DIGITAL THERAPEUTICS:
The Future of Behavioral Health

A CEO’s Perspective on Enterprise-Wide Agility to Achieve Organizational Excellence

By Les C Meyer, MBA
The fundamental purpose of healthcare is to improve value and outcomes for consumers at an affordable price— a tall order that’s not easily achieved in today’s chaotic group market. However, the digitization of personalized care support represents the best hope for optimizing employee experiences and sustained engagement, especially in the behavioral health area. The same can be said about performance agility in the workplace, organization performance and results, work-life effectiveness, sense of security, psychological safety, employee recognition, personal fulfillment and company pride.

If the mind is working at full capacity, then so will the body—and vice versa. “Behavioral health—a term inclusive of both mental health and substance use—is unfortunately considered by many to still be an ‘emerging’ topic. As a scientific discipline, it reflects the outcome of integrating cognitive therapy approaches with social determinants of health (SDH), mind-body connection interventions and pharmacotherapy, if necessary, for a whole-person approach that is knowledge-based and skill-building—empowering people, individuals and families to adopt life-altering habits and take healthy living to a new level,” says Bruce Sherman, MD, FCCP, FACOEM, Chief Medical Officer, National Alliance of Healthcare Purchaser Coalitions and Medical Director, Population Health Management, Conduent HR Services.

This thinking is also good for business. The quest for enterprise-wide agility is accelerating, sparking dramatic improvements in quality, innovation, productive advantage and speed to delivering value. Use of disruptive enabling technology is clearly a game-changer as more organizations embrace a total rewards approach to value-based benefit design plans to attract, motivate, engage and retain top talent. It also will help elevate and balance work-life experiences, igniting an innate desire and willingness to empower working Americans to live well and thrive.

“The pursuit for enterprise-wide strategic agility is centered on health promotion to improve the health and wellbeing of employees, their families and communities,” says Karen Moseley, Vice President, Education and Director of Operations, Health Enhancement Research Organization (HERO). “Health Promotion is the art and science of helping people discover the synergies between their core passions and optimal health, enhancing their motivation to strive for optimal health and supporting them in changing their lifestyle to move toward a state of optimal health,” further states Moseley.

The flawless execution of organization health innovations and enterprise-wide agility to achieve organizations excellence is imperative. Organization health is defined as the ability of an organization to identify, engage, establish, elevate, achieve and renew itself faster than the competition to sustain stellar business performance over time. (See Figure 1)

But reaching these lofty goals has proven to be an uphill battle. The nation’s largest employers lose about $200 billion in productivity each year due to untreated mental illness, while spending another $200 billion to treat anxiety and depression in the workplace.

**Trailblazing the way to better health and functionality**

Measure what matters most. A broader value proposition to achieve better health and functionality has emerged in the corporate integrated behavioral health space. Instead of discussing return on investment in the context of healthcare costs, CEOs are putting their people—and functional wellbeing—at the core of a mission to expand the rigorous, more relevant value-on-investment (VOI) analysis to include resilience in the workplace and its financial impact.

Listen up employers. “The goal of a health-care system is not survival at all costs. The goal of a health-care system is not a good death. The goal is a good life...We will come to a place where we can generate scalable solutions that change the practice of medicine, it’s a long road, but it clearly is possible,” said Atul Gawande, MD, MPH, CEO, joint health-care venture of Amazon.com Inc., Berkshire Hathaway Inc. and JPMorgan Chase & Co. to attendees at the
Prescription drug and opioid use and dependence is a population health epidemic affecting the agile performance of enterprises nationwide. “Evidence from the field suggests that a new, more complex health problem is emerging for persons who have serious mental illness (SMI) — a large and growing proportion of these individuals also use or are dependent upon opioids,” states Ron Manderscheid, Ph.D, executive director, National Association of County Behavioral Health and Developmental Disability Directors.

“We must respond to this growing epidemic and develop the capacity to offer effective integrated mental health and substance use care to this population — integrating primary care at the same time and in the same encounters, with appropriate social supports linked to all of these services,” further states Manderscheid.

