According to the National Institute for Mental Health, mental health disorders affect 1 in 5 adults, 1 in 6 adolescents, and 1 in 8 children in the United States. The impact of these disorders worldwide is projected to surpass the impact of cancer, war, stroke, and accidents combined by the year 2030. The relative invisibility and social perception of mental health continues to limit action. Unlike instruments that measure blood pressure or blood sugar levels, there are no automated and quantifiably objective methods of assessing and continuously tracking mental health. Current approaches rely on intermittent assessments and parent or caregiver reports, which are subjective and unquantifiable. Even after diagnosis, which can vary widely across practitioners, many existing pharmacological and behavioral therapies remain ineffective.

As we approach the year 2020, psychiatry is a field in flux, with new care delivery models being tested, and pharmaceutical companies exiting the marketplace just as the tech companies are entering it. Behavior has become a hot commodity, and there are many scenarios for how the field will adjust to mounting pressure to reduce cost while enhancing the value of the services provided.

This issue of *Psychiatric Annals* highlights topics centered on how technology may help or hinder the mission of providing nuanced care to people in need of psychiatry and behavioral health services, as well as the challenges faced by providers in both outpatient and inpatient treatment settings.

Psychiatry will increasingly move toward measurement-based care, relying on low-cost, low-burden solutions that also scale well. Digital phenotyping, which includes both active and passive data collection from phones and other devices, could provide such a solution. In the first article, “Digital Phenotyping for the Busy Psychiatrist: Clinical Implications and Relevance,” Dr. John Torous and colleagues explore whether digital phenotyping will be the next electroencephalogram, a passing fad, or bring about a paradigm shift in how mental health clinicians follow and assess complex patients.

Human communication is at the core of all clinical interactions, especially in psychiatry. In the second article, “Natural Language Processing: Opportunities and Challenges for Patients, Providers, and Hospital Systems,” Drs. Cheryl M. Corcoran, Caridad Benavides, and Guillermo Cecchi discuss how naturally occurring speech and written language can now be captured and analyzed in a range of psychiatric illnesses and treatment contexts, including mining of electronic medical records for risk stratification, analyzing text-based encounters to optimize online therapeutic encounters, and predicting individual-level risk.

In the next article, “Will Neuroimaging Produce a Clinical Tool for Psychiatry?” Dr. Satrajit S. Ghosh and myself examine the current state of neuroimaging in psychiatric disorders and its future potential for diagnosis, prognosis, and biotyping. Also discussed is the need for extensive validation, the potential of imaging-based neurofeedback, along with a comparison of neuroimaging with other approaches used to understand complex systems like the brain.

In the final article, “Mental Health Disparities and Technology: New Risks and Opportunities,” Dr. Armen C.
Arevian, Felica Jones, and Dr. Bowen Chung explore the background of health disparities and social determinants of health and the potential risks and opportunities with digital technologies. The article also examines existing strategies to address disparities in mental health treatment, including community-partnered participatory research, and how these approaches can be applied moving forward.

In considering these four articles, each charting a path forward for a different aspect of the road ahead, I hope you find inspiration that the future of psychiatry over the next decade promises to break new ground, with new technologies enabling ways to systematize and thereby extend the art of mental healing and improve human lives in ways and at scales never before imagined. I also trust that each article will somewhat temper that excitement with some of the sobering challenges that can be anticipated, as these new approaches prompt many in the field to break from the molds of established practice, resulting in many ethical and implementation issues, some of which will require us to rethink core teachings and even core values. I am greatly indebted to each of the psychiatric futurists for contributing knowledge and visionary perspectives to this issue of Psychiatric Annals.

REFERENCE