Questions and Answers

1. What is the purpose of this report and what data does it contain?

The *U.S. Cancer Statistics: 2002 Incidence and Mortality* report marks the fourth time that the Centers for Disease Control and Prevention (CDC) and the National Cancer Institute (NCI) have combined their cancer incidence data sources to produce a new set of official federal statistics on cancer incidence (newly diagnosed cases) from each registry that met data quality criteria. Mortality statistics from CDC's National Vital Statistics System are included on cancer deaths for a single year and each state.

This joint report covers 93% of the U.S. population for incidence and 100% of the population for mortality. It provides state-specific and regional data for cancer cases diagnosed and cancer deaths that occurred in 2002, the most recent year for which incidence data are available. The report has been produced in collaboration with the North American Association of Central Cancer Registries (NAACCR).

2. What are the sources of the data?

Information on newly diagnosed cancer cases is based on data collected by registries in CDC's National Program of Cancer Registries (NPCR) and NCI's Surveillance, Epidemiology, and End Results (SEER) Program. Together, the two federal programs, NPCR and SEER, collect cancer incidence data for the entire U.S. population. These data can be used to monitor cancer trends over time, determine cancer patterns in various populations, guide planning and evaluation of cancer control programs, help set priorities for allocating health resources, and provide information for a national database of cancer incidence. Information on cancer deaths is collected by CDC's National Vital Statistics System (NVSS).

NPCR

Recognizing the need for more complete local, state, regional, and national cancer incidence data, Congress established the National Program of Cancer Registries (NPCR) in 1992 by enacting the Cancer Registries Amendment Act, Public Law 102-515, and reauthorized the program in 1998. As of 2005, CDC funds a total of 49 statewide and territorial cancer registries at two levels: capacity building for new registries or basic implementation for existing registries.

NPCR registries cover 96% of the U.S. population. NPCR has the state and national capacity to monitor the cancer burden; identify cancer incidence variation for racial and ethnic populations and for regions within a state, among states, and among regions; provide data for research; provide guidance for health resource allocation; respond to public concerns and inquiries about cancer; improve planning for future health care needs; and evaluate cancer prevention and control activities.

NPCR registries annually report their incidence data to CDC. Data from the SEER metropolitan areas and SEER special population cancer registries operating in Alaska, Arizona, California, Georgia, Michigan, and Washington are reported to their respective NPCR state cancer registry for inclusion

in the state's incidence data and are transmitted to CDC as part of the state's annual data submission. In January 2005, CDC received information on more than 9 million invasive cancer cases diagnosed during 1995–2002 and over 1 million new invasive cancer cases are added each year.

For more information on NPCR, visit http://www.cdc.gov/cancer/npcr.

SEER

In 1971, Congress passed the National Cancer Act that mandated the collection, analysis, and dissemination of data useful for the prevention, diagnosis, and treatment of cancer. This mandate led to the establishment of the Surveillance, Epidemiology, and End Results (SEER) Program. For more than 30 years, NCI's SEER Program has provided statistics regarding cancer incidence, survival, and mortality in the United States; monitored cancer incidence trends in geographic and demographic population groups; provided information on trends in extent of disease at diagnosis, therapy, and patient survival; promoted studies measuring progress in cancer control and etiology; provided specialty training in epidemiology, biostatistics, surveillance research, and tumor registry methodology, operations, and management; and developed new statistical methods, models, and software for the analysis and presentation of national and small-area statistics.

The SEER Program currently collects and publishes cancer incidence and survival data from 14 population-based cancer registries and 3 supplemental registries covering approximately 26% of the U.S. population. Information on more than 3 million *in situ* and invasive cancer cases is included in the SEER database, and approximately 170,000 new cases are added each year within SEER coverage areas.

For more information on the SEER Program, visit http://seer.cancer.gov.

