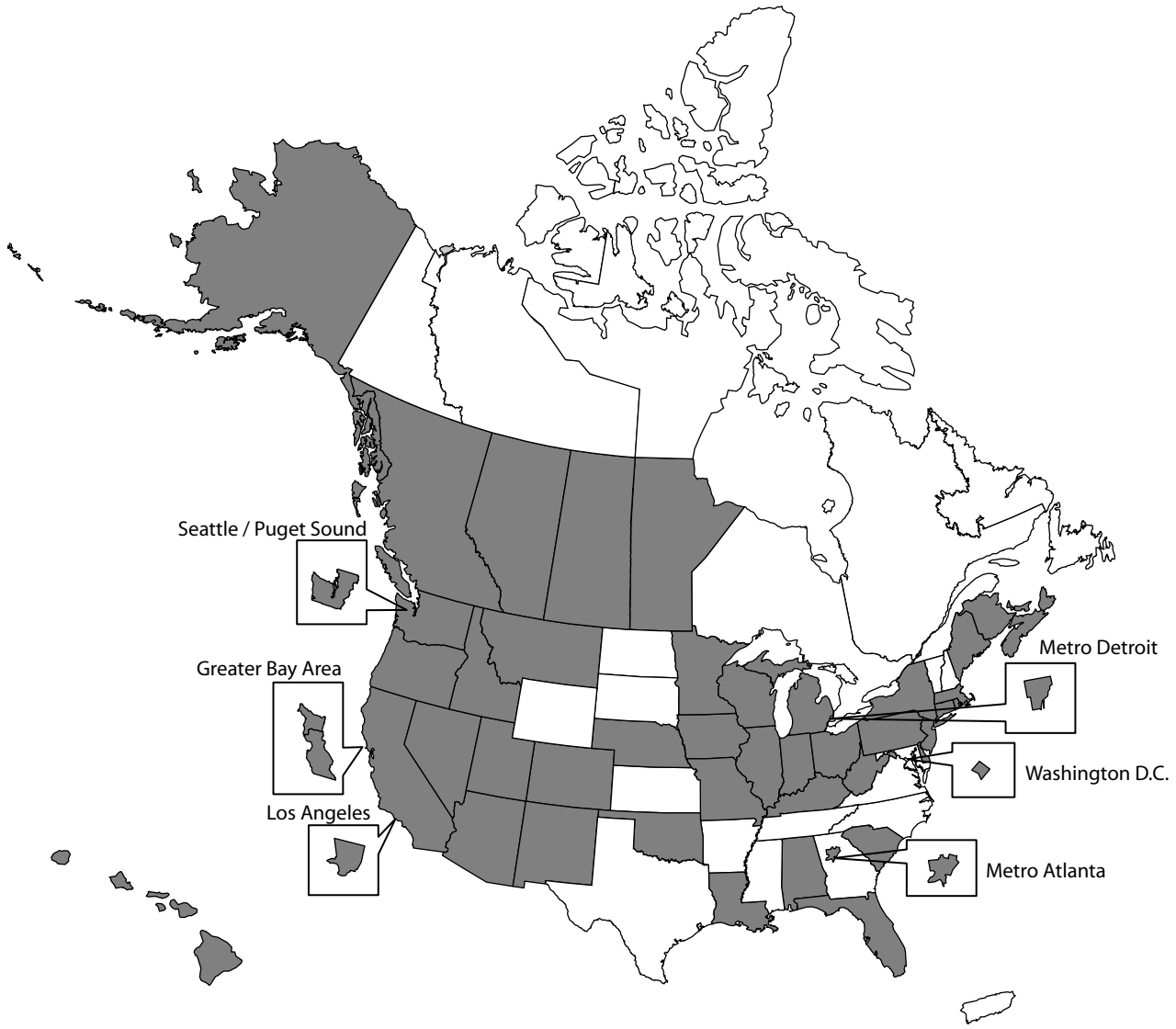
Cancer in North America: 1998-2002
Volume Three: NAACCR Combined Incidence



North American Association of Central Cancer Registries, Inc., 2005

CANCER IN NORTH AMERICA, 1998 - 2002

EXECUTIVE SUMMARY

The North American Association of Central Cancer Registries, Inc. (NAACCR) is pleased to present this monograph, *Cancer in North America, 1998-2002*. This year marks the 15th release of the annual publication of Cancer in North America (CINA) series, the 9th monograph to include cancer mortality data, and the 1st to include cancer incidence data for Latino populations. NAACCR 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 for cancer control and epidemiologic research, public health programs, and patient care to reduce the burden of cancer in North America. The NAACCR Data Use Evaluation and Publication Committee (DEPC) is tasked with the annual aggregation and publication of incidence data from central cancer registries for the purpose of producing the Cancer in North America (CINA) monograph.

