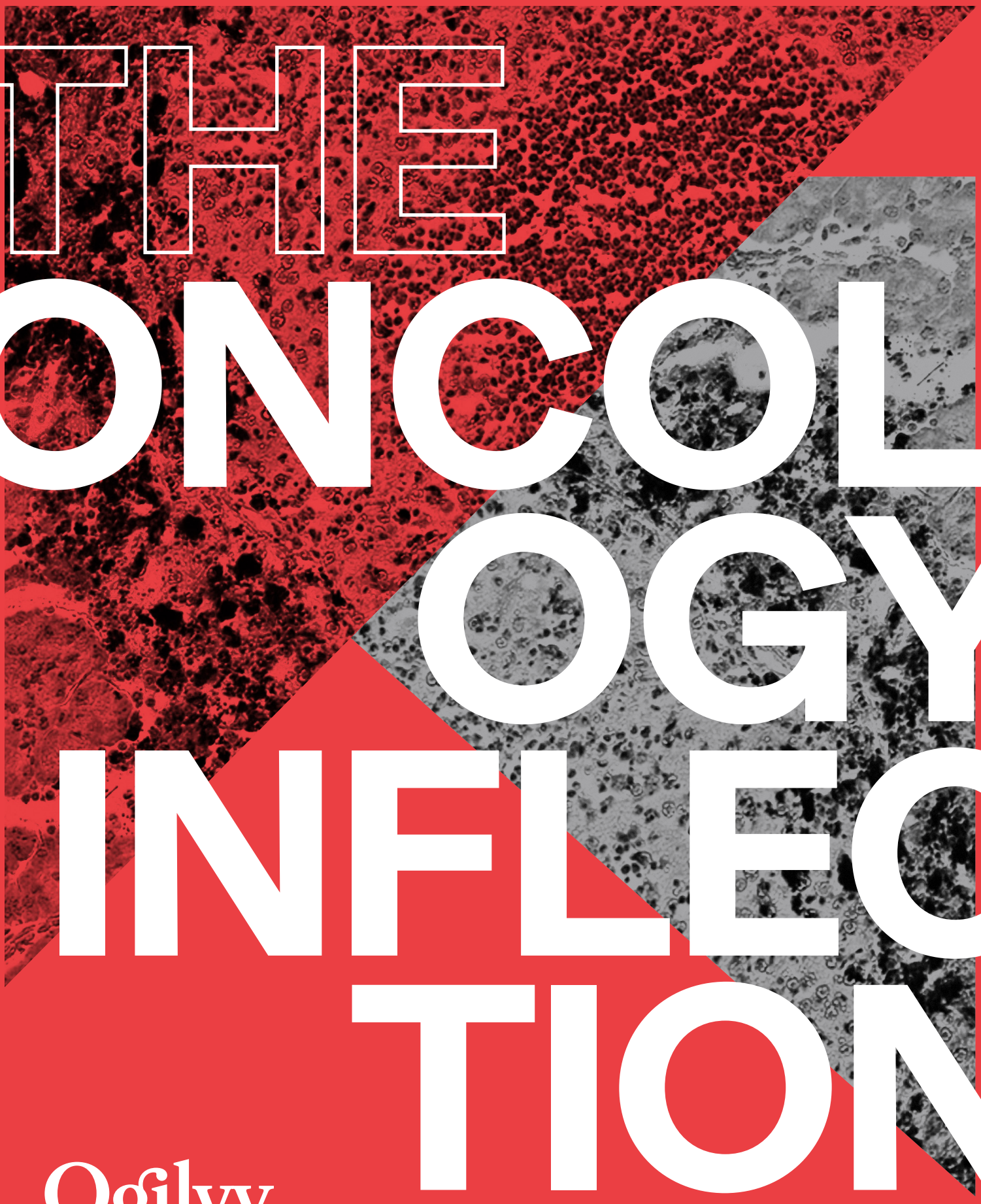


THE ONCOLOGY INFLECTION

Ogilvy

Contents

Executive Summary

We are entering a new era of cancer treatment. The steady progress medicine has made in reducing the overall mortality of this disease—one so dreaded that people feared to utter its name lest they conjure the condition—is likely to accelerate in the years ahead. As ample funding meets burgeoning breakthroughs and broader, better screening, the decades-long war on cancer is taking a significant toll on the disease. What was once a six-letter death sentence may one day turn into a chronic condition.

Lovely though this vision may be, it is not assured. Oncology is at a crossroads. The cost to end the scourge of cancer is enormous, while the people necessary to accomplish this feat are both unhappy and in short supply. Despite overall improvements, individual outcomes remain stubbornly unequal as is representation, and our own behaviors are fueling cancer's pervasiveness.

The path society will now take on cancer depends on governments and private organizations, payers and patients, innovators and physicians. Communicators, too. After all, the next battles in the war on cancer won't just be fought in clinical environments. They'll also continue to be waged in regulatory committees, between patient advocates and drug approvers, and among payers, insurers, and physicians. If we are to emerge from this crossroads on the best possible path, we must ensure that every party to the healthcare system has a forum, a voice, and the means to exchange ideas.

Brands will play a crucial part here. Their multifaceted roles—researchers, marketers, salespeople, advocates, and educators—mean that they can have an outsized impact on the future of oncology. The most powerful and most beneficial effects will require brands and those

Image of congressional hearing.

Midjourney

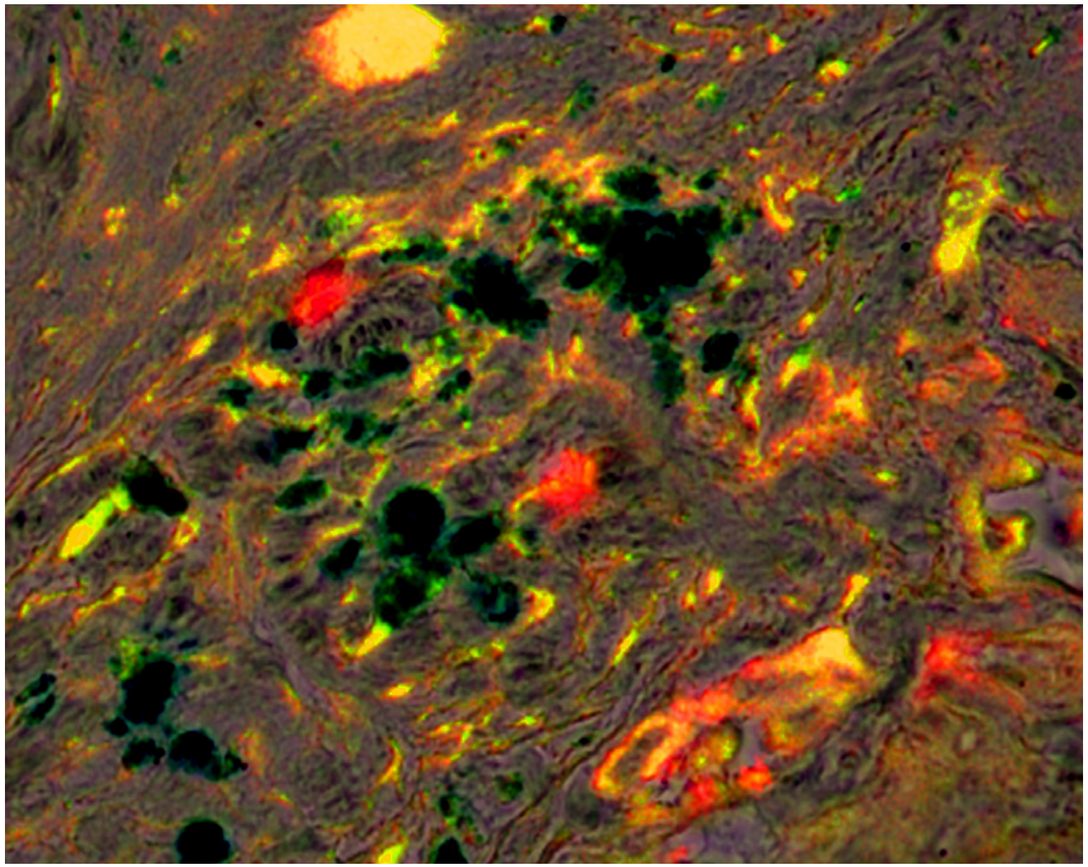
that work with them to collaborate with everyone from oncology researchers to behavioral scientists, from business leaders to visionaries, policymakers, advocates, and culture-makers. This approach is the future of healthcare in general and oncology in particular. We created the Oncollab to nurture these new types of collaboration, bringing together private industry, advocacy organizations, governments, and innovators. The COVID-19 pandemic showed us that new forms of collaboration are essential for accelerated learning and for the development and distribution of new breakthroughs.

