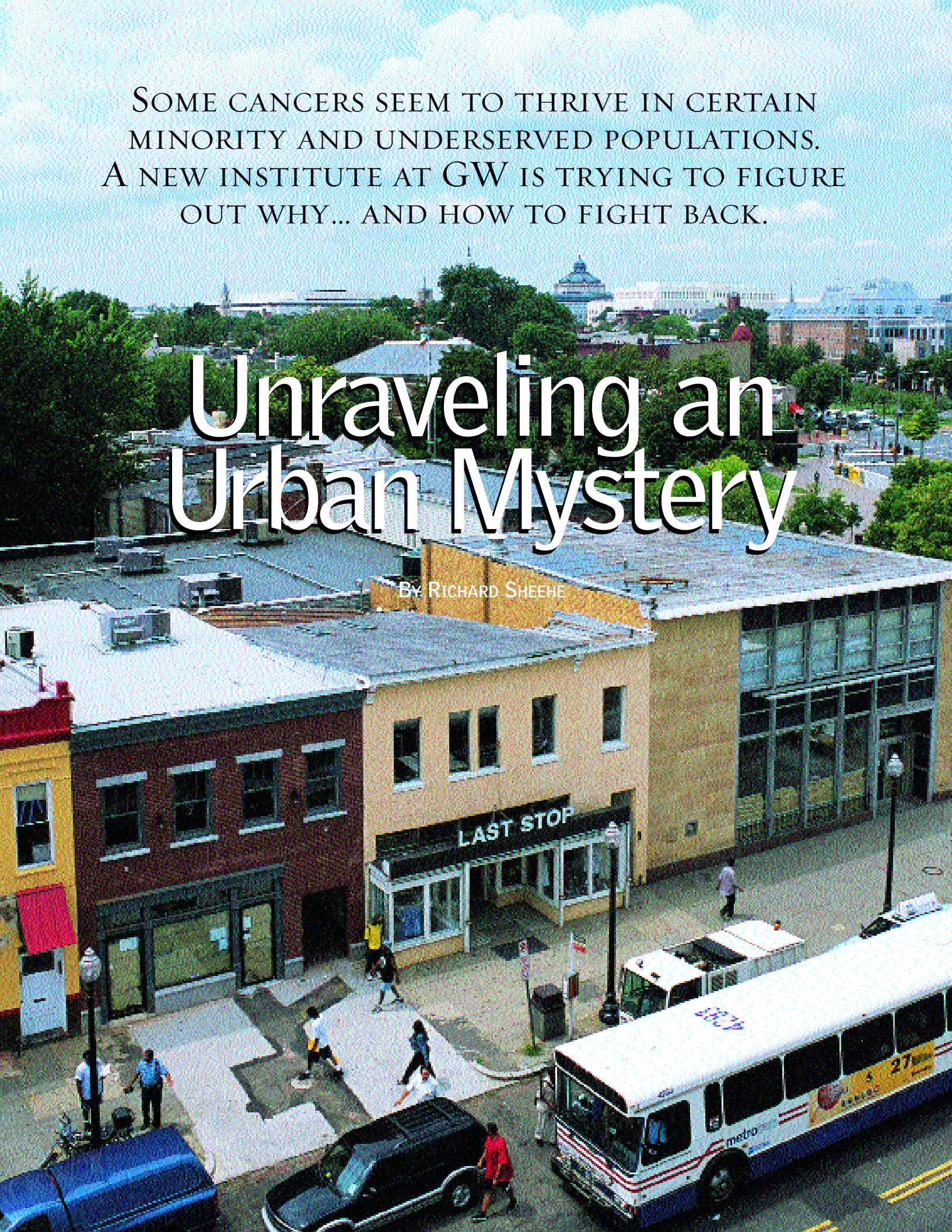


SOME CANCERS SEEM TO THRIVE IN CERTAIN
MINORITY AND UNDERSERVED POPULATIONS.
A NEW INSTITUTE AT GW IS TRYING TO FIGURE
OUT WHY... AND HOW TO FIGHT BACK.

Unraveling an Urban Mystery

BY RICHARD SHEEHE



The statistics fill binders and PowerPoint slides at research institutions across the country, but still nobody can say exactly why African Americans are 30 percent more likely to die of cancer than Caucasians; why invasive cervical cancer shows up in Hispanic and Latino women twice as often as in non-Hispanic Caucasian women; why African American men suffer twice the average death rate from prostate cancer and why Washington, DC leads the nation in cancer deaths overall; why—in short—certain ethnic, urban and underserved populations suffer and die disproportionately from some of the most dangerous cancers.

Cancer can strike anyone, of course. One in four Americans will develop cancer at some point in life. More than 1.3 million Americans are diagnosed every year; and 550,000 people die of the disease annually. When broken down, however, cancer mortality rates are markedly higher for minority, urban and vulnerable populations. When asked why, usually loquacious doctors tend to keep the answer short and candid.

