How can women reduce their risk of developing cancer?

That is the driving question behind an incredible array of public health research projects being conducted by University of Wisconsin-Madison epidemiologist Amy Trentham-Dietz, PhD. Dr. Trentham-Dietz and her team are conducting a 16-year-old statewide cancer-prevention research project known as the Women’s Health Study.

Trentham-Dietz, an assistant professor at the UW-Madison Department of Population Health Sciences and faculty member of the UW Comprehensive Cancer Center, can describe in great detail the link between cancer risk and several lifestyle factors—many of which women can change to reduce their cancer risk.

“We’re interested in how physical activity, body weight, obesity, alcohol consumption, medication, birth control usage, and other factors can either increase or decrease women’s risk for developing breast and other cancers,” says Trentham-Dietz. “If we better understand the link between lifestyle factors and cancer, women can modify what they do in order to help prevent cancer from developing.”

Based on her findings to date, for example, it appears that women can reduce their risk for developing breast cancer by:

- Exercising vigorously;
- Avoiding weight gain throughout adulthood;
- Consuming vegetables rich in beta carotene;
- Breastfeeding their children; and
- Refraining from alcohol consumption.

Other notable findings of the study include:

- Smoking was not associated with breast cancer risk, although it does appear to increase risk for colon and rectal cancers;
- Greater weight was associated with higher risk for postmenopausal breast cancer;
- Breastfeeding was associated with a modest reduction in endometrial (uterine) cancer; and
- Certain geographic regions in Wisconsin appear to have a slightly higher risk for breast cancer than others.

Study originated in 1987

Sponsored primarily by the National Cancer Institute and the American Cancer Society, the Women’s Health Study (not to be confused with a nationwide postmenopausal hormone study called the Women’s Health Initiative) originated in 1987 under the direction of Polly Newcomb, PhD, the study’s first principal investigator. The study, whose findings have been published in more than 65 academic journal articles, is a joint research effort between the UW and the Wisconsin Division of Public Health.

Newcomb, who moved to Seattle’s Fred Hutchinson Cancer Research Center in 1995 but is still involved with the UWCCC Women’s Health Study, began these largest-ever epidemiologic studies with collaborators at the Harvard School of Public Health and Dartmouth Medical School.

“The setting was just right; all three states had comprehensive state tumor registries; and the investigators believed the participation rates among women would be excellent,” Trentham-Dietz says.

24,000 women interviewed

Over the past 16 years, more than 24,000 Wisconsin women have accepted the invitation to participate and were interviewed by UWCCC staff. Of these, approximately half have been diagnosed with breast, colon, rectal, endometrial or ovarian cancer, and half come from a random sample of women who had not been diagnosed with cancer. Each interview takes approximately 45 minutes and includes more than 100 questions.

“Women in Wisconsin have been incredibly supportive of this research,” Trentham-Dietz says. “More than 90 percent of the women we contact participate. They really appreciate what we are doing and are very motivated to help understand how to prevent cancer.”

Trentham-Dietz notes that epidemiologic studies such as hers offer an incredible amount of very useful information for the public at large.

“Epidemiology is the basic science of population research,” she says. “While I cannot pinpoint a specific woman’s risk for getting breast cancer, population-wide comparisons offer some very powerful findings.”

Looking forward, Trentham-Dietz says the Women’s Health Study has begun exploring associations between cancer risk and commonly-used medications such as aspirin, Bogoferin, anti-depressants, cholesterol-lowering drugs, and others. The study has also begun incorporating environmental factors—such as pollution, water and pesticides —into the interviews.

“We hope that women in general might take advantage of our findings to reduce their cancer risk and live healthier lives,” Trentham-Dietz says.
Within the UWCCC Cancer Control Program, research focuses on: epidemiology and surveillance, tobacco control, quality of life and pain and symptom management, and health communications. Members of this program use population health sciences to understand the causes and distribution of cancer in populations and support the development and implementation of effective interventions.

One of our program leaders, David Gustafson has just received funds from the National Cancer Institute for a $10 million “Center of Excellence in Cancer Communications Research” at UW-Madison. The Center will strive to improve the quality of life for cancer patients and their families, particularly those from underserved populations. Researchers from several schools and colleges at UW-Madison will work together to enhance an interactive cancer-communication system. Much of their work will focus on the Comprehensive Health Enhancement Support System (CHESS) — a computer-based health resource designed to educate and equip people facing a health crisis.