Introduction

The end of Shelly's life was awful. She had gone to her general practitioner with some abdominal pain, and the doctor wasn't particularly alarmed until Shelly mentioned that she sometimes felt the pain in her back too. That got the physician's attention. So did her complaints about her appetite. Before long, Shelly was scheduled for a computed tomography (CT) scan. The diagnosis: pancreatic cancer. In the brief time she had remaining, Shelly endured terrible pain, which even the most aggressive palliative care could not relieve. When she died, 12 months later, all agreed that it was for the best.

Shelly's story may soon be an artifact of an earlier time. While pancreatic cancer remains stubborn to treat, breakthroughs are coming for other cancers. One of those is prostate cancer. Following successful clinical trials, a promising new cancer vaccine, Provenge, is set to defang prostate cancer in men who have exhausted other treatment options.[01] That's not the only change on the horizon. With targeted, individualized treatments such as chimeric antigen receptor (CAR) T-cell therapy (CAR T) and natural killer (NK)-cell therapy advancing rapidly, a full pipeline, new screening guidelines, AI-augmented diagnosis, and funding from the Biden Administration's Cancer Moonshot "healthcare professionals have more tools to extend lives and enhance their quality," notes Danielle Sidawi, PhD and EVP, group medical director at Ogilvy Health.

Yet the system is under strain. Whether that strain is enough to dim the future will be decided now. Some anticancer therapies are designed to specifically target genetic alterations occuring in cancer cells, but costs have risen, leading to questions about the economic sustainability of some treatments and ongoing discussions about the value of extending lives. Oncologists are drowning in information about lifesaving breakthroughs. They're improving the quality of patients' lives even as their own lives decline. Woeful diversity in clinical trial populations can lead to Black, Indigenous, people of color (BIPOC) patients being underrepresented in research,[02] while a looming shortage



National Cancer Institute \ Emory University

of physicians leads industry insiders to wonder if future patients will be able to talk to a doctor much at all.

Never has cancer seemed more treatable. And never has the apparatus that will enable that seemed more tenuous. This moment is awash in peril and opportunity for everyone in the industry: payers, policy makers, pharmaceutical companies, oncologists, as well as other healthcare providers, and the patients for whom this whole edifice is built. Should we make smart choices, the benefits to people and society will be vast. Should we stumble, years of life will be lost, promises will be squandered, and evolution in cancer care will fail to materialize.

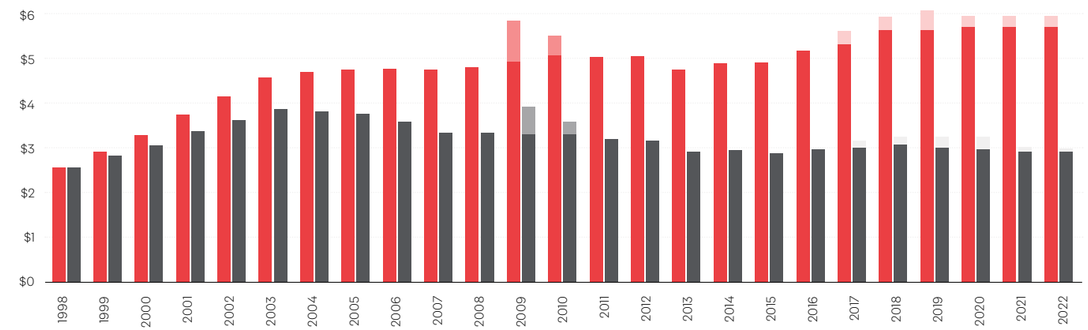
Cancer care is at an inflection point. The decisions we make now—as a society, as patients and oncologists, as payers and pharmaceutical companies—will determine what oncology care is like, not just now but a decade in the future. This is our moment to make an impact.

THE GOOD NEWS

Money Is Flowing

NCI FUNDING FROM CANCER RESEARCH

dollars (in billions)



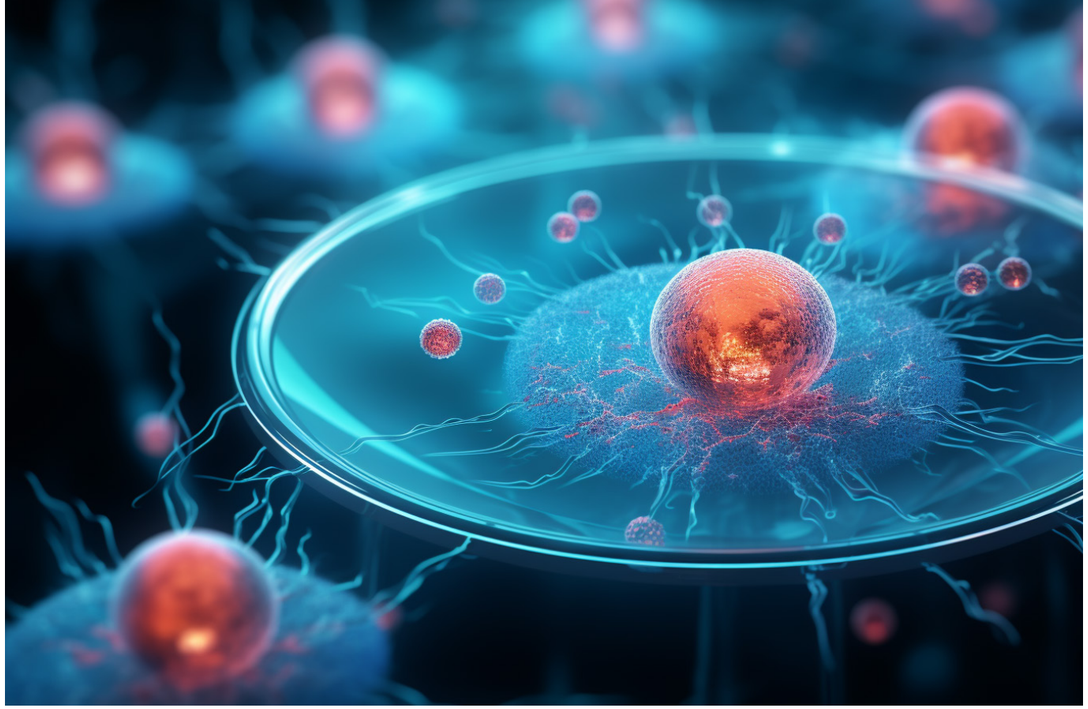
NCI funding in 1998 constant dollars [01]
NCI Actual, proposed,& projected annual funding [02]
NCI ARRA supplemental funding in 1998 constant dollars
NCI ARRA supplemental funding [03]
NCI cancer moonshot funding in 1998 constant dollars
NCI cancer moonshot funding [03]

