individual registries included in the combined rates. However, the counts and rates are suppressed when fewer than six cases were reported for the specified sites, although the counts are included in the total and in the combined incidence rates. Rates are age-adjusted to the 2000 U.S. and the 1970 U.S. population standards for U.S. registries, the 2000 U.S. and 1996 Canadian population standards for Canadian registries, and the 2000 U.S. and the 1996 Canadian population standards for the North American combined rates. These summary tables facilitate comparisons among high quality registries. Before comparing rates among these registries, however, it is important to consider whether the populations are comparable by race (i.e., *percent other races* or *percent unknown race* on the registry description page in Section II of Volume One). It is also important to evaluate the quality and completeness of case ascertainment, as differences in rates may be attributable to case completeness and data quality, as well as to actual regional differences in cancer incidence.

Two tables presenting the five most common cancer types for eight race groups and for persons of Hispanic origin among males and females separately are also included in the combined section for the United States, as an initial step toward providing cancer incidence statistics that are inclusive of all racial/ethnic groups in North America. Several NAACCR committees have begun to assess the reliability of identifiers for race groups other than white and black in the United States. Our intent is that this effort will enable us to expand the presentation of cancer incidence rates in future monographs for more race and ethnic groups. With the availability of national, annual population estimates for American Indians/Alaskan Natives, Asian/Pacific Islanders, and Hispanic persons, evaluation of these population identifiers will be a primary focus during the coming years.

VOLUME THREE, SECTION III: Pediatric Cancer Cases

This section presents combined rates for cancer in children and adolescents in the U.S., Canada, and North America. These tables present age-adjusted rates for 0-14 year olds and 0-19 year olds as well as 5-year, age-specific rates for selected pediatric cancer types. The cases were grouped into pediatric cancer groupings using the International Classification of Childhood Cancer (“ICCC” - see Appendix B) published by the International Agency for Research on Cancer (IARC) in 1996.¹ ICCC has been updated in accordance with the new codes for lymphomas and leukemias which have been added to the ICD-O-2 standard for classifying newly diagnosed cases of cancer.²

VOLUME THREE, SECTION IV: Industry and Occupation Data in U.S. Cancer Case Reports

This section contains a paper prepared by members of NAACCR’s Data Quality Indicator Subcommittee (DQI). The paper presents the results of a survey undertaken by DQI to evaluate the collection of industry and occupation (I/O) data by member registries, focusing on data collection, coding, and use. Responses to the mailed survey were received from 41 (77%) of 53 U.S. state or territorial registries, the focus of this report. Of these:

¹Kramárová E, Stiller CA, Ferlay J, Parkin DM, Draper GJ, Michaelis J, Neglia J, and Qureshi S (eds). *International Classification of Childhood Cancer 1996*. Lyon, France: International Agency for Research on Cancer, IARC Technical Report No. 29, 1996.

²Fritz A, Ries L. *SEER Program Code Manual, 3rd Edition*. Bethesda, MD: Cancer Statistics Branch, National Cancer Institute, 1998, p. 98.

- 76% require I/O data in case reports.
- 11% are ready to analyze 1998 I/O data.
- Only one state registry had ever used I/O data in an annual report.
- 27% had used I/O data at least once for epidemiological studies.
- Almost all get most of their I/O data from medical records.
- About half obtain I/O data from death certificates, as available.

Many inadequacies of I/O data from hospital records were noted by the respondents, including:

- Frequent use of “unknown”
- Frequent use of vague terms (“retired”)
- Documentation of current rather than usual I/O
- Inconsistencies between data from hospital records and other I/O data
- The labor intensiveness of preparing data, even when software is used to assist with this activity

These and other findings are presented in greater detail and discussed by the authors, including ways to improve the quality of I/O data in cancer case reports, as suggested by respondents to the survey.

TECHNICAL NOTES

Data Sources

Incidence. Each member registry provided its own incidence data for 1995 to 1999; if all five years were not available, data were provided for as many of the five years as possible. Cancer incidence data for registries in the SEER program were obtained from the SEER public use data tape (November 2001 submission) produced by the National Cancer Institute (NCI). Statistics Canada provided data for all Canadian registries; except Alberta and Ontario that submitted their own data.

Mortality. Mortality data for 1995 to 1999 for U.S. registry areas were obtained from the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC), as provided to NCI. For Canadian registries, the mortality data were obtained from Statistics Canada.

