



# Ovarian Cancer Initiatives



*The Centers for Disease Control and Prevention (CDC) enhances the growing knowledge about ovarian cancer by initiating research projects with partners, colleagues, and national organizations to help identify factors related to early detection of the disease, treatment, and survivorship.*

## The Burden of Ovarian Cancer

Among women in the United States, ovarian cancer is the seventh most common cancer and the fifth leading cause of cancer death, after lung and bronchus, breast, colorectal, and pancreatic cancers (1).<sup>\*</sup> In 2002, more than 19,000 women in the U.S. were diagnosed with Ovarian Cancer, and more than 14,000 women died from the disease. Ovarian cancer causes more deaths than any other cancer of

the female reproductive system (1). Mortality and incidence rates are higher for white women than for any other racial or ethnic group (1). In the United States, approximately \$2.2 billion (in 2004 dollars) is spent each year on the treatment of ovarian cancer (2).

\* Incidence counts cover approximately 93% of the U.S. population. Death counts cover 100% of the U.S. population. Use caution in comparing incidence and death counts.

## Risk Factors

Although most cases of ovarian cancer occur in women aged 50 years or older, the disease can occur in younger women (5). The most common form of ovarian cancer—epithelial—usually is diagnosed in women aged 40 years or older (5). Risk for all forms of the disease begins to increase as a woman gets older (4).

A woman's chance of having ovarian cancer increases if one or more of her close relatives (i.e., mother, daughter, or sister) has had the disease (4). In some cases, women may inherit genes that substantially increase the risk of developing ovarian cancer (4). Women with a history of breast, endometrial, or colon cancer also have a greater chance of developing ovarian cancer than do women who have not had these cancers.

## Risk Reduction

Researchers have identified several factors that may decrease a woman's risk of developing ovarian cancer, including childbearing and the use of oral contraceptives (4). Although reproductive, demographic, and lifestyle

factors affect risk of developing ovarian cancer, the single greatest risk factor for ovarian cancer is having a family history of the disease (4).

## Screening

CDC and other federal agencies follow the ovarian cancer screening recommendations set forth by the U.S. Preventive Services Task Force (USPSTF), which is supported by the Agency for Healthcare Research and

Quality. USPSTF recommends against routine screening for ovarian cancer. There is no evidence that any screening test—CA-125, ultrasound, or pelvic examination—reduces deaths from ovarian cancer (3).

## Accomplishments

In November 2000, CDC convened a workshop to identify and prioritize ovarian-cancer-related public health needs. The workshop included leaders from state health departments and ovarian cancer advocacy groups, as well as physicians and scientists from state, federal, and nongovernmental organizations. Participants identified several factors that may affect the quality of diagnostic ultrasound examinations, including

- Age and quality of ultrasound equipment in some medical settings.
- Expertise, training, and board certification of medical specialists conducting, reading, and evaluating ultrasound exams.
- Methods used to report results of ultrasound exams.

To begin addressing concerns related to diagnostic ultrasound, CDC convened a workshop in 2002, titled “The Use of Ultrasound in Diagnosing Ovarian Cancer: Can We Improve on Current Practice?” Participants reviewed current practices and identified potential areas for improvement. Outcomes of the workshop (available at [http://www.cdc.gov/cancer/ovarian/workshop\\_reports.htm](http://www.cdc.gov/cancer/ovarian/workshop_reports.htm)) have informed—and continue to inform—CDC’s ovarian cancer research projects.

Additionally, CDC collaborated with the Gynecologic Cancer Foundation to host a series of ovarian cancer

survivors’ courses. Information about the courses is available at <http://www.thegcf.org/>.

Results of the following studies, which CDC supported through cooperative agreements with Prevention Research Centers, were presented at the 2006 World Cancer Congress in Washington, DC:

- Multi-year research projects at the University of Texas Health Science Center at Houston and the University of Alabama at Birmingham, designed to identify factors that distinguish women with early-stage ovarian cancers (cancers that were diagnosed at stages I and II), from women with ovarian cancers diagnosed at later stages.
- Multi-year research projects at the University of Texas Health Science Center at Houston and the University of Oklahoma Health Sciences Center, to investigate the ways in which women decide to seek medical care for nonspecific symptoms, such as symptoms related to ovarian cancer. The studies investigated the frequency of symptoms and factors associated with decisions to seek medical care, such as 1) attitudes toward health care and health care providers, 2) anxiety or fear related to illness, 3) age, 4) access to care, 5) educational and socioeconomic status, 6) health status, 7) family history of cancer, and 8) knowledge about ovarian cancer. Additionally, the studies examined barriers to obtaining care.