01 Reflects the impact of inflation using the Biomedical Research and Development Price Index on NCI actual and proJeeled funding.
02 Reflects actual obligations through FY 2017, NCI's enacted budgets for FY 2018 and FY 2019, and projected budgets for FY 2020 and beyond consistent with the discretionary spending limits in the Bipartisan Budget Act of 2018.
03 FY 2009 and FY 2010 include funding from the American Recovery & Reinvestment Act (ARRA) of 2009. FY 2017 through FY 2022 include cancer moonshot funding as authorized in the 21st Century Cures Act of 2016.

Treating cancer requires a carefully calibrated mix of expertise and interventions. Some of that comes from the government.

The US government has been fighting cancer since 1971, when then-President Richard Nixon announced a "War on Cancer." The effort led to the National Cancer Act and the first coordinated public quest to reduce deaths from the disease. Forty-five years later, the United States inaugurated the Cancer Moonshot, a similarly ambitious program to "end cancer as we know it."[03] The push directed $1.8 billion to cancer research, which is but a fraction of what private industry spends. (The top five pharmaceutical company R&D budgets each exceed $10 billion per year.[04]) Now, the Biden administration has recommitted the nation to dramatically reducing morbidity and mortality from cancer. The goal is lofty—reduce cancer death rates by at least 50% over the next 25 years while improving life for those with cancer and those who survive it. Dramatic though this may sound, it builds on substantial progress. Overall cancer death rates have plummeted in recent years, dropping by more than 27% between 1999 and 2019.[05]

While there are many reasons for the reduction—better screening, new classes of drugs, individualized therapies, smoking cessation, and more—strong ongoing funding for the National Cancer Institute plays a significant role. Resources are also flowing to the Environmental Protection Agency, the Department of Veterans Affairs, the US Department of Agriculture, the Department of Defense, and even NASA for cancer-related research. The government has targeted screening, expanded and modernized clinical trials, support for treatments in the pipeline, prevention and mitigation of environmental and toxic exposure, and a reduction in morbidity from preventable cancers.[06,07] Without question, government efforts have had a massive positive effect on cancer care and survivability.



A petri dish with NK cells in it advancing and encircling cancer cells.
Midjourney

Private sector cancer research funding is harder to pin down. McKinsey and Company estimates total spend from all sources to be $50 billion per year as of 2019, the most recent figure available. But despite the opacity, the flow of cash to oncology drugs is hard to miss. At 15.3%, oncology medications showed the highest growth in usage worldwide between 2012 and 2021. Driven by the debut of new therapies—100 new treatments will enter the market between 2023 and 2027—and broader use of new cancer drugs in "pharmerging markets,"[08] oncology spending will increase by 95% during that time and grow from $184 billion to $377 billion by 2027, making it the largest medication category by far.[09]

95%
Amount oncology spending will increase between 2023 and 2027

AI will have a substantial impact on oncology through optimized cancer research and drug discovery, improved clinical care, better surveillance, and enhanced genomic characterization of tumors.[10] This will spawn a new area for oncology spending, leading to a market for AI in oncology that will grow by more than 28% between now and 2032.[11]

The Breakthroughs Are Coming Fast

"The decrease in cancer mortality has been an under-the-radar revolution, but by any measure it has been a victory for innovation and R&D."

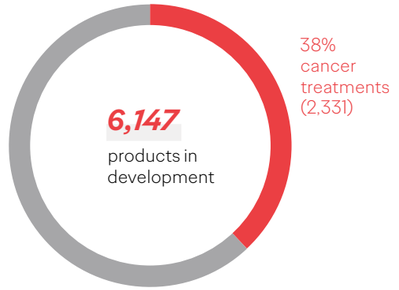
CHRISTIANNA GORIN, CHIEF GROWTH AND STRATEGY OFFICER AT OGILVY HEALTH

The decades-long investment in improving cancer outcomes has already had a substantial impact and is leading toward even greater impacts in the future. Cancer deaths continue to fall, dropping by an additional 1.5% since 2019. Due to advances in treatment, smoking cessation, better screening, and more, the cancer mortality rate has fallen by an estimated 33% since 1991, averting 3.8 million deaths.[12] "The decrease in cancer mortality has been an under-the-radar revolution, but by any measure it has been a victory for innovation and R&D," says Christianna Gorin, chief growth and strategy officer at Ogilvy Health.

One look at the oncology pipeline of that era will tell you why. The two decades between 1996 and 2016 saw a quadrupling of compounds in clinical development; cancer therapeutics made up approximately 40% of the global clinical pipeline.[13] This flowering of research and development led to breakthroughs in personalized oncology medicine such as protein-tyrosine kinase inhibitors (e.g., Gleevec [imatinib mesylate]) and monoclonal antibody treatments (e.g., rituximab, trastuzumab, and pembrolizumab), that led the way for pathogenesis-directed therapy and turning once-fatal cancers into conditions that patients live with for far longer than before. It brought about human papilloma virus (HPV) vaccines that greatly reduce the incidence of cervical cancers.[14] Investment-funded research has contributed to new screening recommendations, launched personalized therapies like CAR T-cell therapy, and incubated tumor-agnostic treatments targeted to genetic features.

The future is even more exciting, especially as oncology treatments continue to dominate the R&D pipeline. Of the 6,147 pharmaceutical products in development as of this writing, 38% (2,331) target cancer, while oncology accounts for 40% of all clinical trial starts—a record high.[15]

Next-generation biotherapeutics—defined by IQVIA as cell and gene therapies, gene editing, nucleotide and RNA interference, mRNA therapies, and RNA or DNA vaccines—are also heavily weighted toward oncology. They are "bringing great promise for cancer treatment," as the IQVIA Institute wrote in their "Global Trends in R&D 2023" report.[16] Oncology R&D activity has been focused on rare diseases for which there are few—or even no—treatments.



That research is bearing fruit as oncologics made up the largest proportion of novel active substances launched in the United States in 2022.

Fighting cancer with the immune system

Some of the most promising therapy options are in immuno-oncology. According to the Cancer Research Institute, immuno-oncology "uses the power of the body's own immune system to prevent, control, and eliminate cancer." It's a broad category that encompasses everything from targeted antibodies, like the monoclonal antibodies noted above, to cancer vaccines and gene therapies. Like many cancer treatments, immuno-oncology can be used as an adjunct to other therapies like surgery, radiation, or chemotherapy. It works on a wide range of cancers and can even lead to long-term remission—without some of the side effects of other therapies—and has been hailed as a fourth pillar of cancer treatment.

