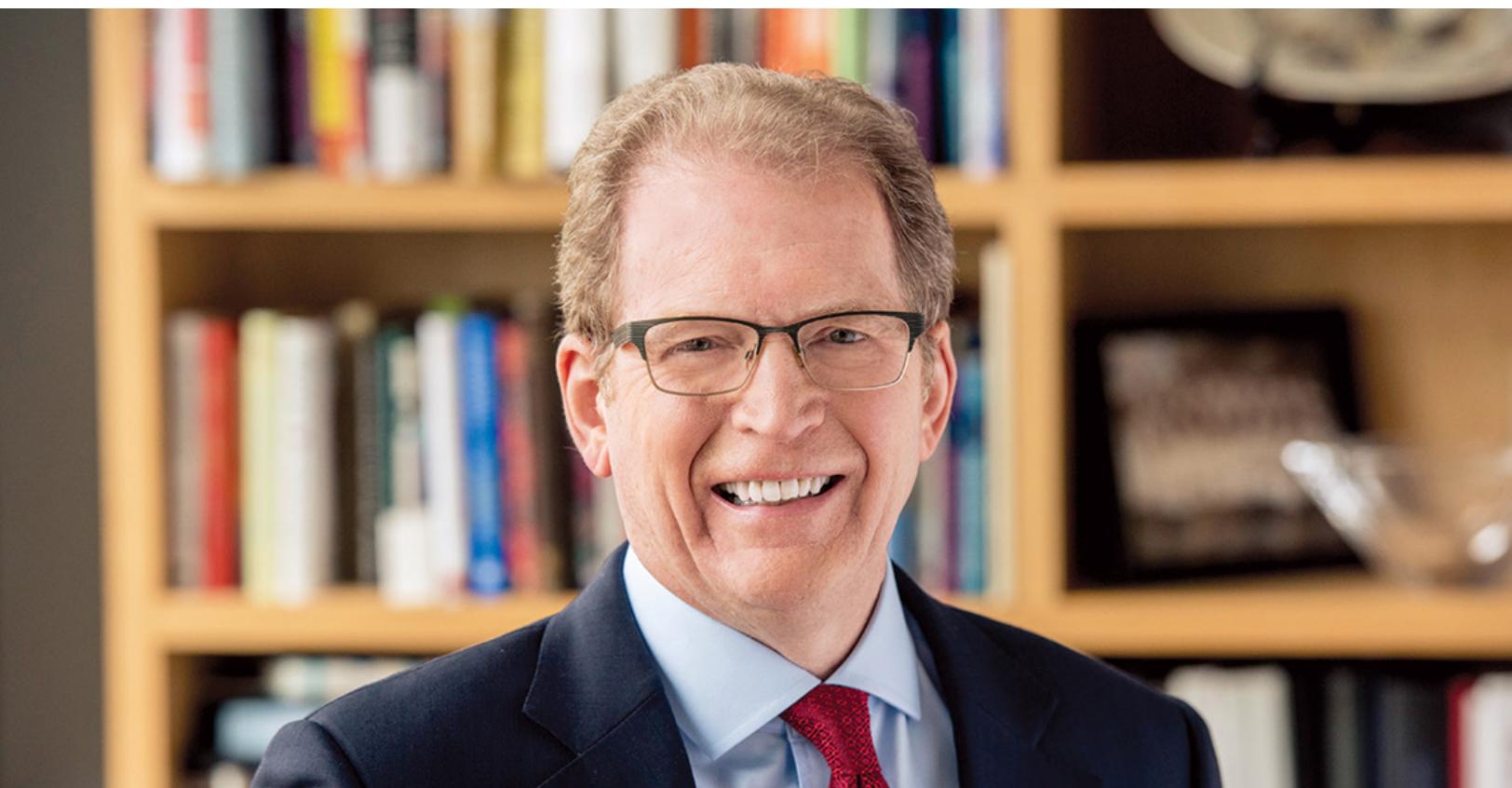


Social Sector Practice

Virtual, equitable, and precise: The dean of Stanford's medical school talks about what healthcare could be

Lloyd Minor discusses how genomics, data science, and technology—and a better understanding of behavioral and social factors—can help doctors predict and prevent disease, not just treat it.



As dean of the Stanford University School of Medicine, Lloyd Minor has championed the prevention of illness—using not only data and advanced technologies, but also a greater awareness of the behavioral and social factors (such as inequities) that strongly influence health. The COVID-19 pandemic and the antiracism movement, Minor argues, have accentuated the need for a new approach to healthcare: “If anything has to be made equal first in our society, or much more equal than it is today, it’s our access to healthcare and our opportunity to lead healthy lives.”

