A meeting of the nation’s top oncologists in Denver a couple of years back, Dr. David Agus, a prominent cancer researcher, was giving a keynote address. Agus talked about the need to take a new approach to treating cancer. He argued that focusing on killing or slowing the spread of cancerous cells was not enough. After all, despite a half-century of research by some of the best medical minds in the world, the death rate from cancer hasn’t changed much since the 1950s. Instead, doctors should try to keep a patient’s entire system healthy so the disease is less likely to take root in the first place. He said we should be able to control cancer without fully understanding it. At that, hisses arose from the audience.

A few Bronx cheers aren’t enough to discourage a scientist as determined as Agus. He believes he has found a new way to greatly reduce the odds of getting sick and has set out his philosophy in a potentially game-changing new book, The End of Illness, which just became a New York Times bestseller. In it, he offers his prescription for preventive medicine, and backs it with studies and lively anecdotes.

When I caught up with this slim, casually dressed man, he rattled off ideas as if he couldn’t let the world know fast enough about his thinking: “I want doctors to treat toward health and not treat toward disease,” he said. Agus had his eureka moment after reading a 2004 Fortune article called “Why We’re Losing the War on Cancer,” by Cliff Leaf. Himself a cancer survivor, Leaf, a Fortune editor at the time, wrote that researchers have come to treat the individual features of cancer rather than putting their efforts into directly controlling cancer. “We have forgotten that curing cancer,” says Agus, who was on the team of doctors who treated Jobs in the last years of his life, “starts with preventing cancer in the first place.”

Today, if we get cancer, we attack the cells. If we get a heart attack, we perform a bypass. That’s fine, but why not avoid the disease in the first place? Agus believes that diseases like cancer and heart disease should be thought of as verbs and not nouns. In his lexicon, “cancering” suggests a systemic problem. He points to a study of women who, after treatment for breast cancer, were given either an osteoporosis drug or a placebo. The ones who took the drug had a 40% lower rate of recurrence of the cancer, as their system was changed and the cancer didn’t grow back. “Keep the soil healthy,” says Agus, “and the bad seed won’t grow.”

One way to keep your body’s soil healthy is to treat inflammation. When something is wrong with your body, it goes into panic mode and
triggers inflammation, a process that rallies the vascular, immune, and cellular systems to heal injured tissue. Numerous studies show that patients who take statins—which not only lower cholesterol but reduce inflammation—lowered cancer rates by 40%, although no one knows exactly why. That's not all. A growing body of evidence suggests that inflammation may be linked to a host of other diseases, from heart attacks to Alzheimer's to diabetes. This doctor's orders? Ask your physician if you should be on Lipitor or other statins and a regimen of baby aspirin, which help curb your body's inflammation.

There are other simple ways to fight inflammation. Agus explains that it's better to walk a lot than to do an intense burst of exercise and then sit behind a desk all day. (The rhythmic part of walking helps your lymphatics function, part of the system that controls your immune system.) Wear comfortable shoes, which lowers stress on joints. (Walking barefoot or in high heels can cause damage to the joints and thus inflame your feet.)

His approach has its detractors. Dr. Rita Redberg, a professor of medicine at UCSF, argues that the evidence doesn't support the widespread use of statins. "I prescribe medicine to make people feel better or live longer, and statins do neither," she says. Not only that, statins can have side effects ranging from muscle aches to diabetes.

Of course, Agus thinks statins in many cases do more good than harm and, anyway, are just one tool in his arsenal. The nice thing about his approach is that nothing requires a superhuman effort—a lot of it is just commonsense, healthy living.

Agus also believes we need new tools to really understand our bodies. He suggests that each of us get genetically profiled. This won't tell us whether we'll contract a certain disease but will tell us the probability of getting it, allowing us to make the proper adjustments. A few years ago he co-founded Navigenics, a company that does genetic screening at $400 a pop and is backed by venture capitalist John Doerr of Kleiner Perkins, an early investor in Google. When Agus had his own DNA profiled—the results are in the book for all to see—he found he was at risk of having a heart attack. This was strange because his cholesterol had always been low. Nonetheless, it was enough to persuade him to go on a healthier diet and start taking statins.

New tools may also make it possible to detect diseases at a much earlier stage. The key is understanding how proteins—which are the building blocks of life—operate. Faulty proteins can be early indicators of a disease. The trouble is, tracing proteins is incredibly hard to do—they are the size of a single neutron. About eight years ago Agus started another company called Applied Proteomics. He joined up with supercomputer guru Danny Hillis to create a system with the horsepower to catalogue hundreds of thousands of protein levels. The company is still a work in progress, but if it succeeds, it will provide an important diagnostic tool.

When Agus's book was reviewed by the Daily Mirror in England last month, he says he got 7,000 angry blog and e-mail responses. Some accused him of trying to cash in on his DNA-profiling firm. Agus's response? That he has only a small stake in the DNA firm.

Agus, however, has a bigger challenge ahead. He needs to get his ideas widely accepted by the medical community. Maybe then he can turn those hisses into cheers.