One form of immunotherapy has attracted substantial attention and excitement: CAR T-cell therapy. This new class of treatment has shown promise in keeping patients in remission for many years. CAR T therapy works through a patient's own T cells, which are collected and then reengineered to produce surface proteins that allow them to bind to cancer cells once reinfused into the patient. The patient's own body continues to make the modified cells and eradicate any of the targeted cancer cells.

CAR T began as a treatment for blood cancers, and it has shown success there, especially for patients with few other options, even becoming the standard of care for those with recurrent disease. Yet there are barriers, one of which is

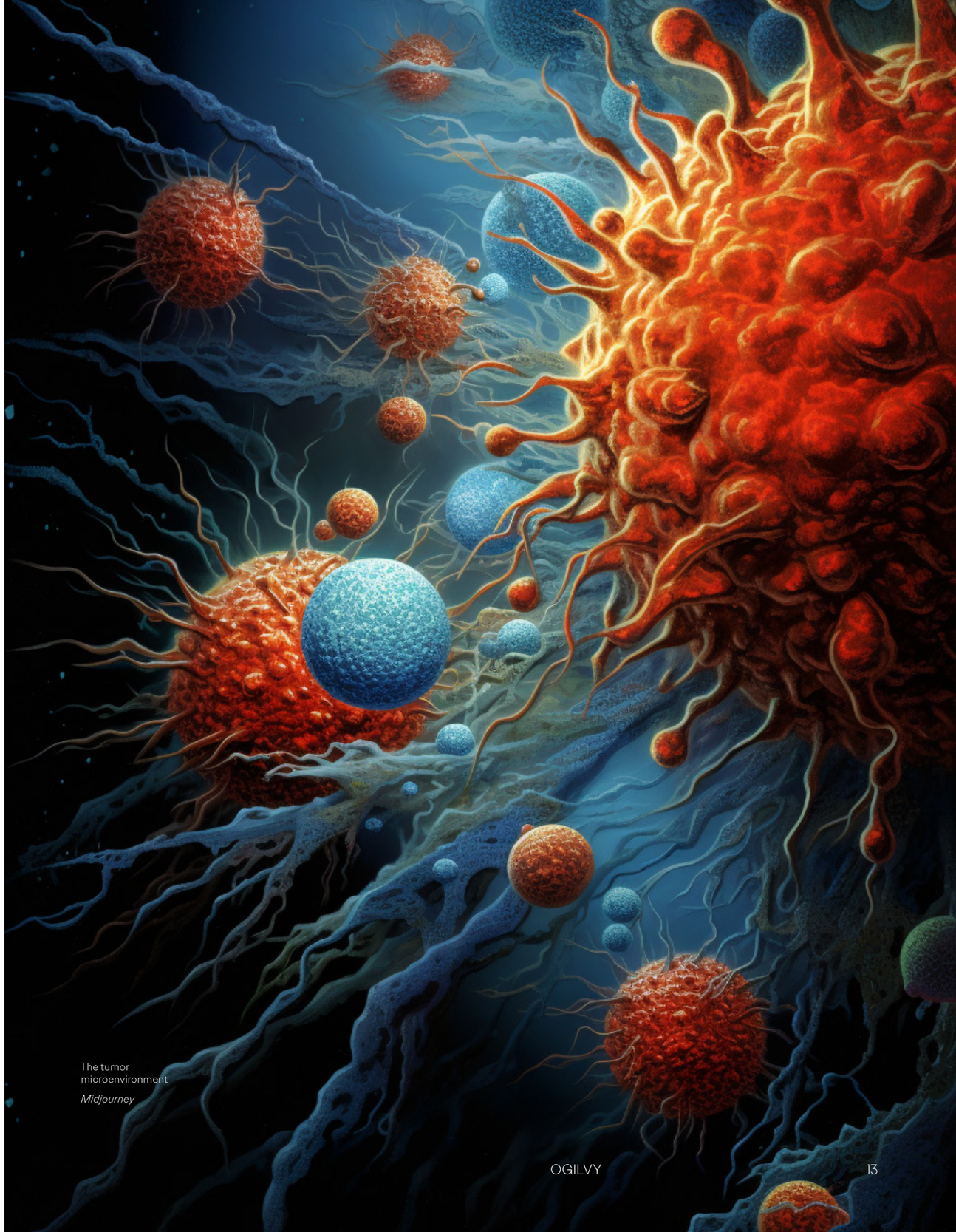
NOVEL ACTIVE SUBSTANCES LAUNCHED IN 2022 IN THE UNITED STATES

			Oral	Biological	Specialty	Next-gen biotherapeutic	Orphan	First-in-class	Expedited review	U.S. Patent to launch ≤5 years	EBP originated	EBP launched
Acute myeloid leukemia	olutasidenib	Rezlidhia	●		●		●			●	●	●
FRα positive, platinum-resistant epithelial ovarian, fallopian tube, or primary peritoneal cancer	mirvetuximab soravtansine	Elahere		●	●		●	●	●		●	●
Hepatocellular carcinoma	tremelimumab	Imjudo		●	●		●		●			
Myelofibrosis	pacritinib	Vonjo	●		●		●		●		●	●
Neutropenia	eflapegrastim	Rolvedon		●	●							●
Non-small cell lung cancer (NSCLC)	adagrasib	Krazati	●		●		●		●	●	●	●
Prostate-specific membrane antigen (PSMA)-positive metastatic castration-resistant prostate cancer (mCRPC)	lutetium (177Lu) vipivotide tetraxetan	Pluvicto			●			●	●		●	
Relapsed or refractory multiple myeloma	ciltacabtagene autoleucel	Carvykti		●	●	●	●		●		●	
	teclistamab	Tecvayli		●	●		●	●	●			
Unresectable or metastatic melanoma	nivolumab + relatlimab	Opdualag		●	●		●	●	●			
Unresectable or metastatic uveal melanoma	tebentafusp	Kimmtrak		●	●		●	●	●		●	●

Source: Global Trends in R&D 2023. IQVIA Institute. February 2023.

cost: "The acquisition cost of CAR T-cell is between $373,000 to $475,000 per infusion, excluding extra procedures and facility costs."[17] That price also excludes costs for such adverse events as cytokine release syndrome (CRS), which can add substantially to the bill. Despite its cost, CAR T may soon be used earlier in cancer treatment. For all the good news in blood cancers, though, solid tumors have proven a greater challenge, even if research in animal models looks promising.[18]

Natural killer (NK) cells are another budding treatment avenue. Like CAR T, NK therapy is immuno-oncology, but instead of being tailored to specific antigens, NK cells "are a cellular Swiss Army Knife that can detect and destroy any cell that looks abnormal."[19] As powerful as NK cells are, they can be suppressed by the tumor microenvironment and don't wipe out cancer all on their own; they just don't last long enough without specific interventions. However, researchers have developed several strategies to improve the survivability of NK cells and generate the ability to overcome drug resistance, leading to a burst of clinical trials in recent years.[20,21] Better yet, NK cells show promise in both solid tumors and blood cancers and don't produce the serious side effects—like a potentially



The tumor microenvironment

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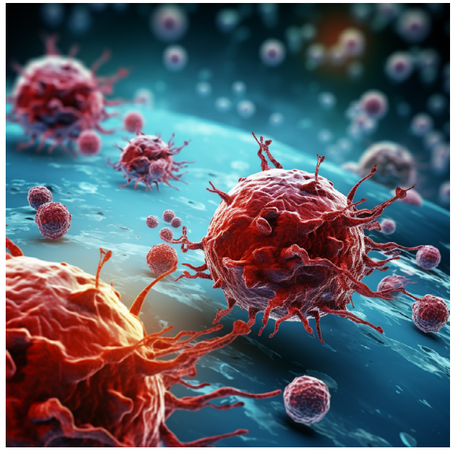


Neoantigens on the surface of a cancer cell.

