From Awareness to Action: Putting Cancer Disparities in the Rearview Mirror

Long-standing social and economic barriers have created webs of disadvantage for certain groups.

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Sofia, a married mother of two who lives in New Mexico, was faithful about getting her free annual breast cancer screenings. But when a suspicious finding turned up on a mammogram, Sofia—who didn't have health insurance and spoke only Spanish—struggled to get the care she needed.

After a biopsy confirmed that she had breast cancer, Sofia (not her real name) was refused an appointment at the local cancer center due to her lack of insurance. Eventually, a doctor at a federally qualified health center connected Sofia with a social worker who helped Sofia get financial assistance and she was able to have a mastectomy—5 months after her abnormal mammogram.

Following surgery, Sofia's oncologist recommended chemotherapy and radiation treatment. By then Sofia had obtained health insurance, but it didn't cover the recommended treatments. During this lapse in care, Sofia discovered a new lump in the same area as her surgery, in the muscles of her chest wall.

It was only after asking for help on social media that Sofia found a lifeline, in the form of Cancer Aid Resource and Education (CARE), a nonprofit organization in Las Cruces, New Mexico. With CARE's advocacy, she was able to get financial support for a second operation as well as the recommended chemotherapy and radiation treatments.

The organization also helped Sofia's family with expenses such as her self-pay health insurance, rent, and utility payments during her treatment, when she was unable to work.

Sofia's story is an example of how factors such as poverty and lack of access to care can cause problems that have harmful health consequences for many in the United States. Long-standing social and economic barriers have created webs of disadvantage for certain groups, including many African American and Hispanic people, people in rural areas, and those in pockets of persistent poverty.

Taken together, these barriers create conditions that put people at higher risk of diseases like cancer in the first place. And they make it difficult, and sometimes impossible, to get quality and timely cancer care.

Studies have shown, for instance, that Hispanic and Black women with breast cancer are more likely than White women to face significant treatment delays. In addition to being stressful, treatment delays—particularly for people with more aggressive breast cancers—can affect how long people live after their cancer diagnosis.

These and other differences in cancer and cancer care between groups stem from broad inequities and are called cancer health disparities. Such disparities show up in every aspect of the cancer experience, from cancer screening to quality of life after treatment ends.

People from groups that have been socially or economically marginalized not only have a higher risk of developing or dying from many cancers but are also more likely to experience poorer quality of life during or after treatment.

In the past few years, awareness of the effects and pervasiveness of cancer health disparities has grown. Scores of research studies have outlined the many differences in cancer outcomes and their intertwined causes. But awareness alone is not enough, said Robert Winn, M.D., director of VCU Massey Comprehensive Cancer Center.

“Having more attention paid to the social drivers of health … is the first real step to making progress,” Dr. Winn said.

“I will no longer accept the [excuse] that it’s hard to address health disparities issues. Those days should be in the rearview mirror.”

He and many other experts say that tackling cancer disparities will require advances and changes that go well beyond the laboratory, doctor’s office, and hospital oncology suite.

Developing and implementing those advances, they believe, will require a full-court press by people from across the spectrum of scientific research, health care, and public health working in concert with people and organizations in the community.

Even then, there will be more to do, said Angela Usher, Ph.D., M.S.W., the manager of Supportive Oncology and Survivorship at UC Davis Comprehensive Cancer Center.

Reducing or eliminating cancer and other health disparities, Dr. Usher said, will also require “some upstream solutions on a national level and a policy level.”

Considering the impact of “place and space” on disparities

Traditionally, research aimed at understanding cancer disparities has focused on looking for

genetic factors that might account for persistent differences in the rates at which people in certain racial or ethnic groups are diagnosed with or die from some cancers. But it has become abundantly clear that genetics (DNA) and its effects on human biology are not the only contributors to cancer disparities—or even the main ones, Dr. Winn said.

Instead, many studies have shown that a major driver of these disparities is an interconnected set of social risk factors that are beyond people's control. These factors include lack of access to healthy foods or to enough food, unstable or unsafe housing, transportation challenges, persistent poverty, racism and other forms of discrimination, and limited access to quality health care.