This June 17th, Minor spoke with McKinsey’s Frankki Bevins about these issues and how his institution is responding to them, as well as the immediate practical implications of COVID-19. The edited interview appears below.

A shift to virtual modes of teaching and patient care

McKinsey: Let’s start with the pandemic’s direct effects on the Stanford University School of Medicine. Students are attending classes online rather than in person. How have your faculty and students adjusted to that change?

Lloyd Minor: There are several things that we’ve discovered about doing the didactic portion of the curriculum online. There are certainly some things that are missing and that we will add back as we can, such as smaller, in-person sessions doing things such as microscopy and other laboratory experiences that are best done in person.

But in a standard didactic format, we’ve found that doing virtual classes and virtual meetings is working quite well and introduces a number of opportunities that weren’t present in the classroom. For example, we actively monitor the chat and Q&A sections of our lectures. We have another professor or teaching assistant monitoring that and answering questions in real time.

As you and I remember from our larger classes, there’s always a small group of students who ask questions. That’s maybe, what, a tenth of the class? No one else asks questions. But you know that a lot of those students have questions, and, for whatever reason, they don’t want to ask a question in front of their peers.

Well, with a chat line and the option to ask questions anonymously, we’re seeing a lot more participation from students in the class. And they’re getting answers to their questions in real time rather than having to wait for the end of the class. I think it’s a much better educational experience. Our students are telling us that. And by the way, the attendance at the virtual lectures is higher than the attendance at the in-person lectures was.

McKinsey: What has the situation been like for the doctors who work at Stanford’s hospitals?

Lloyd Minor: If we look at healthcare delivery, at one point in April about 73 percent of our outpatient visits were being done through telehealth visits—73 percent. Prior to COVID, during the entire month of February, we did about 1,000 virtual visits in our adult delivery system. At the peak, a few weeks ago, we were doing 3,000 to 3,500 a day.

Now, we’re not at 73 percent today. We’re right at about 44 percent of our outpatient visits last week being done virtually. I don’t think it’s going to go back to 70 percent. I also don’t think it’s going back down to 4 percent or so. We’re going to define a new normal. We’re discovering that there are a lot of things we can do virtually that we never thought we could. A lot of the interactions that require a detailed history can be done very well virtually. A lot of the planning for what an in-person visit will entail in terms of diagnostic tests can be done virtually. That creates a better care-delivery experience for patients and a more efficient delivery system.

I think telehealth is here to stay. Necessity has required this transition. But I think we're discovering that, even as we go back to in-person visits, there's a lot we're going to retain in the virtual world. And equipping the home to be a healthcare-delivery environment—through the use of blood-pressure cuffs, thermometers, and a variety of other fairly simple medical instruments that can be placed in the home environment—enables people to get information about their health to their healthcare providers in a much more timely and efficient way.

The potential for accelerating research and development

McKinsey: What other changes do you see unfolding because of the pandemic?

Lloyd Minor: If there's one thing that's been all too painfully obvious since the early days of COVID-19—internationally and here in the United States—it's our complete lack of preparedness to deal with a pandemic. Bill Gates warned us in a TED Talk in 2015, and we didn't listen. After cases started, and we started to see more and more cases in China and even when we had a few cases in the United States, we weren't able to scale up testing. Nor did we have a national plan for addressing the pandemic. We are still challenged to have one.

The emphasis on prediction and prevention, in addition to treating disease once it occurs, has never been more important. In recent years, there's

been very little emphasis and investment in vaccine development. That's changed. There's also been very little in the way of new diagnostics.

McKinsey: Why is that?

Lloyd Minor: The business model around diagnostics has been extraordinarily challenging. The science is great. We're poised to rapidly advance diagnostics. But translating or moving things from scientific discoveries and technology advances into the business world and into the consumer space has been a challenge because the business model has been very unfavorable.

The clinical trials that are required to support the approval of a new diagnostic by the FDA [US Food and Drug Administration] have been extraordinarily expensive. And at the end of the day, the ability of investors to recoup the investment required for the development of the diagnostic and the trials has been very limited. As a result, we've seen far less investment in the development of early-stage or midstage diagnostics compared with therapeutics. I think that will change now.

McKinsey: Can you give us an example?

Lloyd Minor: We were one of the first institutions in the country to receive FDA emergency-use authorization [EUA] for our RT-PCR [reverse-transcription polymerase chain reaction] to diagnose the genetic material and identify someone

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who's been infected with the virus. We had a faculty member, Ben Pinsky, who, within days after the sequence of the SARS-CoV-2 virus was published, in January, began working in his research lab on an RT-PCR, using primers identified by the World Health Organization.