Population Estimates. Estimates of the population for the U.S., individual U.S. states, the District of Columbia, and all SEER metropolitan areas for 1995 through 1999 were obtained from the SEER program, based on U.S. Bureau of Census population estimates for these years. Statistics Canada provided the estimates of the Canadian population for all Canadian provinces and territories, adjusted for census under-coverage and non-permanent residents.

Definitions

Primary Cancer Sites. SEER rules were used to define cancer sites (see Appendix A)³ for all ages combined data. Numbers and rates were calculated for invasive cancers only, with the exception of cancer of the bladder, for which invasive and *in situ* cases were included in the calculation of numbers and rates. Numbers and rates for carcinoma *in situ* of the breast were listed separately, when supplied by the registry. *In situ* cases of the breast were not included in the “All Sites” category. Squamous and basal cell carcinomas of the skin were excluded, except those of the lip and genital organs (see Appendix A). Cancers in non-residents of the area and cases of unknown sex or age were omitted from all calculations, but cases of unknown race were included in the computation of “all races” cancer rates.

³Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Edwards BK (eds). *SEER Cancer Statistics Review, 1973-1998*, National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/Publications/CSR1973_1998/, 2001.

Primary Cancer Types. ICCC rules, based predominantly on morphology, were used to define cancer types (see Appendix B) for 0-19 year olds. Some ICCC groupings are not shown in the tables for pediatric and adolescent cancers, because too few cases were found in the five-year data set to calculate stable rates. Numbers and rates were computed for invasive cancers only, with the exception of cancer of the bladder.

Incidence Rates. Rates were calculated per 100,000 population and age-adjusted by the direct method to the 2000 U.S., the 1970 U.S., the 1996 Canadian (Cdn.) and the World standards.⁴ Children and Adolescent cancer incidence rates (Section III) were calculated per 1,000,000 population. The incidence rates are annual averages for the period 1995 through 1999. (Note: Not all registries submitted five years' data; their rates are annual averages for the years submitted.) The age distributions of the four population standards are presented below:

AGE GROUP	2000 U.S.	1970 U.S.	1996 CDN.	WORLD
0-4	6,913.5	8,441.6	6,623.5	12,000
5-9	7,253.3	9,820.4	6,798.5	10,000
10-14	7,303.2	10,230.4	6,771.5	9,000
15-19	7,216.9	9,384.5	6,784.1	9,000
20-24	6,647.8	8,056.1	6,776.1	8,000
25-29	6,452.9	6,632.0	7,291.4	8,000
30-34	7,104.4	5,624.9	8,703.0	6,000
35-39	8,076.2	5,465.6	8,851.0	6,000
40-44	8,185.1	5,895.8	8,005.5	6,000
45-49	7,211.8	5,962.2	7,184.7	6,000
50-54	6,271.6	5,464.3	5,581.2	5,000
55-59	4,845.4	4,907.7	4,486.8	4,000
60-64	3,879.3	4,240.3	4,070.5	4,000
65-69	3,426.4	3,440.6	3,785.8	3,000
70-74	3,177.3	2,678.9	3,258.9	2,000
75-79	2,699.9	1,887.1	2,323.1	1,000
80-84	1,784.2	1,124.1	1,542.4	500
85+	1,550.8	743.5	1,161.7	500
Total	100,000.0	100,000.0	100,000.0	100,000

Standard Errors. Standard errors (S.E.) of the rates were calculated using the formula:

$$S.E. = \sqrt{\sum \frac{w_j^2 n_j}{p_j^2}}$$

where w_j = the fraction of the standard population in age_j group, n_j = number of cases in that age group, and p_j = person-years denominator.⁵ For many registries, the S.E. of the rates are small, as the population covered is large. However, for registries that cover a small population, the S.E. may be substantial.

⁴Waterhouse J, Muir C, Correa P, Powell J (eds). *Cancer Incidence in Five Continents, Volume III*. Lyon, France: International Agency for Research on Cancer, IARC Scientific Publications No. 15, 1976.

⁵Breslow NE and Day NE. *Statistical Methods in Cancer Research, vol. II*, Lyon, France: International Agency for Research on Cancer, IARC Scientific Publications No. 32, 1987, p.59.

Comparison of Rates. The S.E. of adjusted rates can be used to evaluate the statistical significance of rate differences among comparable populations. For example, if the adjusted rates in two populations are R_1 and R_2 and their standard errors $S.E._1$ and $S.E._2$, an approximate confidence interval for the rate ratio can be calculated using the following formula:

$$(R_1/R_2)^{1 \pm z/x}$$

where $x = (R_1 - R_2) / \sqrt{(S.E._1^2 + S.E._2^2)}$ and $z = 1.96$ for 95% confidence limits.⁶ If this interval does not include one, the two rates are statistically significantly different at a p value of 0.05. This test can be inaccurate for rates based on fewer than 10 cases, and it should not be used for rates based on fewer than six cases.