While mental health services are largely accessible in big cities, they’re beyond reach for most Americans. More than 30 million people in the U.S. who have treatable conditions cannot access affordable care, according to the National Institute of Mental Health. But there also are other factors to consider. For example, there remains a stigma around mental illness that must be overcome as does the critical shortage of skilled psychotherapists as reported by the U.S. Surgeon General.

Kimberlie Cerrone, founder and CEO of Tiatros, Inc. — a San Francisco-based digital therapeutics company that creates and distributes psychological resilience programs — was astonished to learn from the report that more than half of all U.S. counties do not have a single qualified psychiatrist, psychologist or licensed clinical social worker with the necessary training and experience.

One leading industry authority recently alluded to this troubling problem in a brow-raising analogy. “What if we said, of all the people living with cancer in the United States, in the next 12 months, one out of ten will get to see a doctor who is trained to see patients with cancer? We would probably find that totally unacceptable. But that’s where we are in mental health,” Jürgen Unützer, M.D., professor and chair of the University of Washington’s Department of Psychiatry and Behavioral Sciences, told attendees of a Vanderbilt University Medical Center event.

Another alarming statistic is that the Centers for Disease Control and Prevention estimate one-third of all chronic disease care expenses are directly attributable to co-occurring untreated mental illness.

“This means to me that behavioral health is the horizontal play for all of chronic disease care,” Cerrone says. “If we can lower the rate of untreated mental illness by making the effective, empirically validated treatment universally available, then we would start to lower somatization...
rates, thereby, lowering utilization rates and the cost of healthcare.”

The need for scale and efficacy
The only way to solve these problems is a high-impact, high-value technology-enabled solution focused on scale and efficacy involving evidence-based psychotherapy that reaches millions of people, she insists. Such personalized care support could occur in the comfort of their own homes or anywhere on a favorite device when it works best for their schedules.

But while telemedicine delivery systems represent a step in the right direction, they don’t have a functional (integrative) medicine skill set to solve the root problem for psychological services. “There simply are not enough people who are trained in psychotherapy to provide the service, even if it’s delivered by telemedicine,” she reiterates.

Therein lies a real dilemma for Corporate America. The cost implications associated with untreated behavioral health are not lost on C-Suite executives who recognize that doing nothing is a luxury their organizations cannot afford. “CEOs want their employees to be as productive, healthy and successful at work and home as possible because they understand the workforce is their single biggest corporate asset,” Cerrone says. She’s convinced that innovation strategies involving behavioral health treatment represent a significant opportunity for self-insured companies to bend the healthcare cost curve.

According to the U.S. National Institute for Mental Health the economic costs of mental illness will be more than cancer, diabetes and respiratory ailments put together. Importantly, chronic pain affects an estimated 100 million Americans, or one third of the U.S. population and it is the primary reason Americans are on disability reports the American Academy of Pain Medicine.

Lost productivity, absenteeism and disability and the direct cost of treating mental health represent just the tip of the iceberg, Cerrone reports. “The largest and most difficult bona fide part of every corporate healthcare budget is spent indirectly on mental illness,” she says, noting the tab is estimated at hundreds of billions of dollars.

There’s a growing realization among employers that under-spending on mental health triggers over-spending on physical health. Indeed, the unavoidable link between mind and body means that poor mental health will make people far more susceptible to developing physical illnesses.

A range of serious and costly ailments that include musculoskeletal disorders, diabetes, heart disease, cancer, insomnia, high-risk pregnancy and premature birth and chronic gastric illnesses “are greatly exacerbated by untreated comorbid mental illness,” she says.

“Respecting and treating mental illness on par with other medical illnesses is the first step to improving employee quality of life — the foundation of an effective workplace,” states Darcy Gruttadaro, Director, Center for Workplace Mental Health. “When employees receive effective treatment for mental illnesses, the result is lower total medical costs, increased productivity, lower absenteeism and decreased disability costs. The bottom line: investing in a mentally healthy workforce is good for business.”

More companies are offering a variety of behavioral health and resilience solutions to their employees that include mobile wellness apps and on-demand, telemedicine-style clinical services. But while these programs work well for some employees, Cerrone cautions that they’re not designed to reach an entire workforce.