NVSS

U.S. vital statistics are available from the National Vital Statistics System (NVSS), which is maintained by CDC's National Center for Health Statistics (NCHS). These vital statistics are provided through state-operated registration systems and are based on vital records filed in state vital statistics offices. For more detailed information about NVSS, visit the Technical Notes/Federal Programs section (http://www.cdc.gov/cancer/npcr/uscs/2002/pdf/technical_notes.pdf) or for mortality statistics, the NVSS Web site (http://www.cdc.gov/nchs/about/major/dvs/desc.htm).

3. What are the major findings of the report?

See separate Report Facts and Major Findings component in the supplemental materials.

4. The U.S. Cancer Statistics: 2002 Incidence and Mortality *report is produced in collaboration with the North American Association of Central Cancer Registries. What is the role of this organization?*

In 1987, the North American Association of Central Cancer Registries (NAACCR) (http://www.cdc.gov/cancer/npcr/uscs/2002/pdf/technical_notes.pdf) was established as an umbrella organization for population-based cancer registries, governmental agencies, professional associations, and private groups in North America interested in improving the quality and use of cancer registry data. All NPCR and SEER registries are members of NAACCR.

Both NPCR and the SEER Program work closely with NAACCR to promote consensus standards for cancer surveillance based on data from population-based cancer registries in the United States and Canada. For information on cancer registry standards and NAACCR's certification process for recognizing registries that achieve high-quality data standards, refer to the *USCS: 2002* Technical Notes section (http://www.cdc.gov/cancer/npcr/uscs/2002/pdf/technical_notes.pdf) and NAACCR's Web site (http://www.naaccr.org; select "Registration Standards").

5. Are there any "new" sections in this year's report?

This year's publication includes data obtained from registries covering 93% of the U.S. population. Mortality data from all states and the District of Columbia also are included and cover 100% of the U.S. population. National and state-specific data for American Indian/Alaska Native populations were added this year. Also, the 2002 report features expanded information on malignant brain tumors by histologic groupings.

6. Why aren't incidence data for all states included in this publication?

Cancer registries are required to meet specific data quality criteria (similar to those of NAACCR but with two more months to achieve the 90% completeness criterion) for their cancer incidence statistics to be included in this report. Only registries whose data met these specified criteria are included: 44 states, 6 metropolitan areas, and the District of Columbia. These geographic areas represent 93% of the U.S. population.

7. How does this report differ from the Annual Report to the Nation on Cancer?

The report to the nation on cancer (http://seer.cancer.gov/report_to_nation/1975_2002) is a collaborative project produced by the American Cancer Society, NCI, CDC, and NAACCR. This series of cancer reports has been produced annually since 1998. The annual report to the nation focuses on many areas of interest related to cancer incidence and mortality. In addition, the reports typically include a special section on a particular aspect of the cancer burden in the United States.

The newly released *U.S. Cancer Statistics: 2002 Incidence and Mortality* report covers a larger population for 1 year of incidence and provides more state- and region-specific information than provided in the annual reports to the nation. *U.S. Cancer Statistics: 2002 Incidence and Mortality* provides state, metropolitan-area, and U.S. Census region/division-specific cancer incidence and death rates by sex, race, and Hispanic origin, for 68 selected primary cancer sites and subsites for men of all ages and 72 selected primary cancer sites and subsites for women of all ages. Additional data are provided for the most common cancers, including information for the 10 cancer sites with the highest age-adjusted incidence and death rates within sex and race- and ethnicity-specific population subgroups in each state or metropolitan area.

8. Cancer incidence rates are presented by race and ethnicity in the U.S. Cancer Statistics: 2002 Incidence and Mortality *report. What cautions should be used in interpreting differences by race and ethnicity?*

Differences in rates among racial and ethnic (Hispanic origin) populations should be interpreted with caution. Recent studies involving cancer mortality data show that death rates for whites and blacks are generally reliable, whereas death rates for Asians/Pacific Islanders, American Indians/Alaska Natives, and Hispanics are underestimated. Studies involving cancer incidence data suggest similar results.