To understand health disparities, Dr. Winn said, it's critical to consider the impact of what he calls people's "ZNA—their zip code or neighborhood of association, or 'place and space.'"

Whether the neighborhood in question is the South Side of Chicago or "a holler in Kentucky," Dr. Winn continued, the social, economic, and physical conditions in the places where people live, learn, work, and play—more formally known as social determinants of health—"impact [their] health outcomes in ways that we still do not fully understand."

In other words, he stressed, disparities are not just about biological differences between racial or ethnic groups. Disparities also stem from rural isolation, education, income, language barriers, and other non-biological factors.

"You wouldn't say that White people living in rural Eastern Kentucky have poorer cancer outcomes than White people living in other parts of the country because they are genetically different," Dr. Winn explained. And yet, he said, people have used such arguments to explain why, for example, African American men are more likely than White men to develop or die from prostate cancer.

Disentangling the ways that social risks cause disparities

An important step in addressing cancer disparities, which will require input from researchers in diverse fields, is to "disentangle the ways in which social factors influence the initiation of cancer, the progression of disease, the response to treatment, and the quality of cancer care," said Chanita Hughes-Halbert, Ph.D., M.P.H., associate director of cancer equity at USC Norris Comprehensive Cancer Center.

The impacts of some of these factors are already known.

For example, studies have shown that financial concerns can force people to make trade-offs between putting food on the table or paying for cancer treatment. And transportation challenges can lead to lower cancer screening rates, missed appointments, and problems completing treatment.

While some disparities are likely to be driven primarily by ZNA, and others more by DNA —that is, inherent genetic differences among different racial or ethnic groups—Dr. Winn believes many will

turn out to be due to the interplay of ZNA and DNA. “And I think that’s where the interesting science [in the study of disparities] is starting to move,” he said.

For example, he said, long-term exposure to a type of outdoor air pollution known as fine particulate matter is associated with an elevated risk of lung cancer and may also increase the risk of other cancers, including breast cancer.

This form of pollution, which can damage or alter DNA, disproportionately affects poor Black and Hispanic communities in urban areas due to factors such as zoning laws, environmental policies, and a legacy of discriminatory home loan practices known as redlining.

In addition, Dr. Winn said, living in a neighborhood where fresh fruits and vegetables are not readily available or affordable may contribute to cancer disparities through effects on the communities of bacteria and other microbes in a person’s gut, known as the gut microbiome. And the gut microbiome has been linked to health and disease, including the development of cancer and the response to treatment.

Lack of access to healthy food or safe places to exercise also contribute to obesity, and obesity has been linked to an increased risk of certain cancers. Obesity may also increase the risk that certain cancers will come back or get worse.

A close relationship between social risk factors and stress

Research shows that chronic stress may also be a risk factor for cancer disparities. In fact, Dr. Hughes-Halbert sees stress as a common denominator when thinking about the impacts of social drivers of health.

A recent study, for example, showed a connection between racial and ethnic disparities in exposure to neighborhood violence and lung cancer risk in Chicago.

“Living in an area that has high levels of deprivation leads to greater stress responses across multiple levels—including cellular, psychological, and behavioral,” Dr. Hughes-Halbert said.

Whether it’s not having enough money for food, not having reliable transportation to get to your appointments for cancer care, or experiencing racial discrimination, all these things cause stress, she explained.

Dr. Hughes-Halbert still remembers a comment from a woman in a focus group she held early in her research career, for Black women going through breast cancer treatment: “Cancer is just one of the things I have to deal with today.”

Some evidence from laboratory studies suggests that chronic stress may cause cancer to get worse and spread. For example, results of a 2021 study suggest that stress hormones may wake up dormant cancer cells that remain in the body after treatment. Chronic stress may also be linked

to the development of cancer, although studies on the issue have had varying results.

To tease out the possible links between ZNA and DNA, some researchers are exploring whether and how persistent poverty and high stress levels cause epigenetic alterations—changes in the chemical structure of DNA that do not affect the actual sequence of DNA but can sometimes be passed down from parent to child. Epigenetic alterations can affect a person's risk of disease, including cancer.