NAACCR is pleased to announce that 65 registries responded to the 2005 Call for Data with incidence data received from member registries. Registries from the United States participate in the National Program of Cancer Registries (NPCR) and the Surveillance and Epidemiology and End Results (SEER) program. We greatly appreciate the efforts of registry staff to ensure submission of quality data files. We are proud to announce the following improvements to this monograph:

- Cancer incidence data files were collected from all Canadian cancer registries and all but 4 registries in the United States.
- Fifty-one United States cancer registries followed the NAACCR guideline for identification of Hispanic persons (NHIA) which enabled the production of a fourth volume of the CINA monograph dedicated to the presentation of cancer incidence rates by ethnicity and gender. This volume includes new comparative graphs to show the median and registry-specific cancer incidence rates by ethnicity and gender for those registries included in the NAACCR Combined Rates. See section V of Volume Four.
- Forty-two registries from the United States and seven Canadian registries met the NAACCR high quality data criteria at the gold or silver level for 1998-2002. Data for the high quality registries in the United States are included in the NAACCR Combined Rates to show representative national statistics. See Volumes Three and Four. These registries represent 77% of the United States population, almost 36% of the Canadian population, and 76% of the U.S. Hispanic/Latino population.

It is the collective goal of NAACCR and its members to provide cancer statistics that are inclusive of all racial/ethnic groups in the United States and of all geographic areas in the United States and Canada. The information within the CINA volumes allows the comparison and assessment of cancer incidence and death rates by race and ethnicity, gender, and geographic area. These data may be used by national, state, provincial, and local health professionals for the purposes of policy development, hypothesis generation, and as a resource for the cancer registry or general public. For ease of reference, the Highlights section of each volume contains a summary of the major findings for the volume.

The NAACCR DEPC looks forward to continuing this annual aggregation of cancer data and production of cancer statistics for North America. NAACCR appreciates the continued participation of cancer registries, the implementation of high quality data standards, and the commitment of cancer registry personnel, through which this monograph would not be possible. It is the desire of NAACCR that this monograph will be a valuable tool for cancer surveillance research, and that it will help to reduce the burden of cancer in North America.

Joellyn Hotes Ellison, MPH
NAACCR Program Manager of Data Evaluation and Publication

CANCER IN NORTH AMERICA, 1998-2002

VOLUME THREE: NAACCR COMBINED INCIDENCE

A Publication of the North American Association of Central Cancer Registries, Inc. (NAACCR)

Editors:

Joellyn Hotes Ellison, NAACCR, Inc.
Xiao-Cheng Wu, Louisiana Tumor Registry
Holly L. Howe, NAACCR, Inc.
Colleen McLaughlin, New York State Cancer Registry
Andrew Lake, Information Management Services, Inc.
Rick Firth, Information Management Services, Inc.
Susan K. Sullivan, NAACCR, Inc.
David Roney, Information Management Services, Inc.
Michel Cormier, Statistics Canada
Suzanne Leonfellner, New Brunswick Cancer Registry
Carol Kosary, National Cancer Institute

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HIGHLIGHTS OF NAACCR COMBINED INCIDENCE, 1998-2002

UNITED STATES:

Data from 42 central cancer registries (36 states, 5 metropolitan areas, and the District Columbia) met the NAACCR criteria for inclusion the NAACCR U.S. combined cancer statistics. To meet the inclusion criteria, each registry was required to submit five years (1998-2002) of data. Data from each year of the five year period had to pass rigorous criteria for completeness of reporting, non-duplication of records, internal consistency among data items, and low percentage of death certificate-only cases and cases with missing/unknown race, age, or county. If data from a metropolitan area and its state both met the criteria, only state data were used. Data for the NAACCR U.S. combined cancer incidence statistics cover approximately 77% of the total U.S. population, 78% of the white population, 69% of the black population, 83% of the American Indians/Alaska Native population (AI/AN), 87% of the Asian/Pacific Islander (API) population, and 76% of the Hispanic/Latino population.

A total 5,210,546 cancers (all invasive and bladder *in situ*) were diagnosed in the 5-year period (1998-2002) in the NAACCR U.S. combined areas, averaging 1,042,109 cancers per year or approximately 2,855 cancers per day. A little over half of these cancers occurred in males (51%); slightly less than half (49%) occurred in females.

VOLUME THREE: COMBINED CANCER INCIDENCE

Common Cancers

- **All races and both sexes combined.** For all races and both sexes combined, the five most commonly diagnosed cancers in the NAACCR U.S. combined areas were cancers of the prostate (156,641 cancers per year), female breast (155,476), lung (152,472), colon and rectum (122,112), and bladder (48,488).

- **Female breast cancer.** Breast cancer was the most commonly diagnosed cancer among women for every race group. It accounted for approximately one third of female cancers among white women (31% of all cancers among white women), 30% among black women, Chinese women (29%), 36% among Filipino women, and 34% among Japanese women. The percentage of breast cancer was lower among Vietnamese women (24%), Korean women (25%), and AI/AN women (27%) than that among other race groups.