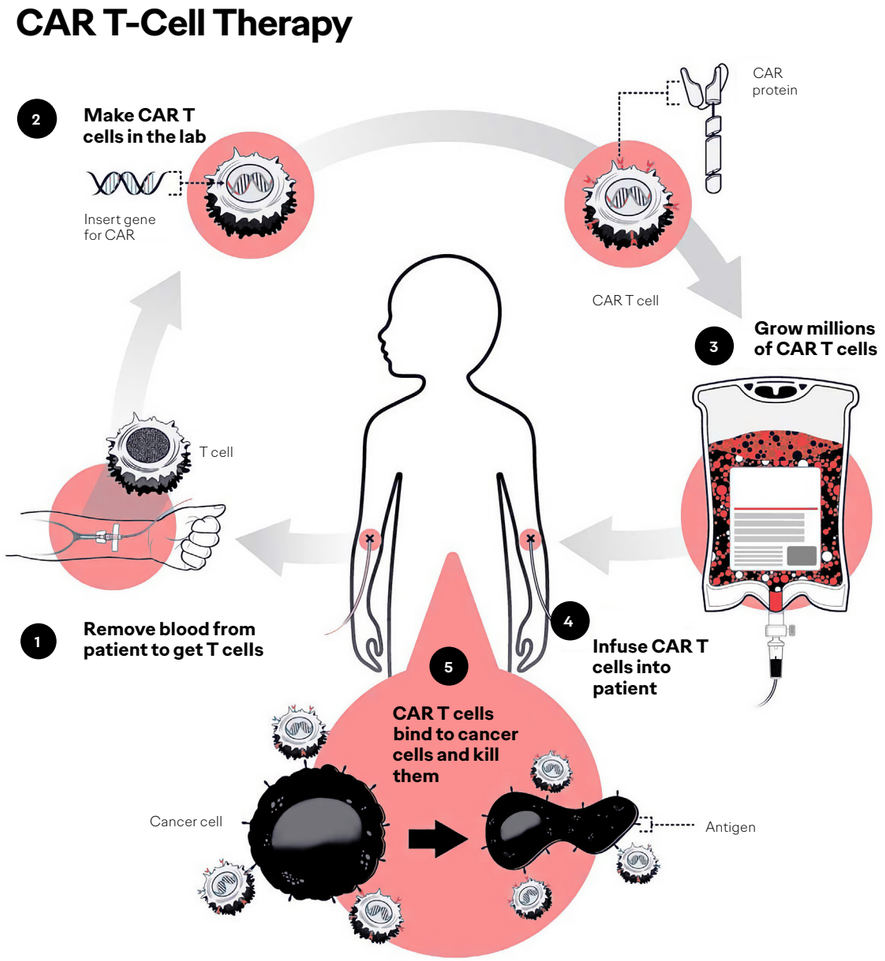
Midjourney

fatal cytokine storm—that can happen with CAR T.[22] As NK cells need not be individualized for each patient and each cancer, treatment can commence more quickly and at a significantly lower cost.[23]

The world of immuno-oncology is producing yet another class of potent cancer fighters, and this group will sound familiar to all: mRNA vaccines. The same technology that led pharmaceutical companies to create COVID-19 vaccines in record time is also being investigated as an individualized cancer treatment. While COVID-19 may have thrust this mechanism of action into the limelight, "mRNA cancer treatment vaccines have been tested in small trials for nearly a decade, with some promising early results," writes Edward Winstead for the National Cancer Institute.[24] Given that, it's no surprise that mRNA cancer vaccines are being tested in dozens of clinical trials spanning a wide range of disease types, including the most deadly and recalcitrant ones like pancreatic cancer, colorectal cancer, and melanoma.

But how does a vaccine treat cancer? The basic principle is the same as for any vaccine: they strengthen the body's natural defenses—in this case, against cancer cells. Cancer treatment vaccines "elicit an immune response against abnormal proteins, or neoantigens, produced by cancer cells," Winstead notes. These proteins aren't on normal cells, and that makes them a good target for priming an immune response. Thus alerted, the patient's body can start fighting the tumor on its own.[25] Messenger RNA vaccines are being tested individually and in combination with drugs to enhance immune response, and the early returns are looking good.[26]

Individualizing mRNA vaccines takes time, however, and that's something that some patients just don't have. It can take one or two months for mRNA vaccines to be ready, which is why researchers



CAR T-cell therapy is a type of treatment in which a patient's T cells are genetically engineered in the laboratory so they will bind to specific proteins (antigens) on cancer cells and kill them.

1. A patient's T cells are removed from their blood.
2. Then, the gene for a special receptor called a chimeric antigen receptor (CAR) is inserted into the T cells in the laboratory. The gene encodes the engineered CAR protein that is expressed on the surface of the patient's T cells. creating a CAR T cell.
3. Millions of CAR T cells are grown in the laboratory.
4. They are then given to the patient by intravenous infusion.
5. The CAR T cells bind to antigens on the cancer cells and kill them.

Source: cancer.org

are also looking into creating vaccines based on collections of tumor features that have been linked to certain types of cancer. Work like that could lead to more generalized cancer vaccines, lowering costs and speeding up treatment.

A new member of the care team

Generative AI has flashed into the public consciousness, launching a flotilla of headlines, but AI has been quietly revolutionizing cancer care since "the emergence of the field."[27] It has already contributed to drug development—a process awash in the kind of data that AI excels in parsing.[28] These expert systems do a better job than humans in identifying novel anticancer targets, enabling researchers to discover new drugs, especially targeted ones.[29] "AI-designed cancer drugs are started in clinical trials,[30] and they got there faster than they could have without the help of the machines," says Corina Kellam, EVP leads experience and innovation from Ogilvy Health. As AI engines gain in power and sophistication, their ability to augment human scientists may produce a rush of new drug targets, adding new urgency to a golden age in cancer drug development.

As cancer care becomes more precise and individualized, clinicians need better expert system augmentation to chart the right path for their patients. To provide that, AI is entering the exam room, providing advanced clinical decision support and "demonstrating capabilities that are equivalent to or that surpass expert intervention."[31] As the technology improves and adoption grows, AI will improve care, especially in areas with a shortage of expert clinicians.