Stress is a prime suspect, Dr. Hughes-Halbert said, when it comes to figuring out "how the environment gets up under our skin."

Still, she cautioned against assuming that "if you live in a certain community, you're destined to have poor [cancer] outcomes." She noted that some communities, even those with high levels of poverty, may "have resources and assets that lead to resilience and [the] capacity" to lessen the impact of stress, a concept she's just begun exploring in her work.

Partnering with the community is key to understanding and tackling disparities

To make headway in disentangling the connections between "place and space" and biology, Dr. Winn believes strongly that lab scientists at cancer centers need to partner with the community.

Researchers at VCU Massey have been working toward this idea of "flipping the script from the traditional 'bench to bedside' model to a 'people to pipette' model," he explained. In other words, "understanding the communities in which people live and looking at what happens within those communities to help refine our scientific questions."

For example, through an NCI grant, researchers from VCU, USC, and City of Hope in California have launched a program to better understand and address racial disparities in lung cancer. The program includes getting input from and working in concert with community members in the three states, including people from local health departments, faith-based organizations, and civic activists.

Partnering with the community, Dr. Winn said, isn't easy. It requires patience and time to build trust, which is something he is actively engaged in.

Working with the community will be important in other ways as well. To help reduce disparities and advance health equity, "cancer centers are [also] actively working with community partners" to address social risks affecting their patients, such as food insecurity and transportation barriers, said Brenda Adjei, Ed.D., M.P.A., associate director of the Office of Healthcare Delivery and Equity Research at NCI's Center for Cancer Research.

Partnering with the community will be critical for "taking us beyond just identifying social risks to thinking about the best ways we can address them … for each individual across different cancer care settings," Dr. Adjei said.

A provider workforce that can better address social risks

Some doctors and hospitals are already using questionnaires to screen patients for social risks.

And as of 2024, the Centers for Medicare and Medicaid Services began requiring that all beneficiaries be screened for five specific social drivers of health, including food, housing, and transportation insecurity.

But while this type of screening is important for addressing some disparities, Dr. Hughes-Halbert said, it is only the first step.

“We need to be thinking about the best practices and models for screening and for delivering interventions that are focused on addressing social issues,” she continued. “We need a [provider] workforce that is in the best position to address social factors.” And she doesn’t think that responsibility should fall to physicians.

Dr. Usher agrees. Expecting oncologists to screen their patients for social risks and figure out how to address their social needs “is a hard sell when you have patients coming in for 20-minute appointments to treat their cancer,” she said.

And that’s where professionals like patient navigators and social workers come in.

Every cancer center already has at least one social worker, and “social workers literally have a master’s degree in social risks and ways to address them,” Dr. Usher continued. But often there are not enough people in these positions to meet the needs of every patient and psychosocial care is often not integrated into routine patient care, she said.

On the flip side, Dr. Hughes-Halbert noted, not all people with cancer who are faced with social risks will feel comfortable accepting help—or even need help at all. “Someone might have certain challenges in paying their rent, or with transportation, but they may [already] have resources to deal with those issues,” she said.

Indeed, Dr. Adjei said, providing equitable cancer care will not involve a one-size-fits-all approach. Instead, cancer centers and other cancer care providers will need to “tailor cancer care delivery and leverage the community’s strengths to meet the needs of patients where they are.”

And when it comes to addressing those needs, Dr. Usher said, social workers and others should “partner with people [and groups] in the community who are already doing good work, rather than trying to reinvent the wheel.” The organization that helped Sofia is just one example of such a group.

In addition, Dr. Adjei emphasized, “we want to be evidence based” when it comes to addressing disparities in cancer care. “And we want to understand where our opportunities are for most impact.”

Some cancer centers have already piloted or implemented evidence-based ways of working with each patient to identify and address any underlying social risk factors. And some of these efforts have succeeded in reducing or eliminating certain disparities. Future Cancer Currents stories will highlight some of these efforts and the challenges that remain.

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