- **Prostate cancer.** Prostate cancer was the most commonly diagnosed cancer among men for white men (28% of all cancers among white men), black men (37%), Filipino men (30%), Japanese men (28%), Chinese men (21%), and AI/AN men (21%). It was the second most commonly diagnosed cancer among Vietnamese men (15%) and the fourth among Korean men (14%). The percentages for prostate cancer varied greatly by race group.

- **Lung cancer.** Lung cancer was the second most commonly diagnosed cancer among white men (16% of all cancers among white men), black men (17%), Filipino men (18%), Chinese men (16%), and AI/AN men (17%). It was the most commonly diagnosed cancer among Vietnamese men (18%), and the third among Korean men (14%) and Japanese men (12%). Lung cancer was also the second most common cancer among white women (14%) and AI/AN women (13%). It was the third most common cancer among black women (13%), Filipino women (8%), Japanese women (9%), Chinese women (11%), and Vietnamese women (10%). Among Korean women, lung cancer was the fourth most common cancer. The percentages for lung cancer were lower for women than for men among all race groups.

- **Colorectal cancer.** Colorectal cancer was the third most commonly diagnosed cancer among white men (12% of all cancers among white men), black men (10%), Filipino men (13%), Chinese men (15%), and AI/AN men (13%). It was the second most commonly diagnosed cancer among Japanese men (18%) and Korean men (15%), and the fourth among Vietnamese men (11%). Colorectal cancer was the second most commonly diagnosed cancer among black women (13%), Filipino women (9%), Japanese women (16%),

Chinese women (15%), Vietnamese women (11%), and Korean women (13%) and the third among white women (12%) and AI/AN women (12%).

- **Bladder cancer.** Although bladder cancer was the fifth most commonly diagnosed cancer for all races and both sexes combined, it was one of the five most commonly diagnosed cancers only among white men (7% of all cancers among white males) and Japanese men (6%). Bladder cancer was not one of the five most commonly diagnosed cancers among all race groups of women.

- **Liver cancer.** Liver cancer was one of the five most commonly diagnosed cancers only among Vietnamese men (14% of all cancers among Vietnamese men), Korean men (11%), Chinese men (8%), and Filipino men (4%). It was not one of the five most commonly diagnosed cancers among other race groups of men or women.

- **Stomach cancer.** Stomach cancer was the most commonly diagnosed cancer among Korean men (15% of all cancers among Korean men). Although it was also one of the five most commonly diagnosed cancers among Japanese men (7%), Chinese men (6%), and Vietnamese men (6%), the percentages were smaller for these race groups than for Korean men. Stomach cancer was not one of the five most commonly diagnosed cancers among all race groups of women except Korean women (10% of all cancers among Korean women) and Japanese women (5%). It was the third most commonly diagnosed cancer among Korean women and the fourth among Japanese women.

- **Cervical cancer.** Vietnamese women had the highest percentage (7% of all cancers among Vietnamese women) of cervical cancer than any other race group. Although cervical cancer was one of the five most commonly diagnosed cancers among black women (4%) and Korean women (5%), the percentages for these races were lower than that for Vietnamese women.

Average Annual Age-adjusted Cancer Incidence Rates

Rates are based on fewer than 16 cases were not used for the following comparisons.

Comparisons of incidence rates by race/sex group

- **Higher incidence rate for all cancers combined among men than among women.** Overall, the age-adjusted (2000 U.S. population standard) incidence rate for all cancers combined was approximately 34% higher among men (561.4 per 100,000) than among women (418.2 per 100,000). However, the percentages varied greatly by race group: 31% higher among white men than among women (553.7 per 100,000 for men and 423.3 per 100,000 for women) and 67% higher among black men than women (641.5 per 100,000 for men and 384.5 per 100,000 for women).

- **Higher incidence rate for all cancers combined among black men than among white men but not for women.** The age-adjusted (2000 U.S.) incidence rate for all cancers combined was 16% higher among black men (641.5 per 100,000) than among white men (553.7 per 100,000). In contrast, the rate among black women (384.5 per 100,000) was 9% lower than the rate among white women (423.3 per 100,000).

- **Higher incidence rates for specific cancer types among black men and women than among white men and women.** The age-adjusted (2000 U.S.) incidence rates were higher among black men than among white men for cancers of the prostate (57% higher), lung (26%), oral cavity and pharynx (20%), esophagus (49%), stomach (84%), liver (73%), pancreas (26%), and larynx (57%) and multiple myeloma (100%). The age-adjusted (2000 U.S.) incidence rates among black women were also higher than the rates among white women for cancers of the esophagus (80% higher), stomach (1.1 times), liver (55%), pancreas (41%), larynx (50%), and multiple myeloma (1.4 times). In addition, the rates were also higher among black women than among white women for cancers of the cervix (54% higher) and colon and rectum (14%). The rates for cancers of the lung and oral cavity and pharynx were similar among white women and black women.