AI and a particular subset called computer vision are also making a mark in cancer detection and diagnosis. As Nadia Jaber writes in the National Cancer Institute's *Cancer Currents Blog*, "Doctors use cancer imaging tests to answer a

mRNA transcribing a protein chain

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Image of a traditional research lab, busy, but with no people in it.

Midjourney

range of questions, like: Is it cancer or a harmless lump? If it is cancer, how fast is it growing? How far has it spread? Is it growing back after treatment? Studies suggest that AI has the potential to improve the speed, accuracy, and reliability with which doctors answer those questions."[32] That potential is being realized. AI has already shown that it can improve breast and prostate cancer imaging while also enabling clinicians to track worrisome lesions and guide patient management. It's also helping to create and interpret more complex and more exact genomic-informed clinical models and better cancer prognostication, helping doctors find cancer earlier and more accurately predict its progress.[33]

Like cancer treatment itself, however, AI has some side effects. For one thing, most models have poor interpretability. Put simply, computer scientists don't know exactly what is going on in the complex neural networks that AI uses. Not only do unexpected abilities emerge from these "black boxes," but they also can do things such as determining the likely gene mutations in a tumor that their makers don't understand.[34] More troubling,

"AI-designed cancer drugs are already in clinical trials, and they got there faster than they could have without the help of the machines."

CORINA KELLAM, EVP LEADS EXPERIENCE AND INNOVATION FROM OGILVY HEALTH.

though, is bias. Societal biases are deeply entrenched in the data used to train AI models, and that leads to actual harm. Some medical algorithms, for example, are less accurate for Black people than for White people. One widely used medical algorithm, for example, "exhibits significant racial bias: At a given risk score, Black patients are considerably sicker than White patients, as evidenced by signs of uncontrolled illness."[35] When AI is used to analyze gene mutations or discover potential therapeutic molecules, bias is less of an issue. Nevertheless, the proliferation of AI in medicine could further cement inequities in the healthcare system. More on that later.

Getting ahead of the disease

AI imaging and diagnosis will also impact screening. Improved computer vision and decision support will help clinicians catch worrisome signs earlier and better determine where intervention is required. Deep-learning algorithms are "extracting tumor features automatically from pathology reports."[36] That's great, but it doesn't address the question of screening itself. The Biden administration's Cancer Moonshot aims to improve access to and uptake of screening, which will help patients get diagnosed sooner. Despite some inconclusive data, public health officials have issued strong recommendations for earlier screening, which has a downside: overdiagnosis and unnecessary treatment. Newer, more sophisticated tests may address that—and, in the case of multicancer early detection methods—catch more cancers earlier at the same time. Blood tests currently in trials can identify abnormal DNA and epigenetic changes and, when used in combination with other screening methodologies, can alert doctors to early cancer presentation. Also known as liquid biopsies, these tests hunt for circulating tumor DNA (ctDNA). ctDNA is "tumor derived fragmented DNA in the bloodstream that has come from primary or metastatic cancer sites," according to Olatunji B. Alese, MD, FWACS, et al, in *2022 ASCO Educational Book*, and

Image of a phlebotomist at work

Midjourney

can be used to monitor disease, even in early stages.[37] It may even become a successful screening tool, which is crucial given that some 70% of fatal cancers are not detectable by screening now.[38]

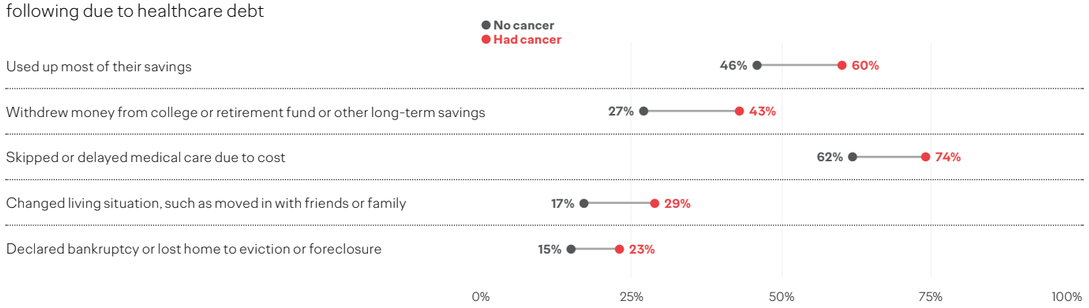
While these tests are still in clinical trials, cost estimates indicate that they may be pricey. Using them as an annual screening test for, say, everyone aged 50 years or older will impose significant costs on the system, possibly leading to higher premiums, worsening inequity, and further strain on public programs. Catching cancer earlier is priceless to an individual, but does early detection that may result in less expensive and more effective care for more people outweigh the screening cost in the entire population? That's a different question, and as oncology care gets both better and more expensive, society needs to start having more uncomfortable conversations about the cost of extending lives.

THE STRAIN IN THE SYSTEM

What's a Life Worth?

THE HIGH FINANCIAL TOLL OF CANCER

Share of indebted adults who say they or someone in their household have done the following due to healthcare debt



Note: *They or an immediate family member received treatment for cancer in the past five years.
Source: KFF Health Care Debt Survey of 2,375 U.S. adults, including 1,674 with current or past debt from medical or dental bills, conducted Feb. 25 through March 20, 2022.
The margin of sampling error for the overall sample is 3 percentage points. Credit: Alyson Hurt/NPR and Noam N. Levey/KHN

Some CAR T-cell treatments can cost hundreds of thousands of dollars per infusion.[39] NK cell therapy ranges from $25,000 to $50,000 per infusion. Monthly costs for newly approved drugs averaged $15,000 per month as of 2019.[40] Pricey though they may be, these new drugs can make a dramatic difference. Clinical studies of some of the most promising compounds and treatments have shown high remission rates, often in patients with no other options. But even with insurance, these brutal prices lead to financial toxicity—"harmful effects from the high cost of treatment on a person's quality of life."[41] The Inflation Reduction Act provides some relief starting in 2025 for those on Medicare, but others must face ruined finances in addition to a life-threatening illness. That even leads to patients refusing treatments—even cures—because they will jeopardize their family's economic well-being.

That's even more galling for relatively ineffective treatment. According to Andrew Hertler, MD, chief medical officer at New Century Health, mentioned in an article in *Managed Healthcare Executive*, "71 consecutive FDA approvals of drugs to treat solid tumors increased survival an average of just 2.1 months, and 70% of the drugs approved over the past two decades have no effect on improving overall survival."[42] (Note, however, that surrogate endpoints are used in some studies due to the time challenges associated with measuring overall survival.)