He perfected this in his lab, then moved it into our clinical lab. Then we assembled the amount of information and data that the FDA required. And when the FDA announced expanded EUA guidelines, we were ready to apply and receive that EUA.

I think it's likely that the FDA will rethink its approach to the approval of diagnostics in the future. That will make it a much more viable place for investors, scientists, and entrepreneurs to focus on development of the important diagnostics that we're going to need for the next pandemic, as well as for getting us through the latter stages of this pandemic.

A broader view of the factors that determine health

McKinsey: You alluded a moment ago to prediction and prevention. I know you've been vocal about the need to make healthcare more predictive and preventative. Can you say more about that agenda?

Lloyd Minor: We in Stanford Medicine describe our initiative as precision health. We distinguish it from precision medicine. If precision medicine is about sick care, precision health is about keeping us healthy—it's about health care.

Now, we're not going away as a tertiary- and quaternary-care provider here at Stanford. Our hospitals today have patients who are receiving the most specialized and intense medical therapies available. But we want to look beyond that and to prevent the diseases that, today, require the types of ultraspecialized treatments that we provide. We think that's within our grasp because those same enablers—genomics and data science—that have driven the revolution in precision medicine, that is,

the revolution in sick care, can drive the revolution in precision health and in predicting and preventing disease more effectively.

The message of precision health—about focusing more on healthcare and not just sick care—is even more relevant in the face of COVID than it ever has been. Also, an essential message of our vision for precision health is looking beyond the traditional 30 percent of the healthcare pie that is focused on medical care and genetics, to look also at the social, behavioral, and environmental determinants of health, which we know account for roughly 70 percent of overall health outcomes and which, in the past, have received far less attention than the medical care we provide and our genetic makeup.

McKinsey: What are those overlooked determinants of health, and why are they so powerful?

Lloyd Minor: One example is adequate food supply. There are food deserts in the United States. There are food deserts not that far from where I live and work here at Stanford, in Palo Alto. There are communities that simply do not have access to a safe and healthy food supply. The obesity epidemic in the United States is very much related, in many areas, to the lack of a healthy food supply. Other determinants are the opioid epidemic and numerous factors that, traditionally, those of us in academic medicine and the larger healthcare-delivery system in the United States have not considered to be a standard part of what we focus on.

We have to change that in the future. For our vision of precision health—to predict, prevent and cure disease—people have got to have access to safe and healthy foods. People have got to be able to live in safe neighborhoods. People have to have employment opportunities that enable them to derive meaning from the work that they perform.

All these are areas that, traditionally, we haven't considered to be parts of healthcare delivery. But we have to make them a part of what we think about

in healthcare delivery, and we have to, as a society, more broadly embrace them than we have before. It's a sad fact in America today that the ZIP code in which a person lives is a more accurate predictor of that person's life expectancy than their genetic code. And that fact is a direct reflection of these social, behavioral, and environmental factors.

Promoting equality and justice in healthcare

McKinsey: The kinds of inequities you just mentioned have gotten much more attention recently, following the killing of George Floyd and the nationwide protests against systematic racism. What is Stanford doing about these issues?

Lloyd Minor: COVID-19 has brought to the fore the health inequities that exist in our country. Data from a Yale University study has shown that Black Americans are 3.5 times more likely to develop COVID-19 and to have a poor outcome from the infection. And Latinx Americans are almost twofold higher in that probability. It's such a painful reflection of where we are as a society. If anything has to be made equal first in our society, or much more equal than it is today, it's our access to healthcare and our opportunity to lead healthy lives.

As a healthcare-delivery system and organization, we have a big responsibility, first, in our own community and then to set an example for other communities. We've done a lot with developing a culture of diversity and inclusion. We've made major progress in our educational programs in terms of the diversity of our student body for MD, PhD, and master's students. We've also made some progress in our faculty ranks, but we have much more work to do. And I think we've placed a heavy emphasis—an appropriate emphasis—on an environment of respect, an environment that is inclusive and welcoming to everyone who has given us the opportunity to work with them and have them as a member of our community.

Those areas require active attention on the part of all of us to make sure that we are demonstrating the importance of those values. Then it has to get into every corner of the organization. Every interaction, every welcoming of a new person into the environment, every area of attention has to be focused on rooting out areas, such as microaggressions and bias, that have all too commonly been a part of the American workplace ethos.

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Lloyd Minor is the Carl and Elizabeth Naumann Dean of the Stanford University School of Medicine. **Frankki Bevins** is a partner in McKinsey's Denver office.

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