- **Higher incidence rates for specific cancer types among white men and women than among black population.** Although the overall age-adjusted (2000 U.S.) cancer incidence rates were higher among the black men than among the white men, the rates were higher among white men than black men for cancers of the bladder (1.2 times higher) and brain and other nervous system (84%), thyroid (90%), non-Hodgkin lymphoma (38%), leukemia (36%), and melanoma of the skin (18.7 times). For women, besides cancers of the bladder (50% higher) and brain and other nervous system (71%), thyroid (72%), and non-Hodgkin lymphoma (49%), leukemia (26%), and melanoma of the skin (14.9 times), incidence rates were also higher among white women than among black women for cancers of the breast (19% higher), corpus and uterus, NOS (29%), and ovary (48%).

Geographic variations in cancer incidence rates

Age-adjusted incidence rates varied widely by geographic area. These variations could relate to cancer risks, the prevalence of cancer screening, and other factors.

Rates based on fewer than 16 cases were not used for the following comparisons.

- **Geographic variations in incidence rates for all cancers combined by race/sex group.** The age-adjusted (2000 U.S.) incidence rates for all cancers combined varied among the NAACCR U.S. combined areas. Arizona had the lowest rate for white men (468.4 per 100,000) and Detroit (Michigan) had the highest rate for white men (649.6 per 100,000). For white women, Seattle (Washington) had the highest rate (469.4 per 100,000) and Utah had the lowest rates (355.2 per 100,000). The highest rate was 39% higher than the lowest rate for men and 32% higher than the lowest rate for women. The geographic variations in rates were much larger among black men and women than among white men and women. Among black men, rates ranged from a low of 400.0 per 100,000 in Idaho to a high of 788.8 per 100,000 in Montana. Among black women, rates varied from a low of 260.0 per 100,000 in Hawaii to a high of 450.1 per 100,000 in Kentucky. The highest was 2 times the lowest for black men and almost 73% greater than the lowest rate for black women.

- **Geographic variations in incidence rates for female breast cancer by race.** For white women, the District Columbia had the highest age-adjusted (2000 U.S.) incidence rate (163.9 per 100,000) among the NAACCR U.S. combined areas. This rate was 38% higher than the lowest rate (118.7 per 100,000), in West Virginia. For black women, Alaska had the highest breast cancer incidence rate (143.2 per 100,000), which was 87% higher than the lowest rate (76.6 per 100,000) in Utah.

- **Geographic variations in incidence rates for prostate cancer by race.** Detroit (Michigan) had the highest age-adjusted (2000 US) incidence rate among the NAACCR U.S. combined areas for both white men (205.9 per 100,000) and black men (320.3 per 100,000). For white men, the rate was 77% higher than the lowest rate (116.4 per 100,000), in Alabama. For black men, the rate was 2.0 times the lowest rate (156.7 per 100,000), in Arizona.

- **Geographic variations in incidence rates for lung cancer by race/sex group.** Kentucky had the highest age-adjusted (2000 US) lung cancer incidence rates for white men (138.1 per 100,000) and Nevada had the highest rate among white women (73.8 per 100,000) while Utah had the lowest lung cancer rates for white men (42.6 per 100,000) and white women (21.6 per 100,000) among the NAACCR U.S. combined areas. The highest rate was 3.2 times the lowest for white men and 3.4 times the lowest for white women. Lung cancer incidence rates (2000 U.S.) varied from a low of 72.6 per 100,000 in Hawaii to a high of 148.8 per 100,000 in Kentucky for black men and from a low of 25.0 per 100,000 in New Mexico to a high of 78.1 per 100,000 in Kentucky for black women. The highest was 2.0 times the lowest for black men and 3.1 times the lowest for women.

- **Geographic variations in incidence rates for colorectal cancer by race/sex group.** The age-adjusted (2000 U.S.) incidence rates for colorectal cancer also varied widely among the NAACCR U.S. combined areas. Rhode Island had the highest rate for white men (76.7 per 100,000) and Iowa had the highest rate for white women (54.5 per 100,000). The lowest rates were 42.9 per 100,000 in the District of Columbia for white men and 35.7 per 100,000 in New Mexico for white women. The highest rate was 79% higher than the lowest rate for white men and 53% higher for white women. Iowa had the highest rate for black men (89.3 per 100,000) and Kentucky had the highest rate for black women (71.2 per 100,000). Rhode Island had the lowest rate for black men (43.1 per 100,000) and New Mexico had the lowest rate black women (31.1 per 100,000). The highest rate was 2.1 times the lowest rate for black men and 2.3 times the lowest rate for black women.

- **Geographic variations in incidence rates for cervical cancer by race.** For white women, Los Angeles (California) had the highest age-adjusted (2000 U.S.) rate (12.9 per 100,000) for cervical cancer among the NAACCR U.S. combined areas. This rate was 2.6 times the lowest rate (5.0 per 100,000), in the District of Columbia. In contrast, Illinois had the highest cervical cancer incidence rate (17.0 per 100,000) among black women. The rate was 2.4 times the lowest rate (7.1 per 100,000) for black women, in Arizona.