Therefore, incidence and mortality data published in this report may be underestimated for Asians/Pacific Islanders, American Indians/Alaska Natives, and Hispanics, possibly due to racial and Hispanic origin misclassification.

Grouping racial or Hispanic origin subpopulations into one racial or Hispanic origin population can mask differences in subpopulations. Asians/Pacific Islanders, American Indians/Alaska Natives, and Hispanics are not homogeneous groups. The subpopulations are grouped in this report into single populations because of small numbers or concerns regarding the possible misclassification of race and Hispanic origin among the subpopulations. Cancer rates by more detailed categories of race have been published by selected states in scientific journals.

Work is in progress to ensure receipt of high-quality data from all NPCR and SEER registries, including studies to address and correct for misclassification among all racial and Hispanic origin populations. NAACCR convened an expert panel to develop a best-practices approach to improving Hispanic identification and is addressing Hispanic origin misclassification in central cancer registries. More detailed information on the NAACCR Hispanic Identification Algorithm (NHIA) is available at http://www.naaccr.org. The expert panel has continued to evaluate NHIA. Under- or over-estimation of Hispanic cancer incidence using this algorithm could be due to misclassification or differences in registry operations. For American Indians/Alaska Natives, studies measuring racial misclassification have linked cancer registry cases with Indian Health Service (IHS) administrative records. IHS provides medical services to an estimated 55% of the American Indian/Alaska Native population. NPCR cancer registries were required to link cancer cases with the IHS patient registration database to identify American Indians/Alaska Natives that were classified as non-native in the registry.

Cancer disparities may be addressed by other measures. In November 1999, representatives from NCI, CDC, NAACCR, the American Cancer Society, the American College of Surgeons, IHS, and the Intercultural Cancer Council met to review data issues related to race, ethnicity, and socioeconomic status (SES). The participants recognized that until there were reliable data regarding the SES of patients, it would be impossible to determine the impact of race and Hispanic origin as risk factors apart from SES. The group made specific recommendations regarding the collection of socioeconomic data for cancer patients and the development of meaningful numerators and denominators for these populations. In August 2003, NCI published a new monograph entitled *Area Socioeconomic Variations in U.S. Cancer Incidence, Mortality, Stage, Treatment, and Survival, 1975–1999,* which is available on the SEER Web site (http://seer.cancer.gov). This report presents SES analysis for SEER incidence data and U.S. mortality data.

9. What are the two federal programs doing to improve state and national cancer surveillance?

Both NPCR and SEER provide training and technical assistance to cancer registries.

Examples of this assistance include the following:

- Providing on-site technical assistance to registry personnel to help ensure data completeness, timeliness, and quality. For example, software has been developed to facilitate data transmission and improve the quality of data that hospitals transmit electronically to cancer registries.
- Coordinating and convening meetings of registry personnel for information sharing, problem solving, and training.

- Helping states and national organizations use cancer data to describe regional, state, and national disease burdens; to evaluate cancer control activities; and to identify populations or geographic regions at high risk for certain cancers.
- Collaborating with academic, federal, state, and private organizations to design and conduct research using data collected through population-based state and regional registries and to report the findings.
- Promoting specialty training in epidemiology, biostatistics, surveillance research, and tumor registry methods, operations, and management.
- Developing new statistical methods, models, and software for the analysis and presentation of national, state, and small-area cancer statistics.

10. What are the future plans for this report?

There is now a surveillance capacity and infrastructure in all 50 states upon which to build and improve a national cancer data system. Publishing this report illustrates the major progress made in cancer surveillance for our nation in the last decade alone. As more cancer registries are successful in meeting the data criteria for inclusion in this report, data will become available for more regions, states, and metropolitan areas. Mortality statistics for all racial and ethnic populations in all states and the District of Columbia will continue to be published in this report. In future years, we will be able to present 5-year cancer incidence rates and trends, and information on other advanced surveillance activities.