“I don’t think anybody has a full understanding of why,” said Dr. Christine Teal, a surgeon specializing in breast cancer and director of GW’s Breast Care Center.

“The honest answer is: We simply don’t know,” said Dr. John F. Williams, GW provost and vice president for Health Affairs.

Clues are everywhere. Part of the puzzle no doubt lies in disparities in healthcare, including insurance coverage and opportunities for early diagnosis and treatment; but there are also cultural aspects, including lifestyle and diet. Environmental factors likely play a role, yet the differences also extend to the sterile confines of the lab, where cancer can behave differently in cell cultures depending on the ethnicity of the patient from whom they were taken.

The interplay between these dynamics, and whether other factors remain undiscovered, is largely a mystery. “In terms of this big picture, we are in many ways really just establishing ourselves at square one,”

said Dr. Steven Patierno, a professor of Pharmacology and Genetics, SMHS, and Environmental Health, SPHHS. “We’re putting into place an infrastructure to start taking all these different factors into account and get our arms around the problem.”

At GW, this infrastructure has a name. Dr. Patierno is founding director of GW Medical Center’s new Cancer Institute, a broad-based effort launched earlier this year that cuts across at least 14 different departments and five institutions that are part of the GW network, including the Institute for Genomic Research, the Children’s National Medical Center and the Holland Laboratory of the American Red Cross. In all, the GW Cancer Institute is bringing to bear state-of-the-art research, education, clinical care and community outreach initiatives to untangle the causes of cancer’s unequal burden. The Institute’s website is www.gwcancerinstitute.org.

“The GW Cancer Institute is precisely the kind of institution we need to help dissect and eliminate the health-related ethnic, racial and societal disparities which are



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such an unconscionable reality today,” said physician and U.S. Senate Majority Leader Bill Frist (R-TN) in an interview. “With its multifactoral approach, the Institute strikes at the heart of that challenge.”

The “Gordian Knot”

Of the more than 100 cancers that have been identified, the GW Cancer Institute has selected for special emphasis a handful of what Dr. Patierno calls “our largest killers” that thrive in urban, minority and underserved populations. These include

By The Numbers

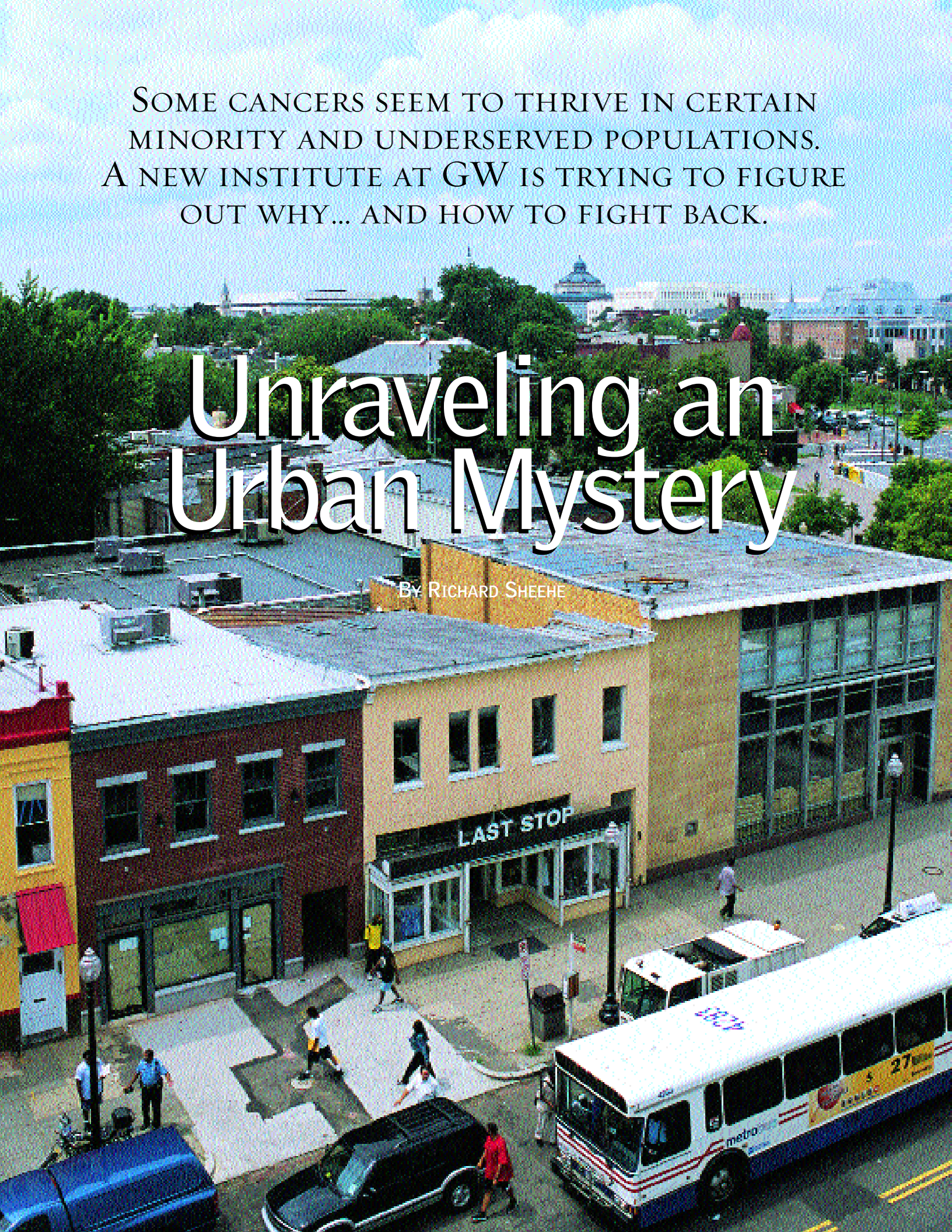
Minority and certain underserved populations suffer disproportionately from many forms of cancer. Here is a sampling of statistics from the CDC and other organizations:

- Overall, African Americans are more likely to develop cancer than persons of any other racial or ethnic group.
- African Americans have higher-than-average colon and rectal cancer incidence rates and death rates than other racial and ethnic groups.
- African Americans have twice the average death rates from prostate cancer.
- Cervical cancer incidence in Hispanic women has been consistently higher at all ages than for women of other racial and ethnic groups.
- Only 52 percent of American Indian/Alaska Native women aged 40 years and older have had a recent mammogram.
- American Indians and Alaska Natives have the poorest survival from all cancers combined in comparison with all other racial and ethnic groups.
- Half of minority women who receive abnormal mammogram results do not receive timely follow up.
- Washington, DC has the highest overall cancer mortality rate in the nation.

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lung, breast, prostate, and gastrointestinal and colorectal cancers.

“We’re looking to bring a multi-dimensional and multi-disciplinary approach to understanding the problem of the disproportionate distribution of these cancers among minority populations,” said Dr. Patierno. “Like most of science, this is like a Gordian knot, a big ball of string that’s all bundled up. Our job is to pick on the ends of the strings and see how much we can untangle and learn.”

Access to healthcare is certainly a strand that bears unraveling. U.S. Census figures suggest that at least 41 million Americans are currently without health insurance. Another study estimated 75 million Americans were without health insurance at some point during a recent two-year period; and the Congressional Budget Office in May put the number of Americans without insurance at some point during a one-year period at 60 million.

Things look even more intimidating when broken down along ethnic lines. Sonia Mora, director of the Latino Health Initiative in Maryland’s Montgomery County, spoke not long ago at a GW-sponsored health insurance seminar.

“Even among the Latinos who have jobs, only 44 percent of them have health insurance; and even they don’t always have adequate access to care,” she said. “Are the services open during evenings and other non-standard hours? Are the services geographically accessible? How long do you have to wait for an appointment? These are all questions that affect how useful your health insurance really is.”

Inferior or nonexistent health coverage means missed opportunities for prevention education, screenings and early diagnosis. And this translates into more deaths. Without early detection through medical care, a key chance at survival is lost, especially in lung and other cancers that prompt no overt symptoms until the later stages of the disease. Even in the case of breast cancer, where women are taught to search for lumps during self-exams, early detection through screening mammograms can provide a huge head start in fighting the disease.

“We usually can’t feel a breast cancer until it reaches about one centimeter in size, that’s about the size of a dime,” said the Breast Care Center’s Dr. Teal. “A

mammogram can pick up a cancer even smaller than a half centimeter. And that can be years and years before that cancer actually can be felt by a patient.”

Beyond Healthcare

“We don’t eat right,” said Ronald, a middle-aged African American bus driver, in conversation with two African American passengers as he drove through the streets of Washington, DC. “We fry everything. That can’t be good for you.” This was a layperson’s generalization that may or may not be accurate, but it was among the reasons he cited for going to his doctor for an exam to screen for prostate cancer.

“I decided I wanted to live. I don’t want cancer and I don’t want to take any chances. My job is stressful enough as it is,” he said as the transmission began to overheat, the bus broke down and the interview was cut short.

Diet—especially one high in animal fat, along with lifestyle, occupational exposures and other differences—are among the aspects the National Cancer Institute (NCI) is considering as it studies the higher incidence of prostate cancer in African

Prostate Cancer Not Always a “Bad Deal”

Lawrence Chase’s diagnosis of prostate cancer was enough to shock him into a three-month silence about the disease before telling his family. Now, three years later, he’ll tell anyone who’ll listen. The key to his conversion: knowledge.