- **Geographic variations in incidence rates for ovarian cancer by race.** Both New Jersey and Seattle/Puget Sound had the highest age-adjusted (2000 U.S.) incidence rate for white women (16.9 per 100,000) and West Virginia had the highest rates for black women (12.9 per 100,000) among the NAACCR U.S. combined areas. For white women, the highest rate was 36% higher than the lowest rate (12.4 per 100,000), in Alaska. For black women, the highest rate was 2.4 times the lowest rate (5.4 per 100,000), in Massachusetts.

Cancers among Children (ages 0-14) and Adolescents (ages 15-19)

Common cancers among children and adolescents

- **All races and both sexes combined.** An average 6,708 cancers were diagnosed among children (ages 0 to 14 years) and 3,124 cancers among adolescents (ages 15-19 years) in each of the five years (1998-2002) in the NAACCR U.S. combined areas. The five most commonly diagnosed cancers among children were leukemia (31% of all cancers among children), cancer of the central nervous system (CNS) (21%), lymphoma (10%), soft tissue sarcoma (STS) (7%) and cancer of the sympathetic nervous system (7%). The five most commonly diagnosed cancers among adolescents differed from those among children. Lymphoma was the most commonly diagnosed cancer among adolescents, accounting for 24% of all cancers in this age group. Other commonly diagnosed cancers were leukemia (14%), germ cell tumors (13%), and cancers of the CNS (10%) and bone (8%).

- **White Children and Adolescents.** An average 5,501 cancers were diagnosed among white children and 2,631 cancers among white adolescents in each of the five years (1998-2002) in the NAACCR U.S. combined areas. The five most commonly diagnosed cancers among white children were leukemia (32% of all cancers among white children), cancer of the CNS (21%), lymphoma (10%), STS (7%), and cancer of the sympathetic nervous system (7%). The five most commonly diagnosed cancers among white adolescents differed from those among white children. Lymphoma was the most commonly diagnosed cancer among white adolescents, accounting for 24% of all cancers in this age group. Germ cell tumors (13%) were the second most commonly diagnosed cancer, followed by Leukemia (13%), cancer of the CNS (10%) and bone (8%).

- **Black Children and Adolescents.** An average 734 cancers were diagnosed among black children and 298 cancers among black adolescents in each of the five years (1998-2002) in the NAACCR U.S. combined areas. The four most commonly diagnosed cancers among black children were leukemia (24% of all cancers among black children), cancer of the CNS (21%), lymphoma (11%) and STS (10%). Instead of cancer of the sympathetic nervous system, the fifth most commonly diagnosed cancer among black children was renal tumors (9%). The five most commonly diagnosed cancers among black adolescents differed from those among black children. Lymphoma was the most commonly diagnosed cancer among adolescents, accounting for 25% of all cancers in this age group. Other commonly diagnosed cancers were leukemia (16%), STS (12%), cancer of the CNS (11%) and germ cell tumors (9%).

Comparisons of cancer incidence rates among children (ages 0-14) and adolescents (15-19) by race/sex group.

Rates are based on fewer than 16 cases were not used for the following comparisons.

- **Higher incidence rates among male children than among female children.** Overall, the age-adjusted (2000 U.S.) incidence rate for all cancers combined was 13% higher among boys (154.7 per million) than among girls (136.6 per million). The male/female rate ratios for all cancers combined were 1.1 for both white and black children. For most specific cancer types the age-adjusted (2000 U.S.) incidence rates were higher for boys than girls.

- **Higher incidence rates among girls than among boys.** The age-adjusted (2000 US) incidence rates were higher among female children than among male children for renal tumors (9.0 per million vs. 7.8), germ cell tumors (5.8 per million vs. 4.4), and carcinoma (7.1 per million vs. 5.0).

- **Higher incidence rates for all cancers combined among white children than among black children.** Unlike cancer incidence rates for all ages combined, the age-adjusted (2000 U.S.) incidence rates for all cancers combined among children were 46% higher for white boys (161.6 per million) than for black boys (110.4 per million) and 39% higher for white girls (142.0 per million) than for black girls (102.3 per million).

- **Higher incidence rates for all cancers combined among white adolescents than among black adolescents.** Among adolescents, the rate was 52% higher for white adolescents (224.7 per million) than for black adolescents (147.8 per million) and 58% higher for white adolescents (203.4 per million) than for black adolescents (128.5 per million).

- **Higher incidence rates for renal tumors among black children than among white children.** Although the age-adjusted (2000 U.S.) incidence rates for all cancers combined and most specific cancer types were higher for white children than for black children, the rate for renal tumors was 4% higher among black children (8.1 per million) than among white children (7.8 per million) for boys and 29% higher for girls (11.1 vs. 8.6).