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## Ongoing Work

CDC’s ongoing studies related to ovarian cancer include:

- **Risk perception, worry, and use of ovarian cancer screening among women at average, elevated, and high risk of ovarian cancer:** To examine the determinants of perceived risk and the influence of these determinants on screening behaviors, CDC is conducting a study of approximately 2,000 women at average, elevated, and high risk, who will be selected randomly from enrollees in a managed care organization with a racially diverse population.
- **Clinical practice in the follow-up of ovarian masses:** This study will search for findings that clinicians could use to differentiate more effectively between women with potentially malignant masses who require immediate surgery, and women with benign abnormalities. Set in a managed care organization, the study will investigate 1) the symptoms or other conditions that lead to a diagnosis of an ovarian mass, 2) the radiologic characteristics of masses most likely to be malignant, and 3) the diagnostic pathways commonly followed.
- **Evaluation of patient, provider, and hospital characteristics in the diagnosis of ovarian cancer in a managed care setting:** This study will use managed health care data to describe and evaluate the relationships between patients’ characteristics, providers’ characteristics, diagnostic procedures, comorbid conditions, and referral patterns leading to diagnosis of ovarian cancer. The study also will examine the influence of a provider’s specialty, tumor characteristics, staging procedures, and extent of surgical staging on subsequent morbidity and survival.
- **Patterns of diagnostic care among women being surgically evaluated for ovarian cancer:** This study uses data files from the Surveillance, Epidemiology, and End Results (SEER) program and Medicare claims files. Linking these two data sources results in a unique population-based source of information that can be used for an array of epidemiologic and health-services research. This study includes data from 1995 to 2000 for women aged 65 or older who were diagnosed with ovarian cancer.

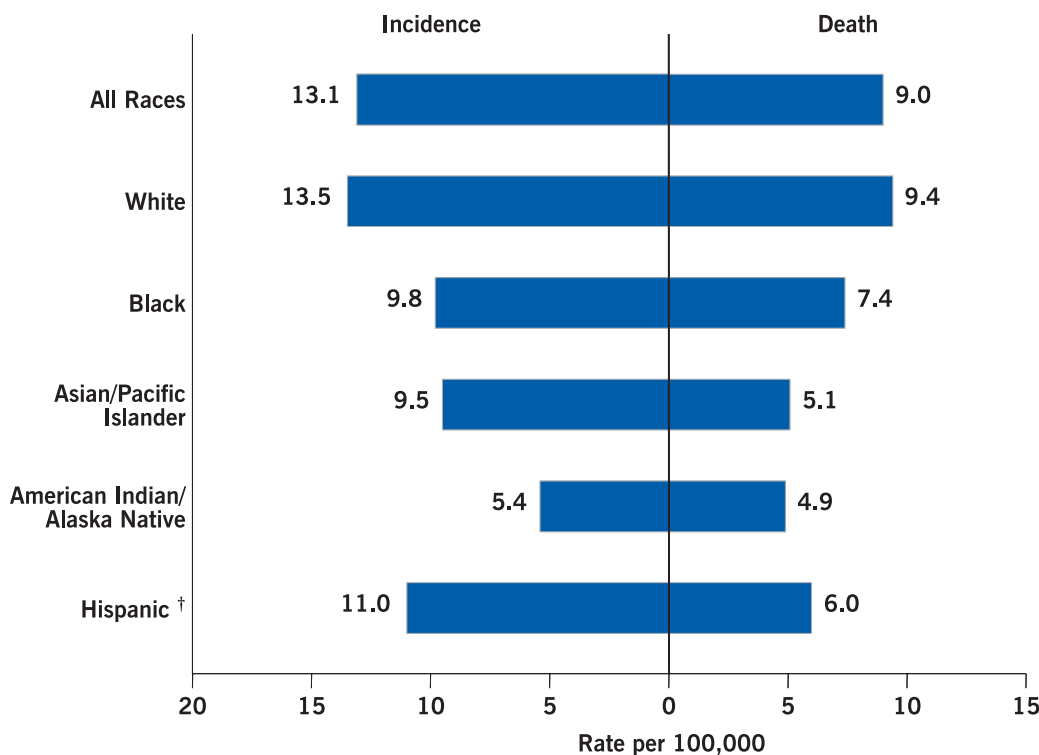
- **Comparison of health care services received by women with and without ovarian cancer, using the MarketScan research database:** This study compares the common symptoms and procedures reported by women with ovarian cancer during the nine months before diagnosis, to the same symptoms and procedures among women who did not have ovarian cancer. The MarketScan database annually includes inpatient, outpatient, ancillary, and prescription drug claims for approximately 3 million people with private, employer-based health insurance, or Medicare and commercial supplemental coverage.
- **Ovarian cancer treatment patterns and outcomes:** In 1999, the National Cancer Policy Board recommended that data from national surveillance systems be used to enhance knowledge about ovarian cancer incidence, staging, and treatment patterns, and to assess the quality of ovarian cancer care. This study uses data collected through CDC's National Program of Cancer Registries to determine 1) whether women with ovarian cancer

