

How Loneliness is Damaging Our Health

Even before the pandemic, there was an “epidemic of loneliness” and it was affecting physical health and life expectancy.

April 20, 2022

For two years you didn’t see friends like you used to. You missed your colleagues from work, even the barista on the way there.

You were lonely. We all were.

Here’s what neuroscientists think was happening in your brain.

The human brain, having evolved to seek safety in numbers, registers loneliness as a threat. The centers that monitor for danger, including the amygdala, go into overdrive, triggering a release of “fight or flight” stress hormones. Your heart rate rises, your blood pressure and blood sugar level increase to provide energy in case you need it. Your body produces extra inflammatory cells to repair tissue damage and prevent infection, and fewer antibodies to fight viruses. Subconsciously, you start to view other people more as potential threats — sources of rejection or apathy — and less as friends, remedies for your loneliness.

And in a cruel twist, your protective measures to isolate you from the coronavirus may actually make you less resistant to it, or less responsive to the vaccine, because you have fewer antibodies to fight it.

New York City, where one million people live alone, was for two years an experiment in loneliness: nine million people siloed with smartphones and 24/7 home delivery, cut off from the places where they used to gather. Therapists were booked up, even as tens of thousands of New Yorkers were grieving for a best friend, a spouse, a partner, a parent.

For Julie Anderson, a documentary filmmaker, it sets in every day at 5 p.m. — the hour when she would be thinking of dinner with friends, evening plans, now shrunk to watching television alone. Stephen Lipman, a fine artist in the Bronx, feels it in the idle hours — once a cherished time to work on his art, now drained of ideas or motivation. Eduardo Lazo, whose wife died of pancreatic cancer early in the pandemic, feels it every minute, as the end of the world they made together.

“Who doesn’t see suicide as an option at that juncture of life?” he said. “But I’m religious, and that would terminate any chance I have of being with my wife or my loved ones when I’m dead. I can’t jeopardize that possibility.”

Robin Solod, who lives alone on Manhattan’s Upper East Side, thought she was an unlikely candidate for loneliness.

“I was too busy schmoozing,” she said of her life before the pandemic. “Chicken soup at the Mansion Diner. We would go to Zabar’s on the West Side every week, get a bagel, sit, schmooze. Who was home? I never was home. Then all of a sudden, everything comes to a halt.”

As some pandemic restrictions now finally lift, and New York returns to some semblance of normal, one unknown is the lasting effects of two years of prolonged isolation and the loneliness that came with it. Some people cut off nearly all physical interaction, others were more social, but few got through the various lockdowns and spikes without some sense of loss for the human connections they were missing.

For Ms. Solod, who believed “people are my air,” one of the hardest blows came just before the pandemic, when she had to part with her loyal companion, a rescue Shih Tzu named Annie. Ms. Solod, 67, has health problems that keep her in a wheelchair, and eventually she felt she could no longer care for the dog.

“Now Annie lives out in Long Island, and it’s so lonely without her,” she said. “I never didn’t have a dog. The environment that I’ve always lived in has been my dog, the park, the people with dogs in the building. That was the connection. Everything has changed.”

Biology of an Epidemic

For Stephen Lipman, an artist in the Bronx, loneliness hits in the idle hours.

Loneliness, as defined by mental health professionals, is a gap between the level of connectedness that you want and what you have. It is not the same as social isolation, which is codified in the social sciences as a measure of a person’s contacts. Loneliness is a subjective feeling. People can have a lot of contact and still be lonely, or be perfectly content by themselves.

For many New Yorkers, the pandemic brought too much contact with others — in crowded apartments, workplaces or subways. But the contacts were not necessarily fulfilling or desired and maybe seemed dangerous. This, too, is a condition for loneliness.

In small doses, loneliness is like hunger or thirst, a healthy signal that you are missing something and to seek out what you need. But prolonged over time, loneliness can be damaging not just to mental health, but also to physical health.

Even before the pandemic, the United States surgeon general, Vivek Murthy, said the country was experiencing an “[epidemic of loneliness](#),” driven by the accelerated pace of life and the spread of technology into all of our social interactions. With this acceleration, he said, efficiency and convenience have “edged out” the time-consuming messiness of real relationships.

The result is a public health crisis on the scale of the opioid epidemic or obesity, Dr. Murthy said. In a [2018 study](#) by the Kaiser Family Foundation, one in five Americans said they always or often felt lonely or socially isolated.

The pandemic only exacerbated these feelings. In a recent [citywide survey](#) by New York’s health department, 57 percent of people said they felt lonely some or most of the time, and two-thirds said they felt socially isolated in the prior month.

“Loneliness,” Dr. Murthy said, “has real consequences to our health and well-being.”

