The Challenge

Mental health and wellbeing needs are growing globally due to inequities, the pandemic, and the general stresses of a hyper-connected life. At the same time, the number of people with physical disabilities is dramatically increasing due to demographic trends and chronic health conditions. How can we address these urgent needs while reducing the stigma and discrimination that often accompany these challenges?

According to a 2020 CDC study, 40% of American adults struggle with mental health or substance abuse issues. WHO data indicates that more than 275 million people worldwide suffer from an anxiety disorder, and nearly as many suffer from depression, costing the global economy one trillion dollars yearly. Their data also show that people with physical disability experience poorer health outcomes, have less access to education and work opportunities, and are more likely to live in poverty than those without a disability. In both cases – and for various reasons – patients are not getting the necessary health care services.
**The Media Lab’s View**

There is an opportunity to revolutionize and improve mental and physical wellbeing using digital technologies and human-computer interaction.

- **Digital Mental Health**
  There is an opportunity to revolutionize and improve mental wellbeing using digital technologies such as wearables/nearables and immersive systems embedded with physiological and brain sensors, AI and machine learning technologies, and HCI technologies for issuing interventions. These new wearables/nearables monitor and process personal data, detect problems early, and can (with forthcoming advances in AI) formulate and provide personalized interventions and connectivity to peers and professionals who can support optimal wellbeing. The Media Lab conducts translational research at the intersection of brain and behavior sciences and digital technologies. Our focus is on designing, developing, and evaluating new digital technologies for monitoring, predicting, and intervening for mental wellbeing in naturalistic settings.

- **Enhancing human physical capability**
  Research from the Biomechatronics group, in conjunction with the K. Lisa Yang Center for Bionics, pioneers transformational bionic interventions across a broad range of conditions affecting the body and mind, accelerating the merging of body and machine. We seek to restore function to individuals who have impaired mobility due to trauma or disease, and to develop technologies that augment human performance beyond what nature intends.