- **Higher incidence rates for all cancers combined among children (ages 0-4) and adolescents (ages 15-19) than among those in the other two age groups.** Overall, age-specific incidence rates for all cancers combined were higher among children aged 0-4 and adolescents than among children aged 5-9 and aged 10-14. The same pattern was also seen among both white and black boys and girls.

VOLUME TWO: MORTALITY, 1998 - 2002

Mortality data for the ten Canadian provinces and three Canadian territories were provided by Statistics Canada. Mortality data for the fifty U.S. states, the District of Columbia, and five SEER metropolitan areas were obtained from the National Center for Health Statistics, the Centers for Disease Control and Prevention, via the National Cancer Institute.

Age-adjusted (2000 U.S.) cancer death rates for all races were slightly higher in Canada (254.9 per 100,000 for men and 168.8 per 100,000 for women) than in the United States (247.5 per 100,000 for men and 165.5 per 100,000 for women).

CANADA:

A total of 262,338 persons in Canada died of cancer during the five-year period (1998 - 2002), averaging 52,468 per year, or approximately 144 per day. More than half of the Canadian cancer deaths occurred among men (53%); slightly less than half (47%) occurred among women. **Note: The 2000, 2001 and 2002 data for Quebec are not included in the Canada mortality statistics for the Canadian combined.** Approximately 85% of the Canadian population were represented by registry coverage included in the combined death rates.

Common Cancers

- **All races and both sexes combined.** For all races and both sexes combined, the most common cancer death in Canada were cancers of the lung (13,549 deaths per year), colon and rectum (6,585), female breast (4,106), prostate (3,220), and pancreas (2,602).

- **Sex difference.** An average 27,913 Canadian men and 24,554 Canadian women died of cancer in each of the five years (1998-2002). The five leading causes of deaths from cancer among men were cancers of the lung (29% of the total cancer deaths among men), colon and rectum (12%), prostate (12%), and pancreas (5%), and non-Hodgkin lymphoma (4%). The five leading causes of deaths from cancer among women were cancers of the lung (22%), breast (17%), colon and rectum (13%), pancreas (5%), and ovary (5%).

- **Cervical cancer.** An average 353 Canadian women died of cervical cancer in each of the five years (1998-2002). Because of the widespread availability and proven efficacy of the Pap smear test and effective treatments for cancer of the cervix, deaths from cervical cancer are largely preventable.

Average Annual Age-adjusted Cancer Death Rates

Rates are based on fewer than 16 cases were not used for the following comparisons.

- **Higher death rates among males than among females.** Overall, the age-adjusted death rate (1996 Canadian population) for all cancers combined was 49% higher among men (234.8 per 100,000) than among women (157.5 per 100,000).

- **Geographic variations in death rates.** In general, rates for all cancers combined were higher for eastern provinces (Quebec, Nova Scotia and Prince Edward Island) than for western provinces (British Columbia and Alberta).

UNITED STATES:

A total 2,755,502 persons in the U.S. died of cancer in the five-year period (1998-2002), averaging more than half a million (551,100) per year, or approximately, 1,510 per day. A little over half of the cancer deaths occurred among males (52%); slightly less than half (48%) occurred among females.

Common Cancers

- **All races and both sexes combined.** For all races and both sexes combined, the five leading causes of deaths from cancer in the United States were cancers of the lung (155,112 deaths per year), colon and rectum (57,008), female breast (41,532), prostate (31,235), and pancreas (29,362).

- **Lung cancer.** For men, lung cancer was the leading cause of deaths from cancer for all races combined. It accounted for approximately one third of all cancer deaths among white men, black men, and AI/AN men and 26% among API men. Lung cancer also accounted for 25% of the total cancer deaths among white women. The percentage of lung cancer deaths among white women was higher than that among black women (20%), AI/AN women (23%), and API women (18%).

- **Prostate cancer.** Prostate cancer was the second leading cause of deaths from cancer among white men (10% of all cancer deaths among white men) and black men (16%), third among AI/AN men (8%), and fifth among API men (6%). The percentage of prostate cancer deaths was much lower for API men than that for any other race group.

- **Female breast cancer.** Breast cancer was the second leading cause of deaths from cancer among white women (15% of all cancer deaths among white women), black women (18%), AI/AN women (14%), and API women (15%). The percentage of deaths from breast cancer was higher among black women than that among any other female race group.

- **Colorectal cancer.** Colorectal cancer was the second or third leading cause of deaths from cancer and accounted for approximately 10%-12% of total cancer deaths among all race/sex groups.

- **Pancreatic cancer.** Pancreatic cancer was the fourth leading cause of cancer deaths among white men and women, and black men and women and among AI/AN women and the sixth among API men and fifth among API women, accounting for approximately 5%-6% of the total cancer deaths among these race/sex groups. Among AI/AN men, pancreatic cancer death ranked seventh.