received the appropriate standard treatment, as defined by the National Institutes of Health, Physician Data Query; and 2) whether inadequate treatment, if any, is related to characteristics of the patient (such as race/ethnicity, age, or socioeconomic or insurance status), or to the characteristics of hospitals and providers.

- **End-of-life care for women dying from ovarian cancer:** To investigate end-of-life care, CDC is leading a study of women who died of ovarian cancer within three managed care organizations. The objective of this study is to describe end-of-life care and factors that may be associated with care for these women.

Additionally, through its National Comprehensive Cancer Control Program (NCCCP), CDC funds ovarian cancer-related projects in Alabama, Colorado, and West Virginia. These projects are working to develop ovarian cancer health messages for the general public and for health care providers. With additional funding, CDC would assist these states with implementing the ovarian cancer activities outlined in their Comprehensive Cancer Control plans.

Cancer of the Ovary Incidence and Death Rates\*  
By Race and Ethnicity, United States, 2002



\* Rates are age-adjusted to the 2000 U.S. standard population (19 age-groups-Census P25-1.130). Incidence rates cover 93% of the U.S. population. Death rates cover 100% of the U.S. population.

† Hispanic is not mutually exclusive from white, black, Asian/Pacific Islander, and American Indian/Alaska Native.

Source: *United States Cancer Statistics: 2002 Incidence and Mortality*

## Future Directions

With additional funding, CDC would accelerate implementation, as appropriate, of the recommendations from the two workshops described on page 2. CDC also would increase support for comprehensive approaches to cancer control in health agencies, to improve community-based education about ovarian cancer, share expertise, and effectively target at-risk populations.

# Contact Information

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## References

1. U.S. Department of Health and Human Services. *United States Cancer Statistics: 1999–2002 Incidence and Mortality Web-based Report*. Atlanta, GA: Centers for Disease Control and Prevention and National Cancer Institute; 2005. Available at [www.cdc.gov/cancer/npcr/uscs/](http://www.cdc.gov/cancer/npcr/uscs/).
2. American Cancer Society. *Cancer Facts & Figures*. Atlanta: American Cancer Society; 2005.
3. Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, et al., eds. *SEER Cancer Statistics Review, 1975-2002*. Bethesda, MD: National Cancer Institute; 2005. Available at [http://seer.cancer.gov/csr/1975\\_2002/](http://seer.cancer.gov/csr/1975_2002/).
4. Bostwick DG, Burke HB, Djakiew D, Euling S, Ho S, Landolph J, et al. Human prostate cancer risk factors. *Cancer* 2004;101(10 Suppl):2371–2490.
5. U.S. Preventive Services Task Force. Screening for prostate cancer: recommendation and rationale. *Annals of Internal Medicine* 2002;137:915–916.
6. Vainio H, Bianchini F, eds. *IARC Handbooks of Cancer Prevention, Vol 6: Weight Control and Physical Activity*. Lyon, France: IARC Press; 2002.
7. Curry S, Byers T, Hewitt M, eds. *Fulfilling the Potential of Cancer Prevention and Early Detection*. Washington, DC: Institute of Medicine; 2003.