It should be emphasized that this kind of comparison of adjusted rates must be undertaken with caution as misleading conclusions may be drawn if the ratios of the age-specific rates in the two populations are not constant in all age groups. In these circumstances, the ratios of the adjusted rates will vary according to the standard populations used.⁷

While it is possible to compare incidence rates among populations in various individual registries, it is important to consider whether the groups are comparable by race (*i.e.*, *percent other races* or *percent unknown race* from Section II of Volume One). One should also consider the registries' quality and completeness as differences can be related to both true underlying differences and differences in reporting completeness and data quality. Interpretation without consideration of these factors may contribute to misleading or inaccurate conclusions.

Combined Rates for the United States, Canada, and North America. To be included in combined rates, a registry's data had to meet or exceed six quality criteria for each single year, 1995, 1996, 1997, 1998, and 1999. This standard, equivalent to meeting NAACCR's silver registry certification criteria for five consecutive years, is stricter than those used in the past. The six quality criteria are:

1. Data were submitted for each of the five years, 1995 through 1999.
2. Duplicate cases did not exceed 0.2 percent, using NAACCR's *Protocol for Assessing Duplicate Cases*.
3. All cases pass all internal consistency checks defined by NAACCR's EDITS metafile, Version 9.
4. The code for "unknown" was used to describe:
 - sex in less than 3% of the cases;
 - age in less than 3% of the cases;
 - county of residence in less than 3% of the cases;
 - race in less than 5% of the cases;
5. Cases registered with information abstracted from death certificates only (DCOs) comprise less than 5% of all cases for each of the five years' data submitted.
6. Case ascertainment was estimated to be 90% or higher for each of the five years' data submitted.

NAACCR uses the incidence-to-mortality rate ratio method to measure completeness of case ascertainment. The method assumes that cancer death data are complete, and that the ratio of age-adjusted cancer incidence rates to age-adjusted cancer death rates by sex, race, and site vary little by geographical area in the United States and Canada. Over time, the interpretation of the incidence-to-mortality rate ratio has become more refined. This year, the following adjustments were made, either to the method itself or to the interpretation of the rate-ratios:

⁶Parkin DM, Muir CS, Whelan SL (eds). *Cancer Incidence in Five Continents, Volume VI*. Lyon, France: International Agency for Research on Cancer, IARC Scientific Publications No. 120, 1992, p.869.

⁷Esteve J, Benhamou E, Raymond L. *Statistical Methods in Cancer Research, Volume V*. Lyon, France: International Agency for Research on Cancer, IARC Scientific Publications No. 128, 1994.

- It was assumed that 20 percent of any difference observed between analogous sex-race-site-specific, age-adjusted incidence-to-mortality rate ratios from two geographic areas could be attributed to differential case fatality, while 80% of the difference could be attributed to under-ascertainment of cases in one of the jurisdictions. Previously, it was assumed that 100% of the difference could be attributed to under-ascertainment
- Breast cancer cases were included in the model. Previously, breast cancer cases were excluded from the calculations because geographically diverse increases in mammography had destabilized breast cancer incidence-to-mortality rate ratios. Recent data suggest that mammography use, breast cancer incidence, and breast cancer incidence-to-mortality rate ratios have become more uniform in the United States. Melanoma cases were excluded for Blacks in the calculation of completeness estimates.
- All 11 SEER (14% of the U.S. population) areas have been used to construct SEER-incidence-to-U.S. mortality rate ratios. SEER has added areas to its geographic base over the years to increase its representativeness of the United States population. Previously, NAACCR had used data from the nine “original” SEER areas (10% of the U.S. population) , because much was known about the nature of these data, their stability, and their relation to NAACCR data. As more became known about data from the additional two SEER areas, it became desirable to use data from all 11 areas in the construction of SEER-incidence-to-U.S.-mortality rate ratios, to enhance the representativeness of the ratios for the United States population as a whole.
- For similar reasons, data for both whites and blacks (weighted in proportion to their share of the data) were used to construct incidence-to-mortality rate ratios. Previously, data for whites were used exclusively for this purpose. Whites-only ratios were used with 1995-1999 data from Canada and Hawaii, as race is not used to differentiate population groups in either of these jurisdictions.