The final link in the Cancer Control Program is to apply the research findings to reduce the burden from cancer in the population. The UWCCC is working with the Wisconsin Division of Public Health and the American Cancer Society, to develop a comprehensive state cancer control plan. Over the next two years, individuals and organizations from throughout the state will work together to define the burden from cancer; develop program and outcome objectives, and monitor progress over time.

Progress in the war on cancer requires a comprehensive approach, bringing the discoveries from the laboratories and clinics to the people of the state of Wisconsin. The UWCCC Cancer Control Program is committed to working with its partners in the state, to translate research into practice and reduce the burden from cancer in Wisconsin.

Two new UWCCC resources available

Share the Care: A Model for Compassionate Caregiving, produced by the UWCCC, is now available in VHS, CD or DVD. Based on the Share the Care book, the program follows a cancer patient describing how she used this supportive service. The Share the Care model is designed to leverage and streamline any caregiver support. The video, retailing for $9.95 and the other formats are available by contacting Stephanie Holmes, (608) 263-8627 at holmes@uwccc.wisc.edu.

100 Questions and Answers About Lung Cancer, a patient-oriented guide to dealing with lung cancer, is authored by Dr. Joan Schiller, medical oncologist and lung cancer specialist at the UWCCC. Now available at most bookstores, the book is a patient-oriented guide to dealing with lung cancer. Dr. Schiller teamed up with Karen Parles, a lung cancer patient, to provide both a doctor’s and patient’s perspective in answering these common questions.

By Patrick Remington, MD, MPH

Over the past decade, cancer has become the leading cause of death among persons 45 to 74 years of age. Nearly one in three persons will develop cancer at some time in their life, and every person is affected by cancer among family members or friends.

More than 30 years ago, this country declared a ‘war’ on cancer, attacking the problem with investments in basic and clinical research. Since then, much has been learned about the causes of cancer and effective treatments. For the first time every death rates have started to decline, with almost all (86%) of this progress coming from declines in lung, prostate and colon cancer among men, and breast and colon cancer among women.

Despite recent progress in prevention, early detection, and treatment, many challenges remain:
• Almost a third of all cancers continue to be due to tobacco use;
• As obesity rates increase, so will related cancers;
• Many cancers are diagnosed too late;
• People are not getting proper treatment for cancer, because of lack of insurance or access to high quality cancer care; and
• People are dying without appropriate end-of-life care.

If progress is to be made in reducing the burden from cancer, we must extend our research from the laboratory and clinic to the entire population. This transition has recently been given a boost, with the recent recruitment of Javier Nieto, MD, PhD, from the Johns Hopkins School of Public Health, to become chair of the UW Department of Population Health Sciences.

Patrick Remington is an Associate Professor at UW-Madison in Population Health Sciences. He received his BS and MD degrees from UW-Madison and his MPH from the University of Minnesota. Associate Director for Cancer Control and Outreach at the UWCCC, Remington has been a faculty member in the Department of Population Health Sciences since 1997.
**New surgical technique preserves sexual function for men with advanced prostate cancer**

Men who are diagnosed with localized prostate cancer have typically been faced with "good" news and "bad" news. The "good" news—to the extent there is such a thing when cancer is involved—is that most men are effectively cured of their cancer once the prostate is surgically removed. The "bad" news is that the two most notable side effects of prostate surgery—impotence and incontinence—can be very devastating.

Fortunately, significant advances have been made on both fronts, and one University of Wisconsin Comprehensive Cancer Center urologist has been actively involved in new techniques to minimize both incontinence and impotence.

Of particular note is a surgical technique that, based on early results, has preserved sexual function for several men who had planned on many years of post-surgery impotence. "Most men we operate on are candidates for nerve-sparing surgery," Jarrard says, referring to a technique that preserves sexual function by avoiding damage or removal of the cavernous nerves that make erections possible. "For some men, however, we have no choice but to remove the cavernous nerves because the cancer has spread to nearby tissue."

It is for these men—especially younger men who had planned on many years of sexual function—that Jarrard has especially good news.

"Sural nerve grafting is essentially a nerve transplant," Jarrard says. "We use the sural nerve alongside the ankle because it is a sensory nerve that is not going to be missed once it is removed from the leg. Although it takes about 12 to 18 months for the nerves to fully graft, Jarrard says, "early results with our patients are very promising."

