How Technology Can Help Psychiatry Improve Patient Reach and Scale

Summarized by Thomas T. Thomas

First Para
A psychiatrist with more than forty years of experience in caring for teens and young adults with complex behavioral health issues, **Dr. Kim P. Norman, MD,** is a professor at the University of California San Francisco (UCSF).[1] In 2004, Dr. Norman founded and directs the Young Adult and Family Center (YAFC) at UCSF, dedicated to creating and disseminating innovative mental health services, including digital health services for adolescents, young adults, and their families. The YAFC aspires to build a center of national prominence where troubled young people and their families receive the best available clinical care, irrespective of their ability to pay.

DR. KIM P. NORMAN, MD

Our own **Michael Godoy,** who was president of the NAMI affiliate on the UC Berkeley campus, is now Program Director of Telemedicine and Scalable Therapeutics at the YAFC. He works with Dr. Norman in developing the systems described here.

"I love spending an hour in my office helping individuals, couples, and families," Dr. Norman said. "It's the greatest feeling when they say, 'Thank you for giving your time.'" But that time is spent one-on-one, he noted, and a professional's time is finite.

Fifteen years ago, someone who needed psychiatric help at UCSF faced an eight-week waiting period and then would get only two hour-long sessions for evaluation. Although the campus has added ten times the number of therapists and psychiatrists, there still is not enough time and capacity to serve the current need.

"Also," Michael Godoy said, "fifty percent of the counties in North America have no behavioral health specialists at all." This is important because one in two people over their lifetime is expected to experience a mental health issue.

Systems like Skype and video chats can extend the reach of a professional to another county or state, even around the world. The use of such technologies is not new: Freud sometimes conducted analysis by letter. In fact, some patients are more comfortable with online therapy, feeling safer and more emotionally open than in

[1] UCSF Distinguished Professor of Adolescent and Young Adult Health, UCSF Weill Institute for Neurosciences.

the presence of another person. But online therapy, while it may extend the *reach* of the psychiatrist, does not extend the *scale* of help: the professional's time is still spent one-on-one. "But computers are great at scaling," Dr. Norman said.

The YAFC is currently developing two programs in what they call "Scalable Psychotherapy." These allow a person to access therapy without going to the office, spending time traveling, finding parking, or worrying about fees and insurance. The first of these is an online program called GritX.org.

MICHAEL GODOY

"Grit is a human quality," Dr. Norman said. "If something is worth achieving, it takes effort and perseverance—grit."

The program starts with the **Skills Studio** by having the user identify and evaluate their own emotions. Paul Ekman, professor emeritus at UCSF studied all cultures and races and derived six basic human emotions: sadness, happiness, anxiety, anger, disgust (the basis of morality), and surprise (which makes us laugh and feel delight). This section also lets the user explore categories of feeling, like "weathering storms," "relationships," and "best selves." The goal is to emulate the therapist's work of helping the patient identify their emotional state.

Next, the user is asked to characterize their strengths and virtues. Studies have shown that the people we admire most—people we know, but also public figures, and even fictional characters—demonstrate some of blend of 24 basic character traits. These include, for example, the virtue of *wisdom,* which includes strengths like knowledge and curiosity; *courage,* encompassing bravery and daring; *humanity,* with kindness, love, and patience; *the work ethic,* with purpose and self-control; *justice,* with fairness and mercy; and *transcendence,* with hope and optimism—to name just a few.

The GritX program lets the user take a quiz about where they feel strongest—asking them to name their top ten strengths; then from those, their top five; and finally their top three. The program categorizes these strengths into virtues and helps the user develop virtues where they feel they may be lacking.

Other parts of the GritX program include **Catch Your Breath,** which coaches the user in breathing techniques. The user selects a background image, a background sound, and a breathing pattern and then works through the cycles. "This gets one into a calm place," Dr. Norman said.

In the **Self-Care Toolkit,** the user selects activities like playing music or snuggling with a pet, and situations like taking a shower, that make them feel good. The program lets you create an app you can take along as a reminder of ways to use these activities when feeling overwhelmed or upset.

The **Self-Interview** addresses a common goal of therapy, to increase a person's capacity for self-reflection. "Most people are taught to 'get over yourself,'" the doctor said. "But here you take time to examine what's going on inside you." Using a series of statements—for example, "I feel out of control"—the program offers

techniques to address the condition. In one case, the user may be asked to select an object and describe it. "You are using the thinking brain to observe and describe," Dr. Norman said, "which has a calming effect. These exercises help you work through various life experiences."

The **Journaling** section prompts the user to write their experiences—again, involving the thinking brain and discovering personal strengths. This part of the program is organized by exercises like a Gratitude Letter to a loved one, Letter to You, and Appreciating Your Normal. The **Sketchbook** section provides much the same technique but uses visual prompts for people who may not be verbally attuned.

And finally, **Grit Expeditions** gives the user a place to start for personalizing the experience and offers a path for navigating through the program. The website includes a number of resources, such as books about mindfulness, trauma and recovery, healthy eating, and dealing with stress.

In August the GritX program will receive various upgrades, including **Grit Story,** where the person can share experiences with a community of users; **Grit Chat,** where they can discuss those experiences in a monitored space; and a **chatbot** that will ask how the user is feeling and use tone analytics to help them identify and regulate their mood. "In a static app," the doctor said, "the user may grow but the therapy doesn't grow with them. The chatbot is intended to correct this."

The chatbot is not designed to replace a human therapist, he warned. But, on the other hand, it is not going to be judgmental, or disappointed, or even remember you after the session.

The GritX program does require a certain amount of motivation—hence the emphasis on "grit"—and so it may not be suitable for people in the midst of depression and too lethargic to care, or experiencing a psychotic episode. "The program won't help everybody," Dr. Norman said. "It is not intended to take the place of a medical appointment. But it can help people who are thinking about getting therapy."

The program also is not designed for people who may be having suicidal thoughts or becoming a danger to themselves or others, but there are protocols in place to alert the proper authorities if GritX encounters these trends in a user's interactions.

Dr. Norman stressed that, for privacy reasons, the GritX program does not save any of the user's content, although you can download materials to your own app. "The program meets HIPAA [Health Insurance Portability and Accountability Act of 1996] requirements," he said. "We will never sell your information or violate your privacy."

A second project in development at the Young Adult and Family Center, in combination with the company Tiatros, is intended for veterans of the Iraq and Afghanistan conflicts suffering from PTSD (Post-Traumatic Stress Disorder) and women who were sexually assaulted in the military. The user watches videos and then comes online for a discussion that employs a program similar to IBM Watson Analytics to discover and address patterns. The project is being developed in partnership with various regional health-care systems.

"This program is designed to teach resilience," Dr. Norman said. "Human

beings survive by being resilient. After a major fire or other disaster, ninety percent of people will be back to their normal behavior pattern within six months. But ten percent will act as if the trauma happened just yesterday." The goal of this second program is to teach users to become reflective, gain perspective, and think about something bigger than themselves.