- **Ovarian cancer.** Ovarian cancer was the fifth leading cause of deaths from cancer among white women (5% of cancer deaths among white women), black women (4%), and AI/AN women (4%). It was not one of the five leading causes of cancer deaths among API women.

- **Stomach cancer.** Stomach cancer was the fourth leading cause of deaths from cancer among API men and women, accounting for 7% of the total cancer death. Among black men, stomach cancer was the fifth leading cause of deaths from cancer, accounting for 4% of the total cancer death. It was not one of the five leading causes of cancer deaths among other race/sex groups.

- **Cervical cancer.** An average 4,158 women in the U.S. died of cervical cancer in each of the five years (1998-2002). With early detection and prompt treatment, nearly all of these deaths could have been prevented.

Average Annual Age-adjusted Cancer Death Rates

Rates are based on fewer than 16 cases were not used for the following comparisons.

- **Higher death rates among males than among females.** Overall, the age-adjusted death rate (2000 U.S.) for all cancers combined was approximately 50% higher among men (247.5 per 100,000) than among women (165.5 per 100,000). However, the sex differences in the death rates varied by race group. The largest sex difference was seen among black men and women; about 75% (The rate for black men was 75% higher than the rate for black women). The smallest sex differences were seen among AI/AN men and women. The rates for men were approximately 40% higher than the rates for women in AI/AN populations.

- **Higher death rates for all cancers combined among the black men and women than among any other race group.** For all cancers combined, the age-adjusted (2000 U.S.) death rate among black men (339.4 per 100,000) was 40% higher than the rate among white men (242.5 per 100,000), 2.1 times the rate among AI/AN men (159.7 per 100,000) and 2.3 times the rate among API men (148.0 per 100,000). The age-adjusted (2000 U.S.) death rate for all cancers combined among black women (194.3 per 100,000) was 18% higher than the rate among white women (164.5 per 100,000), 71% higher than the rate among AI/AN women (113.8 per 100,000), and 95% higher than the rate among API women (99.4 per 100,000).

- **Higher death rates for specific cancer types among black men than among men in other race groups.** Death from cancers of the prostate, lung, colon and rectum, and pancreas accounted for much of the elevation in the death rate for all cancers combined among black men compared with the rates among men in other race groups. The age-adjusted (2000 U.S.) death rate for prostate cancer among black males (68.1 per 100,000) was more than twice the rate among white males (27.7 per 100,000), more than three-fold the rate among AI/AN men (18.3 per 100,000) and more than five-fold the rate among API men (12.1 per 100,000). In addition, age-adjusted (2000 U.S.) death rates were also higher among black men than among men in any other race group for cancers of the esophagus, stomach, larynx, and oral cavity and pharynx. The death rate for liver cancer among black men was higher than the rates among white and AI/AN men only**.**

- **Higher death rates for specific cancer types among black women than among women in other race group.** Cancers of the colon and rectum, breast, pancreas, and cervix accounted for much of the elevation in the death rate for all cancers combined among black women compared with the rates among women in other race group. The age-adjusted (2000 U.S.) death rate for cancer of the cervix among black women (5.3 per 100,000) was more than twice the rates among white women (2.5 per 100,000), AI/AN women (2.6 per 100,000), and API women (2.7 per 100,000). In addition, death rates were also higher among black women than those among women in any other race group for cancers of the esophagus, corpus and uterus, NOS, and bladder. The death rate for stomach cancer among black women was higher than the rates among women in any other race group except API.

- **Higher death rates for specific cancer types among white men and women than among other race group.** The age-adjusted (2000 U.S.) death rates for cancer of the brain and melanoma of the skin, Hodgkin lymphoma, non-Hodgkin lymphoma, leukemia were higher among white men and women than

among any other race group. The death rate for cancer of the bladder, testis, and thyroid was higher among white men than among men in other race group. The death rates for cancer of the lung, ovary were higher among white women than among women in other race group.

- **Lower death rates for all cancers combined among API men and women than among other race groups.** For all cancers combined, the age-adjusted (2000 U.S.) death rate was 7% lower among API men than among AI/AN men, 39% lower than among white men, and 56% lower than among black men. The rate among API women was 13% lower than the rate among AI/AN women, 40% lower than the rate among white women and 49% lower than the rate among black women.

- **Higher death rates for cancers of the liver and stomach among API men and women than among other race groups.** The age-adjusted (2000 U.S.) death rate for liver cancer among API men (13.5 per 100,000) was more than two times the rates among white men (5.1 per 100,000) and AI/AN men (6.2 per 100,000) and 1.6 times the rate among black males (8.5 per 100,000). The death rate for liver cancer among API women (5.1 per 100,000) was 2.7 times the rate among white women (1.9 per 100,000), 1.7 times the rate among AI/AN women (3.1 per 100,000) and 1.7 times the rate among black women (3.0 per 100,000). The death rate for stomach cancer among API men (11.2 per 100,000) was more than twice the rate among white men (5.6 per 100,000) and 1.5 times the rate among AI/AN men (7.3 per 100,000). For women, the death rate for stomach cancer among API women (6.8 per 100,000) was more 2.4 times the rate for white women (2.8 per 100,000), 1.1 times the rate for black women (6.3 per 100,000), and 1.7 times the rate for AI/AN women (4.1 per 100,000).

