

Where We Stand

Coming off a public health disaster and political and social upheaval during the pandemic, the medical field faces huge challenges. Still, advancements in artificial intelligence, genomic discoveries and the ability to harness the immune system are driving research and fueling hope. Here, some trends that are shaping the way we'll be thinking about wellness and care in the future.

By Janet Lee



LOSING YEARS

Life expectancy declined at its most significant rate in more than seven decades in 2020 and 2021, thanks to COVID-19. It now stands at 76.60 years on average, down from 78.86 in 2019, according to a study from the University of Colorado Boulder, the Urban Institute and Virginia Commonwealth University. While 19 other peer countries included in the report also saw declines in 2020—albeit less severe than the U.S. drop—they at least rebounded somewhat in 2021. Besides the pandemic, research also pointed to the obesity epidemic, heart disease and health care inequities for the widening gap between the U.S. and other countries. Of note: The largest declines in life expectancy in between 2019 and 2021 were among Black and Hispanic populations.

MIND MATTERS

Mental health has taken a nosedive over the last couple of years, but even before that 20% of adults experienced a mental illness, according to a 2022 report from Mental Health America (MHA). Thoughts of suicide are on the rise, and a significant portion of adults and youth don't receive or have access to treatment. One potential stopgap: Last summer, the new 988 Suicide & Crisis Lifeline went live (it was formerly known as the National Suicide Prevention Lifeline, reachable via a 10-digit phone number). Anyone having a mental health, substance use or suicide crisis can call or text 988 and speak to a real person instead of dialing 911 or going to the emergency room. To read more about the roots of the mental health crisis in the U.S. and promising research into psychedelics, turn to page 60.



PREPARING FOR CLIMATE EVENTS

A 2022 study published in *Nature Climate Change* found that climate change can worsen 58% of all known pathogenic diseases. “The question becomes, how do we adapt to this new set of threats as a society?” says Amir Sapkota, chair of the epidemiology and biostatistics department at the University of Maryland School of Public Health. “It requires a paradigm shift in medicine and public health. Rather than simply reacting to these threats, we have to apply proactive approaches.” For example, a high risk of heat waves and forest fires in an area could trigger early warning systems that tell doctors and clinicians providing dialysis to prepare for more patients that week (heat worsens kidney conditions), says Sapkota. For more on how climate change is impacting health, turn to page 78.