Race-specific completeness of case ascertainment in jurisdiction s (C_{sk}) was computed by dividing the *observed* race-specific (white; black) age-adjusted (2000 U.S.) incidence rate for both sexes and all cancer sites combined⁸ (“Observed T”) by the *expected* race-specific (white; black) age-adjusted (2000 U.S.) incidence rate for both sexes and all cancer sites combined⁸ (“Expected T”):

$$C_{sk} = \frac{Observed T_{sk}}{Expected T_{sk}}$$

The *expected* incidence rate for jurisdiction s was computed from jurisdiction-race-sex-site-specific age-adjusted (2000 U.S.) death rates and incidence-to-mortality rate ratios computed from SEER race-sex-site-specific age-adjusted (2000 U.S.) incidence rates and U.S. race-sex-site-specific age-adjusted (2000 U.S.) death rates, thus:

$$Expected I_{skij} = (M_{skij}) \left(\frac{I_{SEERkij}}{M_{U.S.kij}} \right)$$

$$Expected T_{sk} = \sum_{i=1}^2 \sum_{j=1}^N Expected I_{skij}$$

where:

- I = Age-adjusted (2000 U.S.) incidence rate for gender i , site j , race k , 1995 to 1999
- M = Age-adjusted (2000 U.S.) mortality rate for gender i , site j , race k , 1995 to 1999
- s = State, District of Columbia, SEER area, province, or territory
- $SEER$ = Combined eleven SEER areas⁹
- $U.S.$ = United States
- T = Age-adjusted (2000 U.S.) incidence rate for total sites⁸

⁸The cancer sites included in this calculation were oral cavity, esophagus, stomach, colorectum, liver, pancreas, lung, melanoma, female breast, cervix, uterus, ovary, bladder, kidney, nervous system, Hodgkin’s Disease, non-Hodgkin’s lymphoma, myeloma, and leukemia. Cancer of the prostate was not included because differential screening across regions has caused instability in prostate cancer incidence-to-mortality rate ratios.

Overall completeness of case ascertainment in jurisdiction s (C_s) was calculated by adding weighted estimates of race-specific completeness of case ascertainment in jurisdiction s (C_{sk}), using the proportion of the population in each of the race groups (P_{sk}) as weights:

$$C_s = \sum_{k=1}^2 C_{sk} \times P_{sk}$$

This method of estimating completeness assumes that race-sex-site-specific incidence-to-mortality rate ratios are relatively stable (within 20% limits). The incidence-to-mortality rate ratio standard to which all registries were adjusted, using SEER incidence rates and U.S. death rates, is the current NAACCR standard for this purpose.

The same methods were applied to Hawaii and all Canadian registries, except that jurisdiction-specific data were not race specific, and SEER-incidence-to-U.S.-mortality rate ratios were computed for whites only.

C_s was adjusted for the presence of duplicate records in the data of jurisdiction s (CA_s) thus:

$$CA_s = C_s \times U_s$$

where:

- CA = Adjusted overall completeness of ascertainment
- C = Unadjusted overall completeness of ascertainment
- s = State, District of Columbia, SEER area, province, or territory
- U = Proportion of unduplicated records, based on NAACCR's *Protocol for Assessing Duplicate Cases*.

For more information on the revised completeness estimate method, consult the following reference: Holly L. Howe. Conclusions of the Work Group for High Quality Criteria for Data Use. NAACCR Narrative [serial online] 2001; Winter:8 Available from URL: <http://www.naacr.org/News/index.html> [accessed January 7, 2002]

Every registry included in the combined rates had an adjusted completeness estimate of at least 90 percent for each year of the five years' data submitted.

In the United States, 28 registries (23 states and 5 metropolitan areas in the SEER program) met all the criteria for inclusion in the U.S. combined rates. These were California, the Greater Bay Area (California), Los Angeles (California), Colorado, Connecticut, Delaware, Metropolitan Atlanta (Georgia), Hawaii, Idaho, Illinois, Iowa, Kentucky, Louisiana, Michigan, Metropolitan Detroit (Michigan), Minnesota, Nebraska, New Jersey, New Mexico, New York, North Carolina, Pennsylvania, Rhode Island, Utah, Seattle/Puget Sound (Washington), West Virginia, Wisconsin and Wyoming. Since both California and its SEER areas of Los Angeles and Greater Bay Area were qualified for inclusion, only the state (California) data were included in the calculation of combined rates. Also, since Michigan and its SEER area of Detroit were qualified, only state (Michigan) data were included in the calculation of combined rates.

