Greetings!

If you're reading this edition of CORE News, chances are good that you made it possible to complete two studies we talk about in this newsletter. One examines in depth the role that combined hormone replacement therapy plays in women's risk of colorectal cancer. Another study discusses how some of you would handle information about your genetic risk of developing the disease. Both of these studies were compiled using information from people diagnosed with colorectal cancer, and their relatives who chose to take part in our research.

New study participants are continually invited to join our project to further advance the scientific understanding of colorectal cancer. In the following pages, we'd like to introduce you to one of the staffers who sorts through data on thousands of people. Meet Hilina Negede, the analyst who rounds up data for specific studies. Earlier this year, she and the rest of our staff also wore blue clothing to promote Colon Cancer Awareness Day.

You'll also find brief summaries of other recent cancer studies, including discoveries made by Seattle scientists. If you're hungry for even more, you'll find a seasonal recipe for roasting vegetables rich in cancer-fighting fiber.

Thank you again for all you're doing to help CORE Studies illuminate the mysteries of colorectal cancer.

Warmest regards,
Hilina Negede—"The Patternmaster"

The heart of most cancer research lies in discovering patterns: which circumstances put a person at higher risk for cancer... or why some family members develop the disease while others do not. Some people use a microscope to catch the patterns as they surface. Others, like CORE Studies team member Hilina Negede, see cancer trends unfold within computer data. "I really like looking at patterns," Negede says. "I like finding out what the data's saying."

It's no easy task to find the right pattern. Negede sifts through an estimated 150,000 records daily, in her role as a systems analyst and programmer for the CORE project. Working with blood, tissue and cheek cell samples, Negede tracks the tiniest details — everything from the sample's age, to genetic markers within that specimen. In addition, Negede must link each sample to information about a study participant's lifestyle: things like smoking habits or red meat consumption.

So when a research team wants to study a group of people with very specific characteristics, they turn to Negede. Her knowledge and computer skills help her sort through more than one million fine details to find the pattern the research team wants to examine.

This talent earns her glowing reviews from her supervisor, database manager Douglas Snazell. When it comes to data analysis and management, "Hilina is better at this than people I've worked with at Microsoft," he says. "She seems to have a real knack for it."

Negede helped to create the framework for this computer database of samples while she was still a student. Originally from Addis Ababa, Ethiopia, she specialized in math and science in high school and later graduated from Seattle University. Negede has been working with the CORE Studies for the past five years.

Much of Negede's work involves pulling batches of specimens for a select group of researchers studying colon cancer in families. Those specimens come from study participants like you.

Remember when a CORE Studies interviewer asked you to donate a blood or cheek cell sample? That donation goes to a locked and secured laboratory at the Fred Hutchinson Research Center, where the sample is analyzed. If you've had colorectal cancer, the CORE project also asks you for permission to include tissue from your surgery in this specimen collection. Information about the sample is entered into one computer database, then another which arranges the data into tables and keeps track of which sample belongs to which participant. Negede oversees the transfer process, which is now computerized.

Those samples become part of the Colon Cancer Family Registry (C-CFR), an international resource for colon cancer information and specimens that includes the Hutchinson Center and five other sites. If a CFR research team wants to use raw data from Washington state in their study, they ask Negede for the samples. Currently, Negede is working on a specimen dispatch to a scientist based at the University of Southern California.

When she withdraws those dispatch specimens, sometimes Negede sees a raw version of the pattern a scientist is looking for. "Even knowing there's a pattern involving somebody's tissue is interesting," she says. The final analysis of that grouping evolves into a formal scientific conclusion about what's happening in a patient's body.

You might learn the conclusion yourself the next time you hear about a colon cancer study on people from Washington. Without your contributions—and Hilina Negede's pattern-spotting expertise—colon cancer research today just wouldn't be the same.
Colorectal Cancer and HRT: A More Nuanced View

Now that the dust has settled after a stampede away from hormone replacement therapy, a recent study out of western Washington is focusing on hormones and colon cancer risk. Led by Dr. Polly Newcomb, the research team shows combined hormone therapy can actually lower the risk of certain colorectal tumors.