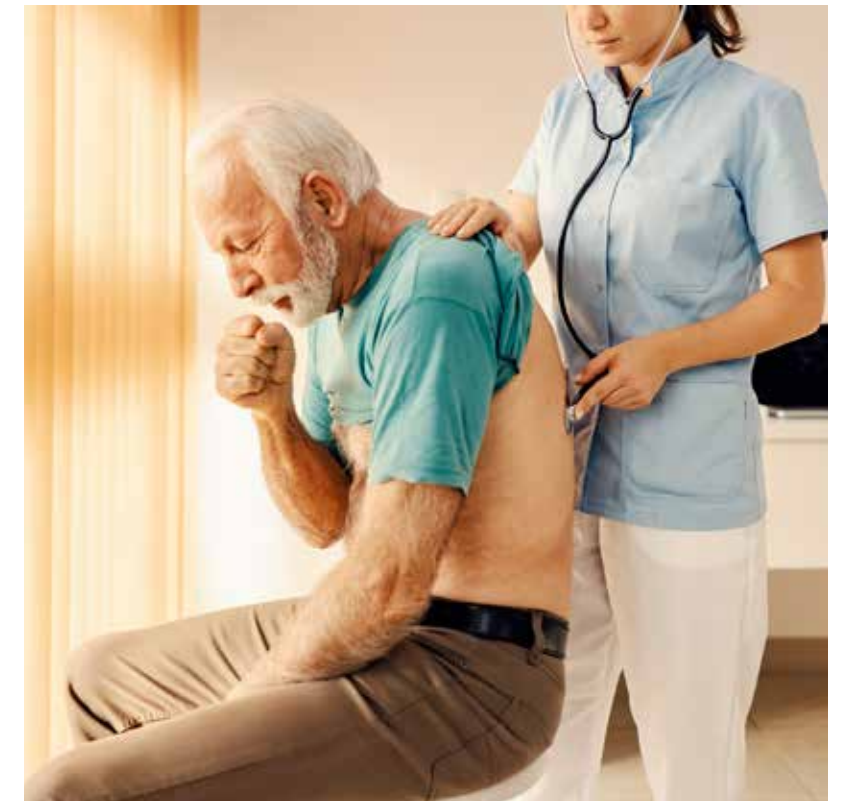


CANCER CARE FOR ALL

The number of cancer survivors is expected to rise by about 30% between 2019 and 2030. “Where we are today is much better than where we were 20 years ago,” says Dr. David Ryan, clinical director of the Massachusetts General Hospital Cancer Center in Boston. Oncologists are now better able to target various types of cancer, but that also means there’s a need for specialists who are familiar with these specific subtypes and there aren’t enough of those to go around, especially in rural areas, says Ryan. “The opening up of virtual care has created tremendous opportunities to reach out to more isolated communities,” he says, but some states still don’t allow it unless the doctor is licensed in that state (like Maine and New Hampshire). To read about some of the new advances in cancer treatment, turn to page 44.

A MYSTERIOUS ILLNESS

Long COVID—symptoms like brain fog, joint pain and heart issues—is baffling researchers and physicians. The National Center for Health Statistics estimates that 14% of U.S. adults have had long COVID. “We have to solve the puzzle that causes long COVID,” says Dr. Ziyad Al-Aly, a clinical epidemiologist at Washington University in St. Louis. “Why are some people profoundly disabled and others unscathed? We need to understand the mechanisms.” Al-Aly is lead author of a pre-print study investigating the risks of COVID-19 reinfection. “Does [it] elevate your risk of various health problems [including death and hospitalization]? The answer is absolutely yes.” This summer, the National Institutes of Health launched a study that will follow thousands of people, tracking their acute and post-COVID symptoms.





A SHARPER LENS

Scientists have relied on observational studies for years to investigate associations between things like alcohol intake and heart disease risk. The problem is, observational studies can't show that one thing causes another. There are also often confounding variables in the background that can affect outcomes. One example: Drinking a glass of wine a day is associated with a lower risk of heart disease, but is it the wine or other healthy habits, such as exercise or eating a plant-based diet? Thanks to the genetic data that scientists can now gather during a study, it's easier for them to test risk factors based on genetic variants and determine causation. The method is called Mendelian randomization and it's appearing in more and more studies. To see how alcohol impacts heart disease, turn to page 73.

REDEFINING "HEALTH"

"Traditionally a lot of the focus for heart health has been on things like blood pressure and quitting smoking, but now we're including social determinants of health as part of our guidelines," says Dr. Michelle A. Albert, president of the American Heart Association and a professor of medicine at the University of California, San Francisco. "For example, sleep impacts blood pressure and if you live in an environment where you're under stress, sleep quality is poorer. So you just can't tell people to get better sleep." The AHA is just one group that's investigating how social determinants of health, including racism; safe housing; clean water; healthy, affordable food; education; transportation and employment status together impact health outcomes, and how to include these factors in the data they collect and incorporate them into treatment.



MAKING PREGNANCY (AND BEYOND) SAFER

With 17.4 deaths per 100,000 pregnancies, the U.S. ranks at the bottom for maternal mortality among industrialized nations. Black women are two-and-a-half to three times more likely to die in or right after childbirth as white women and Hispanic women, according to a 2020 report from the Commonwealth Fund. "There's a lot of research in the area in terms of health care disparities and social determinants of health," says Dr. Joanne Stone, chair of obstetrics, gynecology and reproductive science at the Icahn School of Medicine at Mount Sinai in New York. "There's also a big emphasis on what's called the fourth trimester now, the postpartum period." (Forty percent of maternal deaths happen within six weeks after the day of delivery.) In addition, Stone says there's a push to make a patient's pregnancy history part of their overall medical history. "Things like preeclampsia increase risk for high blood pressure, stroke and heart disease later, but a lot of internal medicine doctors don't ask about that," she says. Read about efforts to improve equity in health care on page 88.

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