In Canada, 7 registries met all the criteria for inclusion in the Canadian combined rates. These were Alberta, British Columbia, Manitoba, New Brunswick, Northwest Territories, Prince Edward Island and Saskatchewan.

Although all cases from qualified registries were included in computation of combined rates, counts and incidence rates were suppressed in the summary tables of selected major cancer sites if they had fewer than six cases. Suppression rules were also applied to the tables of pediatric cancer.

⁹Includes Atlanta, Connecticut, Detroit, Greater Bay Area (San Francisco/Oakland and San Jose/Monterey), Hawaii, Iowa, Los Angeles, New Mexico, Seattle/Puget Sound, and Utah.

Data Interpretation

Race-specific Rates. Race-specific (either white or black) incidence rates are presented for an aggregate only when more than five cases are included in that aggregate. (For aggregates with fewer than 6 cases, both counts and rates were suppressed.) Cases of unknown race are included in the “all races” category. Canadian data are presented for all races only, as are the data for Hawaii. To facilitate comparisons among registries of similar race distribution, the proportion of *unknown race* and *races other than black or white* is reported in the Registry Description at the beginning of each registry's section, Volume One.

Percent DCOs. The proportion of cases identified by Death Certificate Only (DCO) has been used as a rough guide to assess completeness of case ascertainment. Only invasive cancer cases are included in the denominator of this proportion. The percent of DCO cases in a registry's data set may be reduced by intensive “follow-back” to identify other sources of information on DCO cases.

Many new registries postpone the collection of DCO cases until the registry has at least five years' data, because deaths which occur prior to the five-year mark are very likely to have been diagnosed before the registry's date of establishment. Were these deaths to be collected and registered as DCO cases, they would inflate cancer incidence during the first several years of registry operations, because they are registered in the year of death. Registries that did not use death certificates as a source for case ascertainment in the period 1995 to 1999 are indicated in the Registry Description at the beginning of each registry's section.

Percent of Microscopic Confirmation. The proportion of total cases with microscopic confirmation can also be used as an indicator of the quality of data collection. Between 92 and 96 percent of all SEER cases are confirmed microscopically. A proportion of microscopically confirmed cases that is higher or lower may suggest problems in case ascertainment. However, this proportion varies by cancer site. For sites that rely mostly on a clinical diagnosis, e.g., cancers of the pancreas and brain, confirmation rates that are too high may suggest that some clinically-diagnosed cases are missing. Also, registries that do not use death certificates for case finding have an artificially high proportion of microscopically confirmed cases.

Site-specific Incidence-to-Mortality Rate Ratios. These ratios may be interpreted in the same way that overall incidence-to-mortality rate ratios are interpreted, adjusting for the larger relative standard errors associated with the incidence and death rates underlying the ratios.

Values of Zero (“0”) and “-” in the Tables. When the incidence rate *or* count for a specific group is presented as 0.0 or 0, this indicates either 1) that the rate is less than 0.05 per 100,000, or 2) that no cases were reported for the group. “-” is used when the rate and count were suppressed because fewer than six cases were found for the group in question. “-” is also used when data were not available for analysis or to signify “not applicable,” as in the case of female cancer of the prostate, an impossibility.

Comparisons Among Registries. All registries responding to the 2002 *Call for Data* are included in Sections II and III of Volume One. In making valid comparisons among registries, it is important to review the data quality indicators for each registry before attributing rate differences to regional variation. Data quality can be an important contributor to observed differences in rates. Selected site-specific rates from the registries of highest quality are included in the tables in Section II of Volume Three. In addition to data quality, it is important to consider differences in the racial composition of the populations being compared before conclusions are drawn about variations in regional rates.¹⁰

¹⁰Chen, VW. Should we or shouldn't we compare cancer incidence rates among registries? in Howe HL (ed.) *Cancer Incidence in North America, 1988-1991*. Sacramento, CA: North American Association of Central Cancer Registries, April 1995, p. V-1 to p. V-6.

NAACCR MISSION

The North American Association of Central Cancer Registries, Inc. (NAACCR), the Association, is a professional organization that develops and promotes uniform data standards for cancer registration, provides education and training; certifies population-based registries; aggregates and publishes data from central cancer registries; and promotes the use of cancer surveillance data and systems from cancer control and epidemiologic research, public health programs, and patient care to reduce the burden of cancer in North America.

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