Being lonely, like other forms of stress, increases the risk of emotional disorders like depression, anxiety and substance abuse. Less obviously, it also puts people at greater risk of physical ailments that seem unrelated, like heart disease, cancer, stroke, hypertension, dementia and premature death. In [lab experiments](#), lonely people who were exposed to a cold virus were more likely to develop symptoms than people who were not lonely.

An often-cited [meta-analysis](#) by Julianne Holt-Lunstad of Brigham Young University compared the risk effects of loneliness, isolation and weak social networks to smoking 15 cigarettes a day.

“The general public recognizes how loneliness might influence our levels of distress, our emotional or mental health,” Dr. Holt-Lunstad said. “But we probably don’t recognize the robust evidence of the effects on our physical health.”

Nor do we recognize the economic cost.

Social isolation and loneliness are associated with an additional \$6.7 billion in Medicare spending and cost employers more than \$154 billion annually in stress-related absenteeism, plus more in job turnover, according to studies by [AARP](#) and the insurance giant [Cigna](#).

Yet the culture has moved slowly to address the epidemic, Dr. Murthy said, treating loneliness as an unpleasant feeling rather than a public health crisis. “There are more adults struggling with loneliness than have diabetes,” he said. “Yet think about the discrepancy in the attention that we give to these two conditions.”

Chipping Away

Ms. Solod, before the pandemic, was not concerned about any of this. She lived alone, which did put her at higher risk of isolation, but she had always immersed herself among people. “A million friends,” she said.

She had run an electrolysis business, cut hair at Bergdorf Goodman and had a real estate license. She’d even worked as a hostess at Chippendale’s.

“I was beyond dynamic,” she said.

But New York can chip away at one’s social network. Friends get buried in work, move away, find lovers, change dog parks. Men are more likely to be socially isolated, but women are more likely to be lonely.

For people over 60, like Ms. Solod, who are one of the highest-risk groups, the isolation often begins with their health.

Six years ago, Ms. Solod began treatment for lung cancer, then multiple myeloma. Suddenly her life revolved around medical treatments, not socializing, and she needed a wheelchair to get around.

Yet she was still enjoying the city with friends or with her mother, who lived nearby. “I could hear my mother’s voice: ‘Don’t stay home,’” she said. Then a year before the pandemic her mother died.

That was a connection she could not replace, a role no one else could step into. She still had lots of social contacts, but she was missing a meaningful connection that she needed. The name for that gap is loneliness.

“The worst was the Jewish holidays,” she said, when all her losses seemed to pile up. “I once had a life. I had a husband, I had a mom, neighbors and friends and relatives. That ceases to exist in the same way when the focal point of the mother is gone, that central person. When that’s gone, nothing can bring back the holidays.”

Then the pandemic hit.

Loneliness in the Genes

For Julie Anderson, a documentary filmmaker, 5 p.m. is the lonely hour.

Turhan Canli, professor of integrative neuroscience at the State University of New York at Stony Brook, wondered whether there was a gene that turned on or off when a person was lonely. Past researchers had shown that loneliness, like other forms of stress, was associated with depression, inflammation, cognitive decline and heart disease. But how? What pathways were opened or closed when people were lonely, what genes activated or deactivated? From the [Rush University Memory and Aging Project](#) in Chicago, he was able to get tissues from the brains of older adults who in their final years had answered questions about their levels of loneliness.

His analysis provided an insight into the physical, cellular nature of loneliness. He found distinct [differences between the brains of lonely or non-lonely people](#). Some genes that promote the proliferation of cancerous cells were more activated in lonely people, while genes that regulate inflammation were turned off.

“We found hundreds of genes that would be differently expressed depending on how lonely these people felt,” he said. “These genes were associated with cancer, inflammation, heart disease, as well as cognitive function.”

He cautioned that, as with many studies of loneliness, his did not prove that loneliness caused these differences in gene expression; it might simply have been more prevalent in people who had them.

Loneliness is associated with depression and heart disease, among other conditions.

Ms. Anderson, the documentary filmmaker, described nights in her apartment when she felt so oppressively lonely that she would not answer her telephone, even though the conversation might improve her mood. “You’d think I would pick up the phone and call people,” she said. “I feel that the loneliness feels so heavy, that if I call someone I’m going to be so down that they don’t want to talk to me. It’s exactly what I should do. I just don’t feel like it.”

For Ms. Solod, who had been struggling before Covid, the pandemic brought several new levels of loneliness. There was the abrupt end to casual encounters with neighbors, merchants, the

waitstaff at her favorite diner or deli. There were the friends who used to visit, but were suddenly just voices on the telephone.

In December of 2021, she was hospitalized for two weeks in the Covid unit at Memorial Sloan Kettering Cancer Center, so she could receive treatment for cancer and the coronavirus. Since that experience, she said, “I’m terrified.”