Dr. Newcomb, who also heads the CORE Studies project, studied three groups of postmenopausal women. Her team examined women who took estrogen plus progestin, women who took estrogen alone, and women who did not use hormones. The researchers found that women who take the combination hormone therapy have a 40% lower risk of developing colorectal cancer, as compared to the two other groups.

More specifically, the scientists associated the combination hormone use with reduced risk of a specific kind of tumor—those that show little to no microsatellite instability, a generally acquired genetic characteristic that hints at defects in the machinery of DNA repair.

“We knew hormones seemed to protect against colorectal cancer,” said Dr. Newcomb. More than a decade earlier, she had noted the association between the disease and hormone replacement therapy, or HRT. Her study co-author, Dr. John Potter, pointed out that he had postulated a similar connection in his doctoral work in Australia during the 1980s.

Then the women's Health Initiative (WHI) study observed the relationship between estrogen-plus-progestin hormone treatments and a 37% lower risk of colorectal cancer, compared to women taking a placebo. Both Dr. Newcomb and Dr. Potter were skeptical of the results, back in 2002. “Nobody had ever suggested that the effects of combination hormone therapy were different from the effects of estrogen alone,” Dr. Newcomb said.

But the two scientists took a closer look. Their report represents the largest study of its kind so far, involving more than 2,100 participants in a 13-county area of western Washington. The study, “Estrogen Plus Progestin Use, Microsatellite Instability and the Risk of Colorectal Cancer in Women,” appears in the August 1, 2007 issue of Cancer Research.

But neither this new study nor the WHI study make a blanket recommendation of combination HRT for all postmenopausal women. After all, the WHI study associated combination HRT with a higher risk of breast cancer, stroke and cardiovascular disease. This is the study that panicked many people, causing them to drop all hormone use.

In addition, the WHI Memory Study showed that estrogen plus progestin doubled the risk for developing dementia, including Alzheimer's disease. Dr. Newcomb says combination HRT is now recommended only to control specific menopause symptoms, not for long-term disease prevention.

Still, many scientific questions remain about the fate of women who discontinued HRT in the wake of the WHI findings—as well as the fate of women who still take the hormones. Dr. Newcomb has received a federal grant to study both groups. Her future research will examine their longevity, any reduction in disease risk, and hormonal factors, including pregnancy.

---

News Briefs

In the paint: Seattle scientists have developed a "paint" to outline the borders of tumors. The chlorotoxin protein helps surgeons tell the difference between cancer cells and healthy tissue, so they don't leave tumor cells in the patient. Researchers from the Hutchinson Center and Seattle Children's Hospital discovered the protein.

Folic acid findings: High levels of folate tend to prevent colorectal cancer if a person is cancer-free. But folic acid doesn't help prevent the disease in people who've already had polyps—and it might actually spur cancer growth. A research journal editorial from Hutchinson Center scientists adds that people should review how much extra folic acid they get from healthy snacks and drinks.

Easing into chemo: Starting treatment with just one chemotherapy drug is not only gentler on patients with advanced colorectal cancer, it may also be just as effective as a multi-drug initial approach. Two recent studies in The Lancet medical journal indicate the newer strategy produced survival rates similar to the current practice.

News briefs sources: HealthDay via MedlinePlus.gov, Fred Hutchinson Cancer Research Center Center News
Roasted vegetables are a classic and comforting side dish when the weather turns cooler, and this season's vegetables are especially suited to roasting. Brussels sprouts, carrots, broccoli, potatoes, onions, cauliflower, and squash roast up beautifully.

This method of cooking is a healthy alternative to boiling, steaming or microwaving veggies. Roasting leaves important vitamins intact—as long as you don't overcook! Leave a little “snap” in the veggies to maintain their healthful benefits. Roasting in olive oil (a “good” fat) is a great alternative to using butter or margarine. Try kosher salt: it adds a better flavor, and it's easier to control how much sodium you add.