- **Geographic variations in death rates.** Cancer death rates by census division region and state showed geographic variations. In general, death rates for all cancers combined were highest in the East South Central Division and lowest in the Mountain Division.

Xiao Cheng Wu, MD, MPH, CTR
Louisiana Tumor Registry

Michel Cormier, Ph.D.
Manager of the Canadian Cancer Registry
Gérant du Registre Canadien du Cancer
Statistics Canada/Statistique Canada

Andrew Lake
Information Management Services, Inc.

CINA PARTICIPANTS
1998-2002

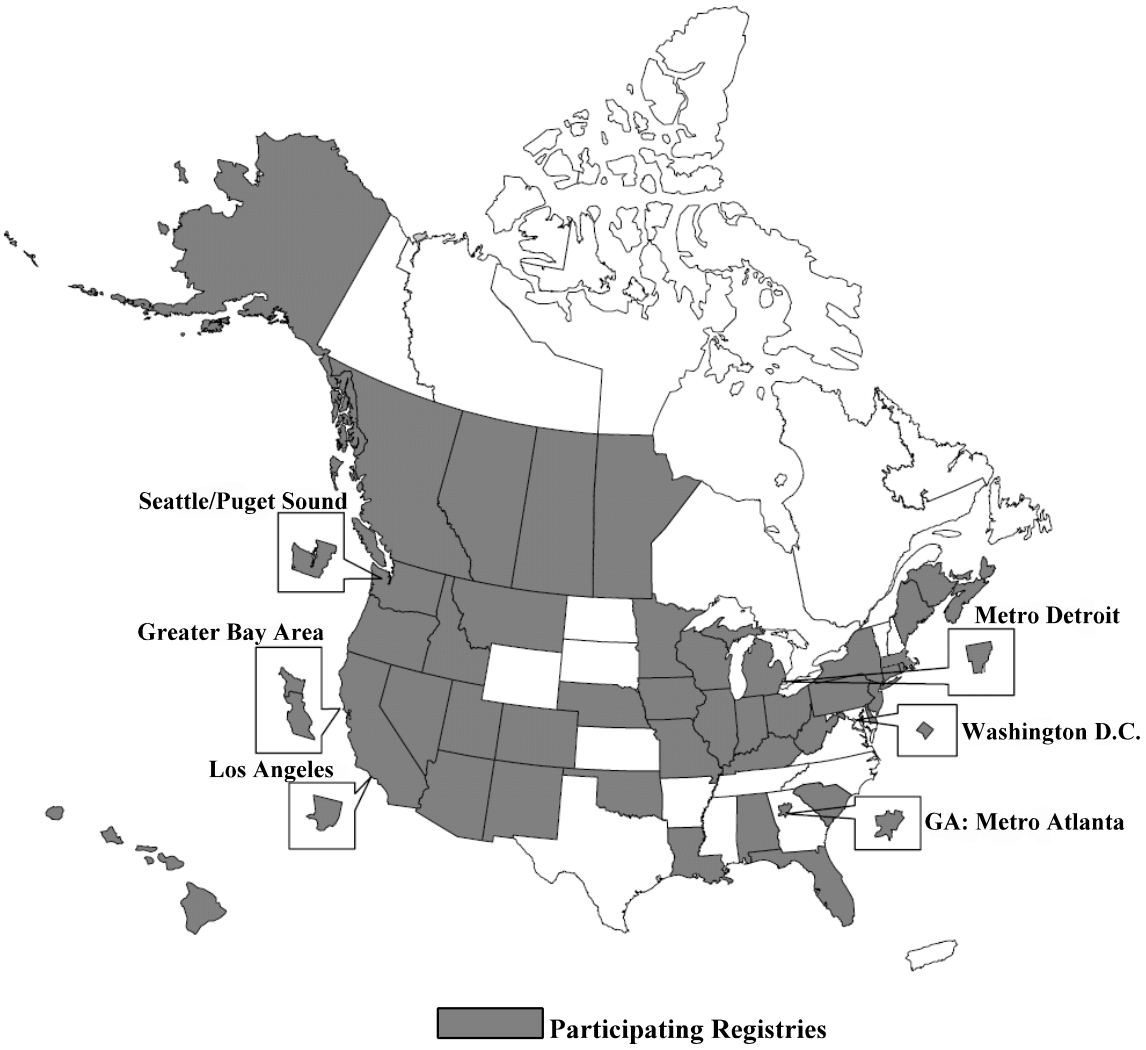

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TABLE OF CONTENTS

Contents