So even as she saw neighbors return to some social activity, she remained extremely cautious. Sometimes she’d take her wheelchair into her building lobby to watch the dogs, then go back upstairs, missing her own dog. And always, she said, she was conscious of how many people had died.

“I speak to my friends all the time,” she said. “They call me. But it’s very different, that type of connection. You don’t have the same emotions, the same feelings, as when you see someone in person. And also, when you can hug someone, it’s very different.”

The pandemic has underscored just how important even casual connections are for emotional well-being, said Anne Marie Albano, director of the [Columbia University Clinic for Anxiety and Related Disorders](#). “Even the little things like making room for someone to sit down next to you on the subway, or someone doing that for you — those kinds of things are not happening,” Dr. Albano said. “And that makes an individual who is prone to feel alone feel that more intensely.”

The New Normal?

Robin Solod used to be “busy schmoozing.

Even as case numbers in New York have remained well below their peak, Ms. Solod’s loneliness has not eased. If anything, she said, seeing people about their business, without masks, has made her feel even more isolated.

“So many people I know say, ‘Oh, don’t worry,’ and they start quoting the mayor and talk about the kids in school. But even putting the cancer and my illness aside, I would say I’m still very frightened of the virus. I don’t want to have to go back to that world of isolation.”

During the Iranian New Year in late March, an Iranian friend brought her food, for which she was grateful. “But then people don’t like to stay,” she said. “It’s almost like we’ve been ingrained in running out. It’s a quick hello, and see you later. In my world, no one’s really staying.”

Even if life returns to the way it was before the pandemic, it is unclear how far the loneliness of the last two years will lift, or what scars it might leave behind. According to [Stephanie Cacioppo](#), an assistant professor of psychiatry and behavioral neuroscience at the University of Chicago, loneliness, like other forms of stress, may leave lasting damage.

One early indicator is life on the college campus, Dr. Cacioppo said. “Now that students are back, we are hearing so much loneliness and isolation tied to disappointment. College is not what kids expected it to be.” So social isolation was reduced, but a form of loneliness has lingered, in the gap between the social life people want and what they have.

The Moonshot to Cure Loneliness

People are more connected through social media and computers, yet loneliness is on the rise.

A paradox: People are more connected now than ever — through phones, social media, Zoom and such — yet loneliness continues to rise. Among the most digitally connected, teenagers and young adults, loneliness [nearly doubled](#) in prevalence between 2012 and 2018, coinciding with the explosion in social media use.

Four years ago, the British government appointed a [minister of loneliness](#) to address growing concerns among the public. One town set up “Happy to Chat” benches, with signs reading “Sit here if you don’t mind someone stopping to say hello.” The model has proved popular and spread around England and to Canada and Poland.

In the United States, the health care system has focused on social isolation in older adults but been slower to address loneliness as a broad public health problem.

Yet there are interventions that can help, Dr. Cacioppo said.

“For years people thought the best thing you could do for a lonely person is to give them support,” she said. “Actually, we found that it’s about receiving and also giving back. So the best thing you can do for someone who is lonely is not to give them help but ask them for help. So you give them a sense of worth and a chance to be altruistic. Even if we’re getting the best care, we still feel lonely if we can’t give something back. The care is extremely valuable but it’s not enough.”

She also suggested a regular practice of gratitude and altruism, both of which counter a mind-set of seeing others as threats.

But real remedies to the problem of loneliness, Dr. Murthy stressed, must address not just the lonely people but the culture making them lonely.

“We ask people to exercise and eat a healthy diet and take their medications,” he said. “But if we truly want to be healthy, happy and fulfilled as a society, we have to restructure our lives around people. Right now our lives are centered around work.”

From the surgeon general of the United States, this is a moonshot call, to reverse cultural patterns that are decades in the making and that profit some of the nation’s biggest businesses.

Robert Putnam, in his 2000 book “Bowling Alone: The Collapse and Revival of American Community,” charted a steady erosion of social ties dating back to 1950.

Hannah Arendt called widespread loneliness an underlying condition for totalitarianism.

Dr. Murthy’s moonshot called for a complete shift in societal priorities. But the alternative, he said, is literally killing people. Connected people live longer, happier, healthier lives. So a shift is in order, starting in our homes and workplaces.

“We have this powerful force for enhancing health and well-being, in their relationships,” he said. “But how often do we invest in that?”

For Robin Solod, alone in her East Side apartment, this is a need she came to recognize the hard way.

She'd always been too busy running around to think about how much she depended on her connections with people, and how fragile those could be, she said. “But when you take that away, what's left? What do you replace it with?”

She answered her own question. “Without the connection to other people,” she said, “you have sbupkis.”