While that's troubling, consider, too, that overall survival isn't the only goal for oncology treatment. Value can be found in a drug with less toxicity or one that improves patient quality of life in some other way.[43] For example, bone-targeted treatment in men with prostate

A close up of a person experiencing stress, anxiety, depression, reduced quality of life in the style of Chuck Close

Midjourney

cancer may not extend lives, but it can improve quality of life by helping prevent broken bones, reduce the need for radiotherapy, and delay other symptoms of bone metastases like pain.[44]

Making hard choices

When illness strikes, the instinct is to do everything possible, no matter the price, but governments, payers, and healthcare economists must look at the hard math of costs. Distasteful as it may seem, governments do put a price tag on a human life. In the United States, it's somewhere between $7.4 million and $9.6 million depending on which agency is doing the valuing.[45] That's straightforward enough, but it doesn't help sort out if the cost of a treatment is worth it. The famous case of Herceptin and the National Institute for Health and Clinical Excellence (NICE) in the UK illustrates the dilemma. At somewhere around £22,000 for a year's treatment was originally approved by NICE for use in women with aggressive HER2-positive breast cancers. Patients and patient advocates felt that was too restricting and organized a pressure campaign, leading to a national debate about efficacy, safety, and cost and ultimately resulting in the Secretary of State authorizing wider use and setting off budget problems for the National Health Service.[46,47,48]

One bulwark against controversy is the World Health Organization and their formula that takes the per-capita gross domestic product (GDP) of a nation and multiplies it by three to determine a cost-effective treatment. In the United States, for example, a treatment that produced one year of good health, also known as a quality-adjusted life year, would be considered cost-effective by the World Health Organization if it were under $210,000. Other countries have different standards, "but $100,000 to $200,000 has become the standard range, endorsed by many health economists," writes Austin Frat in the *New York Times*.[49]

That's well above the $42,000 average cost of cancer care in the year following diagnosis, which is great, but far below the real-world cost of something like CAR T-cell therapy for B-cell lymphoma, which one study found averaged $475,000 for the treatment alone.[50] Launch prices for self-administered cancer drugs soared by an inflation-adjusted rate of 25.8% between 2017 and 2021. Infusion therapies and biologics went up more than twice that rate.[51] These high costs lead to tough questions of affordability. Now that oncology has advanced so far, health systems can begin to contemplate what eradicating the disease would cost. A German study did exactly that, examining the cost of eliminating cancer in Germany at current price levels. The answer was sobering: a three-fold increase in total health expenditures.[52]

That's going to be a problem the US health system will have to grapple with, but perhaps better screening, earlier detection, and more effective oncologic agents can change the calculus. As Raymond Johnson, SVP market access at Ogilvy Health, puts it "With the volume of newer, targeted oncology brands currently in the market as well as in the pipeline, market access decision makers are evolving their utilization management policies to ensure rapid, responsible access—particularly given these brands' promises of providing improved outcomes and quality of life."

Too, if cancer is caught earlier, it might be eliminated at lower cost, presuming medicine adequately addresses the thorny problem of overdiagnosis and treatment of cancers that will not go on to cause symptoms and/or death.[53] Bending the cost and mortality curves will have the biggest effect of all, and pharmaceutical brands and other research organizations may be on their way to doing it, with oncologists leading the charge.

Unfortunately, for oncologists, the future is less bright. The clinicians on the front lines are buckling under their responsibilities, and without them, the whole edifice of cancer care will tumble.

Physician Heal Thyself

Proponents of AI talk about how expert systems will extend the reach of healthcare providers, helping them treat more people and taming the physician shortage. That future is tantalizing, but it's not here yet. And the problem itself is vast. The Association of American Medical Colleges (AAMC) projects that the United States will be short between 37,800 and 124,000 physicians by 2034.

This isn't just a problem for the future. Janis M. Orlowski, MD, chief healthcare officer of the AAMC, raised the alarm about the current situation on a recent American Medical Association podcast: "We talk about a worsening physician shortage, but I want to make sure that people understand that there's a physician shortage today," she said.[54] For oncology, the problem is compounded by a high number of doctors nearing retirement age.

There's another crisis brewing among oncologists: mental health. As David Bonnyay, PhD, EVP executive medical director at Ogilvy Health noted, " Oncologists embrace the demands of their speciality–caring for patients at the end of their lives coupled with the need to constantly educate themselves on the latest advances in treatments and standard of care. These are the challenges they signed up for, and they find meeting them to be very rewarding." Despite the positives, oncologists are under strain. Faced with long hours and smothering amounts of bureaucratic responsibilities, more than 45% of oncologists are experiencing burnout. This horrifying statistic sums up the gravity of the situation: 12% of oncologists have had suicidal ideation compared to 9% among physicians as a whole.[55] As the American Society of Clinical Oncologists notes in their *Education Book,* "With exceedingly high and unacceptable rates of burnout and suicide in the practice of medicine and oncology in particular, a tacit disavowal of the problem is no longer acceptable.[56]

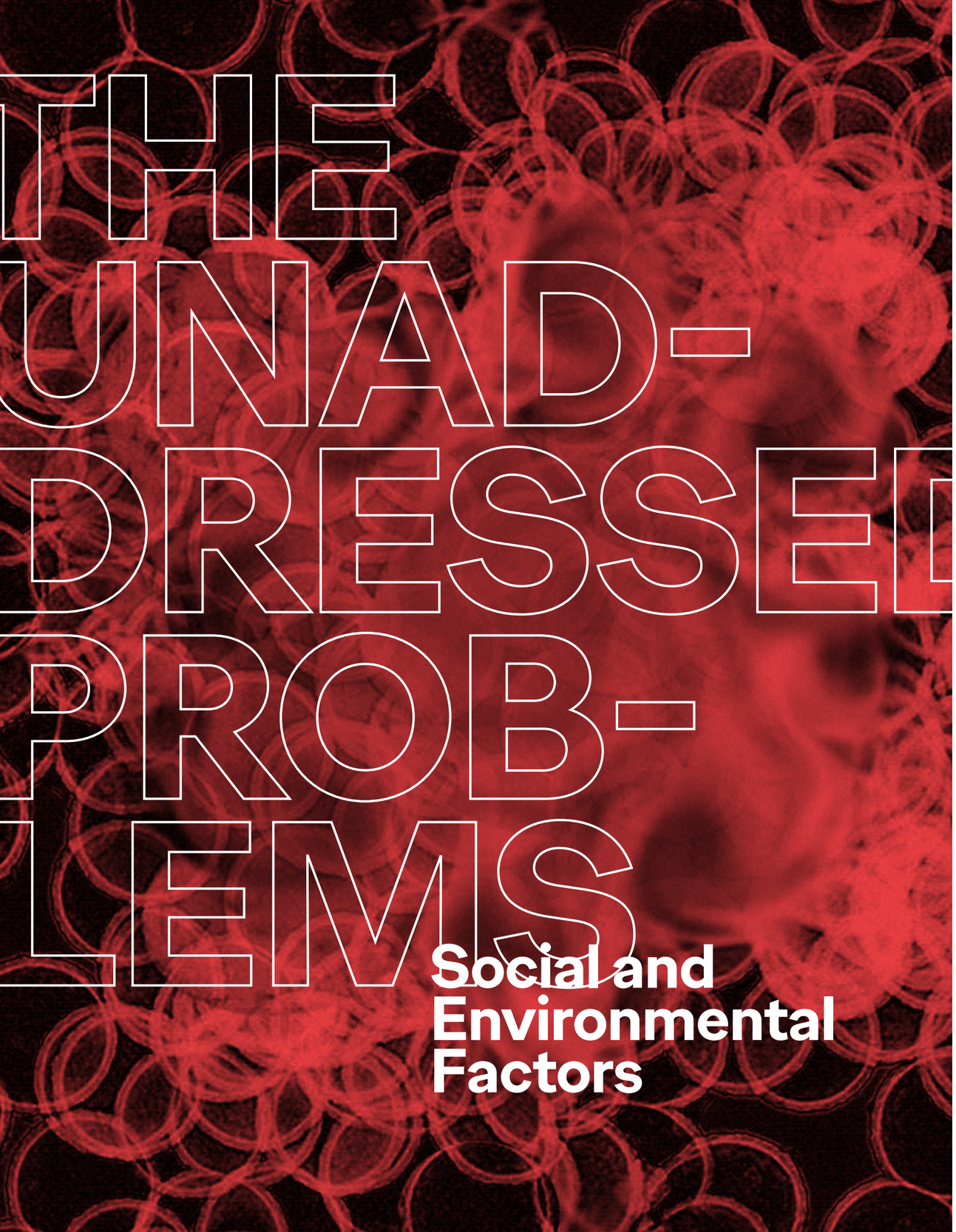
"One of the prime tasks for Ogilvy's Oncollab will be to find ways to improve the lives of oncologists and other cancer care professionals. We rely on them to translate large-scale impacts to tangible effects on an individual's life."