Of Jarrard's patients who have had sural nerve grafting, six are at least a year beyond surgery and all of them are able to have either unassisted or partial erections. "For some, removal of the cavernous nerves that had to be removed along with the prostate is going to be missed once it is removed from the leg. Although it takes about 12 to 18 months for the nerves to fully graft, Jarrard says, "early results with our patients are very promising."

Pioneered just three years ago by Edward Kim, MD, currently at the University of Tennessee, Knoxville, sural nerve grafting has shown similar promise in its initial clinical studies. Half of the 25 men who had sural nerve grafting performed by Kim and his research colleagues were able to have at least partial erections at least 12 months after surgery.

"The men we have operated on are very pleased," Jarrard says. "In the past, you would typically take the prostate and both nerves and say 'you're going to be impotent,' and that's it. For men who are in their 40s, 50s, or 60s, it makes a big difference not having to say that anymore," he says.

More information about sural nerve grafting is available by contacting the UWCCC's Cancer Connect service at (888) 622-8922 or (608) 262-5223. The e-mail address is uwccc@uwccc.wisc.edu. Also, please visit www.surgery.wisc.edu/urology/uwpag/index.html.

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**International Herpesvirus Workshop planned by UWCCC researcher**

Throwing a "get-together for your closest friends" has taken on a new meaning for Teresa Compton, PhD, this summer. For more than three years, she has led the organization team for the 28th International Herpesvirus Workshop, which was held in late July at Madison's Monona Terrace Community and Convention Center. The conference drew 900 participants from more than 15 countries.

A faculty member of the McArdle Laboratory for Cancer Research, Compton serves as the Program Leader for the Cancer Center’s Human Cancer Virology Program, in which researchers study members of families of viruses that cause cancer in people.

"I think many people aren’t familiar with the fact that as many as 20 percent of all cancers have viral origins," says Compton. "That is why the UWCCC has a program devoted to human tumor virology. We have a very unique situation here at UW because we have world experts in five of the six known human tumor viruses. This gives us a very unique niche, in the sense that we are able to interact with one another in terms of learning how viruses alter cells that lead to tumor formation."

According to Compton, who studies Kaposi’s Sarcoma-associated herpesvirus (KSHV), viruses have been the subject of major breakthroughs in cancer. Both oncoproteins (proteins that contribute to cancer development) and tumor suppressor genes were first discovered by studying viral systems.

"Part of our program has researchers understanding how human tumor viruses work, how do they change cells and lead to cancer. More importantly, we are going to be building in the area of how we can use viruses as anti-tumor devices. I think over the years we will see this program expand. In part, we will be seeing how we can use viruses for good... how can we use viruses to be ‘smart bombs’ for tumors," says Compton.

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**Teresa Compton, PhD**

UWCCC's Human Cancer Virology Program Leader

**INTERNATIONAL HERPESVIRUS WORKSHOP•MADISON, WI**
$10 MILLION GRANT TO FUND

New cancer communications research center

David Gustafson

A $10 million grant to fund a “Center of Excellence in Cancer Communications Research” at the University of Wisconsin-Madison was recently announced by the National Cancer Institute. The project will strive to improve the quality of life for cancer patients and their families, particularly those from underserved populations.

Researchers from several schools and colleges at UW-Madison will work together to enhance an interactive cancer-communication system. Much of their work will focus on the Comprehensive Health Enhancement Support System, or CHESS, a computer-based health resource designed to educate and equip people facing a health crisis.

“Interactive, computer-based communication puts control in the hands of patients and their families, making them more effective participants in managing their health in a crisis,” says David Gustafson, an industrial engineering professor emeritus who led the team that developed CHESS at UW-Madison’s Center for Health Systems Research and Analysis.

Led by Gustafson, this NCI Center of Excellence at UW-Madison, which will be funded for five years, will conduct three main projects:

- Investigators will systematically add services, such as information, social support and skills training, to CHESS and measure changes in breast cancer patient outcomes.
- They will evaluate whether CHESS improves palliative care and the effectiveness of sharing patient information with clinicians.
- They will address the effectiveness of CHESS by evaluating patients who use both CHESS and a human cancer mentor versus those who rely only on Internet-based information.

During the five years, investigators will enhance CHESS with new functions tailored to individual needs and with new modules, including ones on managing distress, relating as couples, help for caregivers and patients facing end-of-life grief.