“I heard the word ‘cancer’ and to me, it was like ‘I’m dying.’ I started crying right there in the doctor’s office,” said the 59 year old from his Suitland, Maryland home, just outside Washington, DC. “I couldn’t bear to tell my family. But the more I learned about prostate cancer, the more I felt that there were options and that there was time.”

A support group at GW for prostate cancer patients helped transform Chase from an initially reserved patient into someone who isn’t afraid to spread the word to other men—and not just fellow patients—about prostate cancer and its symptoms, even though the discussion often involves touchy subjects like problems with urination and sexual function.

“I see nothing to be ashamed of,” he said. “If I can tell people, I can save a life. I can make a difference.”

He certainly made a difference for his eight buddies who meet to play cards every week. He broke the news of his own cancer in the middle of playing a hand.

“At first it was sort of like ‘Aww, Lawrence, why’d you have to tell us that?’ But two of them went on to get screened. I’m still working on the others.”

Three years after his diagnosis, Chase continues to take a conservative approach to his own illness, avoiding surgery—which can lead to sexual dysfunction and loss of bladder control—and opting instead for medication to control symptoms and slow the cancer’s growth.

“Some of the doctors are a little too quick to want to cut and do surgery,” he said. “For me, quality of life means a lot. It’s not so much about how long you have, it’s about enjoying every day.”

Lawrence Chase is feeling fine at the moment, and his five children—twin boys and three daughters between the ages of 40 and 15—remain supportive. A widower since before his diagnosis, he now has a fiancée as well.

“We haven’t set a date yet,” he said. “But it’s going to happen.”

Americans. Overall, prostate cancer is diagnosed in more than 220,000 American men every year, with just over 10 percent of them dying of the disease. But the NCI has found that, even when income and education are factored in, African Americans have much higher rates of cancer than Caucasians and twice the mortality rate. Washington, DC, has the highest rates of prostate cancer occurrence and mortality in the nation, with at least 100 deaths annually—one of every six diagnoses of prostate cancer in the District.

Something about how people are living is affecting these rates. Confirmation of this assessment comes from studying a uniquely standardized population—the military.



Alfreda Elzie is passionate about sharing information about breast cancer screening with other women.

“There are some interesting datasets emerging from the military which suggest that, for prostate cancer, the cultural issues are quite important. There is no difference in access to care, quality of care or frequency of care, since this is standardized in the military,” said Dr. Patierno, who also observed that diet tends to be more standardized in the military as well. “And under those circumstances, there appears to be no difference in frequency or mortality between Caucasians and African Americans.”

The First “Cancer”

Like the zodiac sign, the word “cancer” as a disease refers to a crab, specifically the crab-like appearance that ancient Greeks and Romans noticed in late-stage tumors found in the female breast. Today, breast cancer illustrates how teasing out socio-economic factors can only go so far before the trail of cancer’s unequal burden leads also to the laboratory.

A diagnosis of breast cancer happens every three minutes in America. It is the leading cause of cancer death for all women age 35 to 54. More than 40,000 women in the U.S. die of the disease annually. Yet, while African American women develop breast cancer less often than Caucasian women, their cancers tend

to be more aggressive, leading to a higher death rate from the disease than all other groups of women.

Though societal factors play a role, GW scientists—using microarray technology to study the expression of more than 12,000 genes at a time—are discovering clear differences between cell cultures grown from tumors removed from African American and Caucasian patients. These differences may help explain why breast cancer in African Americans behaves more aggressively.

In one study, by GW breast cancer researcher Dr. Patricia Berg, a gene known as BP1 appears in preliminary findings to

Clinical Trials

Clinical trials lie ahead before any new cancer therapies make their way to doctors’ offices. And, here again, is an area where minority populations are often underserved. “We know that African Americans and other minority populations are underrepresented in this process,” said Dr. Donald Henson, head of prevention and control efforts for GW’s Cancer Institute. “We need a more diverse population in clinical trials.”

The military studies that aid in prostate and other cancer research are so valuable, in part, because service members’ DNA and blood samples are collected, stored and remain available for further research years later. But in the civilian world, especially among underserved populations, this kind of compliance comes only from a trust that is established between the community and members of the medical and public health professions.

“People are not going to hand over samples of their blood or urine just like that. They may have suspicions or may not understand the science; or sometimes they have health issues that they don’t want you to know about or they don’t even want to know about themselves,” said Melvin York. His company, Digital Safetynet, is working with GW’s Department of Environmental and Occupational Health on a proposed toxicity survey of DC residents to track whether pollution and other environmental hazards are distributed equally throughout the population.

“There’s a certain amount of trust we need to develop,” said York. “We have to show them that this is going to be relevant to the health of their local community.”