CHRISTIANNA GORIN, CHIEF GROWTH AND STRATEGY OFFICER AT OGILVY HEALTH

Oncologists need support. They need help in managing overwhelming responsibilities and changing roles, avalanching medical advances, and the constant companionship of death. But oncologists thrive on the gratifying bond they form with patients and the resolute determination to keep hope alive for them. "One of the prime tasks for Ogilvy's Oncollab will be to find ways to improve the lives of oncologists and other cancer care professionals," said Gorin. "We rely on them to translate large-scale impacts to tangible effects on an individual's life."

An oncologist as if it were drawn by Max Beckman

Midjourney



CANCER CARE AND RESEARCH LITTLE HEED TO MINORITIES

Only 4.7% of **US oncologists** are Hispanic or Latino, just 3% are Black, and a vanishingly small number are AIAN—0.1%.

Black people represent 15% of all **patients with cancer.**

Black people represent 4% to 6% of **trial participants.**

Keeping hope alive is immeasurably easier when doctor and patient share more than an exam room. People of color have a different healthcare experience than White people. They're having to fight for their well-being in a system that is still awash in racism of all types. A noxious cloud of systemic and institutionalized racism surrounds Black, Hispanic, Asian/Pacific Islander (API), and American Indian/Alaskan Native (AIAN) patients. Ignorance and unconscious bias cause actual harm. "Black Americans have the highest overall death rate from cancer of any ethnic or racial group in the USA," writes Wilfred Ngwa in *The Lancet*. Black men have more than twice the prostate cancer death rates as other groups, and "Black women are 40% more likely to die than White women, and twice as likely to die if they are aged over 50 years."[57] Greater diversity among physicians won't solve that alone, but when more Black, Hispanic, API, and AIAN people enter oncology, they bring with them their life experiences and, in so doing, make the patient experience better for everyone. Or, as Ngwa puts it, "purposefully enlisting Black doctors and scientists in the war against cancer can also help, and is a *sine qua non* for ending systemic racial inequalities in oncology."[58]

There's a lot of work to be done on this front. "Enhancing providers' ability to provide culturally and linguistically appropriate care, as well as increasing diversity of the healthcare workforce, may help address health disparities," notes a report from the Kaiser Family Foundation. STEM education in general and medical school in particular need to encourage more students of color and this has led to too few physicians from underrepresented minorities—a situation magnified in oncology. Only 4.7% of US oncologists are Hispanic or Latino, just 3% are Black, and a vanishingly small number are AIAN—0.1%.[59] Cancer care pays too little heed to minorities at the research level too. Black and Hispanic or Latino patients are woefully underrepresented in clinical trials, especially for oncology trials. Black people represent 15% of all patients with cancer, but they make up only 4% to

"No one part of the healthcare system is responsible for fixing this. This is a societal problem—a problem that requires collaboration —and everybody needs to step up: regulators, communicators, social workers, researchers, and more. And we can't wait for someone else to take the lead."

CARA LEVINSON, SVP AND BRAND AND CULTURAL STRATEGIST AT OGILVY HEALTH

6% of trial participants. The numbers are similar for Hispanic or Latino people: 13% of all patients and just 3% to 6% of trial participants.[60] Worse, trial participation for those two groups has *decreased* over the past 10 years.[61]

Cancer, however, doesn't discriminate. The incidence of cancer is roughly the same for Black and White people. The mortality rates are not. According to the Kaiser Family Foundation, "Black people continued to have the highest cancer mortality rate," due to later diagnosis and lower survivability at every stage for most cancer types. "Cancer disparities," the report continues, "are driven by a combination of inequities within and beyond the health system that are rooted in racism and discrimination."[62]

When one considers that between 70% and 90% of cancers are caused by external factors,[63] the danger of inequality seems yet more insidious. Housing policies, economic discrimination, and other manifestations of institutional, structural, and personal racism have forced people of color into residentially segregated urban neighborhoods with "dense industrial facilities that result in high exposure to harmful air toxins."[64] Poor access to healthy food, inadequate income, and unavailability of free time and the green spaces to enjoy it also weigh on people of color. Combine that with constrained access to healthcare and more negative experiences with the healthcare system when compared to White people, and the result is a range of disparity in cancer outcomes[65]—disparities that will continue to exist unless society prioritizes investment in fixing environmental determinants of health in the same way it has in new cancer therapies. Says Cara Levinson, SVP and brand and cultural strategist at Ogilvy Health, "No one part of the healthcare system is responsible for fixing this. This is a societal problem—a problem that requires collaboration—and everybody needs to step up: regulators, communicators, social workers, researchers, and more. And we can't wait for someone else to take the lead."

A beautiful, soothing view of a crossroads with one path leading to a beautiful glade and, in the distance, additional paths joining it like tributaries to a river in the style of Paul Gauguin.

Midjourney

Despite the setbacks, the state of cancer care is better than it has ever been. The decades-long progress in reducing cancer mortality will only accelerate as vast numbers of new therapies move from clinical trial to clinical practice. AI will speed drug development and augment physician expertise. Screenings will catch malignancies earlier, allowing them to be treated more easily. But the state of cancer care is also perilous. Deep inequities persist, and fixing them requires systemic remedies, institutional changes, and work far outside the world of medicine. There are too few physicians, and too many of them are in crisis. The cost of cancer care continues to grow, especially for new therapies, many of which fall far outside of what the system can—or should, per international guidelines—afford. “Look,” laments Levinson, “I am wholly convinced we can turn cancer into a chronic condition by midcentury. What I don’t know is this: Do we have the resolve to do it?”

We are at a crossroads, and the path ahead is unclear, even if the destination —a post-cancer world—grows nearer than ever before. To reach it, we will need to learn to see the healthcare system as the complex, interdependent organism that it is and strive, as medicine does, for healing in a profoundly collaborative environment. That means addressing the ills besetting cancer care—from burnt-out oncologists to patients experiencing discrimination. It means rethinking standards of care, allocation of resources, and the boundaries of the healthcare system itself. It means better collaboration across disciplines and silos, more collaboration among private entities and between the entire healthcare industy and government—all with one goal in mind: making a meaningful impact. Bringing about a post-cancer world will be expensive and wrenching. But finally, 52 years after the war on cancer began, the battle appears to be going our way.

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