A physicist, I need to figure out three things when a new patient walks into my office: what their life is typically like, what has changed that made them seek treatment and what I can do to help them. It’s a complex problem, but many fields of medicine approach it by taking measurements. If I were a cardiologist, evaluating a patient’s chest pain, for instance, I would measure their pulse and blood pressure. I might order an electrocardiogram or a continuous stress test, tools that weren’t available a century ago.

But I’m a psychiatrist, however, and I evaluate patients to prevent the same way that my predecessors did in 2020. I ask them to tell me what’s wrong, and while they’re talking, I closely observe their speech and behavior. But psychiatry has launched, largely because of an abundance of technology and processing power, but they lack access to the data required to test their tools. Academic centers have access to patient data, but they are forced to create in-house databases and data collection systems, which already exist in the private sector. Bridging the divide between academic and private sectors will require a rethink: of fundamental questions about data ownership, security and intellectual property.

Before new data technologies are being developed, these tools must be evaluated rigorously as other clinical trial. But using big data for behavioral healthcare offers a way to return ownership and benefit to the individual. Dr. Barron is a psychiatrist and co-founder of the International Pride Psychiatry Program at the University of Pennsylvania School of Medicine. This essay is adapted from his forthcoming book, “The Rise of Big Data Psychiatry.”

The Rise of Big Data Psychiatry

The information captured by our smartphones, as well as new speech- and facial-recognition technologies, can yield invaluable insights for mental health professionals.