Funding for the new center is part of a broad NCI initiative supporting research and outreach aimed at increasing knowledge about, tools for, access to, and use of cancer communications by the public, health professionals and cancer patients and survivors.

Karen Julesberg

Karen Julesberg’s eyes sparkle when recounting the rich history of the Cancer Information Service (CIS) as she prepares for her retirement as Project Director. Julesberg manages the North Central CIS, an outreach program of the UW Comprehensive Cancer Center, which serves Wisconsin, Iowa, Minnesota, North Dakota, and South Dakota.

A national information and education program of the National Cancer Institute, CIS provides individuals with the latest, most accurate cancer information through the toll-free 1-800-4-CANCER Phone Service. CIS also collaborates with other organizations through its Partnership Program to reach minority and underserved audiences.

Now in its 27th year, CIS’s roots are firmly planted in Wisconsin. In 1974, the UW Comprehensive Cancer Center initiated an NCI-funded “demonstration project” to disseminate the latest cancer information. Included was the Cancer Quest Line, a toll-free phone line for Wisconsin callers to get their cancer questions answered.

“Largely because of the success of the Cancer Quest Line,” Julesberg says, “the National Cancer Institute officially implemented the Cancer Information Service in 1976, mandating that all comprehensive cancer centers have a CIS.”

Julesberg, who began working for CIS as a volunteer in 1975 and later joined the staff, left in 1987 to pursue an MBA in management and marketing. She returned as Project Director in 1996.

Since then, the CIS program has grown in scope and complexity with the addition of the Partnership Program, Research Initiative, Spanish Call Centers, an interactive instant messaging service, and Smoking Call Centers.

“I’ve been so lucky to be part of a program that has made a real difference and to work with such dedicated and expert staff. This place and the people I’ve worked with will forever be in my heart.”
YES! I want to make a difference by giving to the UW Comprehensive Cancer Center

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Madison, WI 53792-6164

Please call (608) 263-1677 with questions.

Madison’s WISC TV-Channel 3 News Anchor Carleen Wild and her father Bill Wild participated in Curl for A Cure, April 4 & 5 at the Poznayte (Wisconsin) Curling Club. The event raised more than $8,500 for lung cancer research and services at the UW Comprehensive Cancer Center. More than 100 people participated in the Inaugural Curl for a Cure to celebrate the life of Carleen’s mother and Bill’s wife, Eileen Wild.

De Forest (Wisconsin) Area High School Future Business Leaders of America students Aaron Wipperfurth, Meg Theis and Shane Brossard organized Slam Jam 2003 on April 5, 2003 at the De Forest High School. Fifteen high school seniors from throughout the state participated in a 3-Point and Slam Dunk contest. This two-hour event raised just over $1,100 for cancer research at the UWCCC.
Every 25 seconds a man, woman, or child in the United States is diagnosed with cancer. For those who are eligible, a cancer clinical trial offers either the best available treatment or the opportunity to receive a new, potentially more effective therapy.

The UW Comprehensive Cancer Center (UWCCC) typically has 200 to 250 clinical trials available for participation. Some current clinical trials include:

**Breast Cancer**

The UWCCC is conducting a clinical trial to see if combining Herceptin and ZD1839 (Iressa) will result in greater tumor shrinkage than either drug alone for women with metastatic breast cancer. Herceptin is a drug, which has been shown to be effective in treatment of metastatic breast cancer and is approved by the FDA for treatment of breast cancer. However, the combination of Herceptin with Iressa is investigational.

**Cancer Fatigue**

A current clinical trial is examining if an experimental medication – dexmethylphenidate hydrochloride (d-MPH) is safe and effective when given to treat chemotherapy-related side effects such as fatigue, lack of focus and concentration, memory loss and inability to organize daily activities. Approximately 160 individuals from around the nation will participate in this study, with up to 12 from the UW.

**Prostate Cancer**

A new trial is being done to see whether or not prostate cancer reacts to a new investigational drug, rhuMAb 2C4. The study will involve tests to learn about the activity of rhuMAb 2C4. These tests will be performed to determine if the types of proteins in cancer cells will predict response to rhuMAb 2C4. This study is being done at the UWCCC and three other sites in the United States.

For more information about clinical trials at the UW Comprehensive Cancer Center, contact Cancer Connect, (800) 622-8922 or (608) 262-5223 in the Madison area.

A complete listing of clinical trials at the UWCCC is also available on our website, www.cancer.wisc.edu.