**Roasted Brussels Sprouts**

**Ingredients**
- 1½ lbs. Brussels sprouts, trimmed and halved with outer leaves removed
- 3 Tbsp. olive oil
- 1 tsp. kosher salt
- ½ tsp. freshly ground pepper
- Optional: Balsamic vinegar, which can be used as a partial or complete substitute for the oil

**Directions**
1. Preheat oven to 400 degrees.
2. Put the Brussels sprouts, olive oil, salt, and pepper in a bowl or a heavy re-sealable plastic bag. Stir or shake to coat, then pour mixture onto a baking sheet or roasting pan.
3. Roast for 20 to 30 minutes, shaking or stirring every 6 or 7 minutes for even browning. Brussels sprouts will be very dark and tender throughout when done. Serves 4.

You can use this same basic recipe with most vegetables. Experiment by adding chopped garlic or your favorite herbs. Denser vegetables like carrots, potatoes, or squash should be parboiled (boiled briefly) first to ensure they are completely cooked.
Genetic Testing Survey Results

If you carried a gene that seriously raised your risk of developing colon cancer, who would you want to know that information? You yourself? Your relatives or your family doctor? And what would you do to lower your risk, if you did know?

Those are some of the questions the CORE Studies asked a number of participants recently, in a survey about genetic testing. Your answers intrigued scientists from the Fred Hutchinson Cancer Research Center, the University of Washington, and Johns Hopkins Bloomberg School of Public Health.

In a word, yes: Most people surveyed said they would want to know if a genetic test showed they were susceptible to an inherited form of colon cancer. The majority also agreed that they'd want to pass along that information to their spouses, adult children, and family doctor. And a test that turned up positive for this altered gene would prompt most people to change their cancer screening and prevention behaviors.

The genetic testing study focused on a type of inherited colon cancer called Lynch syndrome, or hereditary nonpolyposis colorectal cancer (HNPCC). People who carry the mutated gene involved in HNPCC inherit a susceptibility to colorectal cancer from one or both of their parents. Researchers say HNPCC accounts for as many as 8% of all colon cancers. Recent studies also associate the mutated gene in question with an 80% higher risk of colorectal cancer, as well as a higher risk of endometrial, stomach and ovarian cancers.

But even though the cancer risk is higher, a person with the mutated gene doesn’t always develop cancer. Scientists think genetic testing might help lower a person's risk by encouraging them to do what they can to prevent cancer, or detect it at the earliest stages. This study seems to confirm that theory. A few highlights:

- More than 90% of participants agreed they’d want to know if they had the mutated gene. This was especially true if a positive result meant they, their children or their siblings might have a higher risk of developing colon cancer.
- More than 80% would notify others, such as a spouse, relative or family doctor, of their genetic status.
- About 92% said a positive genetic test would get them to change behaviors such as getting screened for cancer, learning prevention techniques, and encouraging family members to be tested and screened for colon cancer.
- Most, but not as many as researchers thought, would change their screening behavior after testing positive for the mutated gene.

Besides giving researchers a better idea of what people would do with genetic testing results, the survey also illuminated other areas of discussion. People who've been tested worry about causing distress in family members who are most at risk of developing cancer. People who test positive are also concerned about whether family members will be told the results, with or without the tested person's consent.

These concerns will affect how a research team approaches a person to inform them of their risk of cancer. It also has implications for privacy concerns, and the possibility of forcing medical information on a person who doesn't want to know. The research team conducting this genetic testing study plans to present the results to the Society of Behavioral Medicine.
In March, **CORE Studies** staff wore blue to raise awareness about the importance of colon cancer screening. L-R: Douglas Snazell, Amber Wilson, Dr. Polly Newcomb, Kassidy Benoscek, Hilina Negedle, Renae Lydum, Allyson Templeton, Lisa Graves, Bill Wilson, Dr. John Potter, Lisa Myers Bulmash, Kayla Sheets, Lori Melson.

 *(Not pictured: Laurie Lydum, Scot Peterson, Cara Ganders, Lederle Tenney, Holly Santos)*