A large technology company in Silicon Valley told her they cannot meet the demand for behavioral health services on a one-to-one basis without economies of scale and meaningful program elements. She believes the answer is “evidence-based digital therapeutics that will deliver quantifiable improvements to the health and psychological resilience of their entire workforce.”

Her company’s cognitive behavioral therapy (CBT) approach is at the core of behavioral economics and behavior change, “which are necessary for making any meaningful inroads on controlling costs for employers while improving the wellbeing of their employees — there is no health without behavioral health,” says Fikry W. Isaac, MD, MPH, FACOEM, 3
CEO, WellWorld Consulting, formerly Head of Global Health Services and Chief Medical Officer, Health & Wellness Solutions, Johnson & Johnson.

There’s also a critically important human capital management component to achieving good behavioral health in that employers need to do what they can to retain top talent. The companies Cerrone works with want their employees to be excited about being at work, focused and engaged without distractions and working effectively as groups.

A personal calling
For Cerrone, taking a leadership role in behavioral health is part of a personal mission. She developed a keen interest in raising the bar on treatment after both her sons returned from military service struggling with post-traumatic stress disorder.

One of the things she learned is that healing is a social activity, which led to group therapy emerging as a centerpiece of behavioral health treatment and her business model. The approach features eight weekly sessions of 90 minutes and an aftercare component.

“It’s a scientific fact that patients who are alone and isolated do not do well,” she explains. “People want to share their stories with other people who understand them and what they’re going through.”

Tiatros employs a proprietary software-as-a-service platform to create a unique, private social network for each peer group of 12 to 16 participants who have the same health challenges and life goals. It is compliant with the Health Insurance Portability and Accountability Act (HIPAA).

“We put them together into this social network and then we teach them cognitive behavioral therapy skills in a way that is really engaging and relatable,” Cerrone explains. About 20 such skills and have been extensively and empirically validated. She says CBT is the best scientifically proven treatment for the common mental illnesses, with 80% of people who complete a CBT therapy course having positive clinical outcomes and a sustained recovery.

Those programs incorporate a variety of methods, including narrative therapy, storytelling, journaling and mindfulness meditation — with components tailored to resonate within each group. For example, some might be struggling with combat-related trauma, while others involve women who are dealing with postpartum depression.

Each peer group is monitored by a trained facilitator under the direction of an expert CBT therapist, and in some cases, a physician of record. Social media-style methods are used to encourage members to form a supportive and nurturing community that itself is therapeutic.

These programs also create a conscious determination to cultivate healthy engagement of self and others in meaningful work and proactively promote healthy relationships enabling social and professional interactions that foster a sense of belonging, coherence and wellbeing.

In terms of measurement, Tiatros has developed solid metrics around clinical outcomes involving participant experience, inquiries and satisfaction rates. In addition to participants' self-assessments, expert clinicians review each peer group's progress and identify how they think the participants are doing with psychological growth and improved senses of mental health, wellbeing and resilience skills.

Technology is obviously the driving force behind Tiatros. The company has automated a number of standard validated clinical measures that are in widespread use across the U.S. It also has partnered with IBM to advance the delivery of scalable digital therapeutics for mental health. Leading academic medical centers have scientifically documented the use of IBM Watson Natural Language Analytics, which provides immediate feedback to foster higher levels of patient engagement. Cerrone says this enables therapists to increase the number of patients whose care they oversee by two orders of magnitude.

Data-driven approaches
As technology becomes increasingly sophisticated, Cerrone is excited about using artificial intelligence tools such as Watson and advanced analytics to overcome “the structural barriers to delivering effective mental healthcare to millions of people in the U.S. and around the world.” Her company’s platform supports what she calls “the unfettered and untouched capture of structured and unstructured behavioral health data contained in psychiatric evaluations, patient narratives and patient interactions.”

Cerrone says the trouble with this information, which clinicians use to make treatment decisions for in-person psychotherapy sessions, is that “it’s always discarded because there’s no place to put it into institutional electronic medical records.”

Mindful of this systemic failure, Tiatros collects and manages the data so that it can be mined for clinical use. It’s stored on the Tiatros platform that meets rigorous standards the federal government sets for maintaining the privacy and security of patient data to comply with HIPAA. Given the stigma long associated with seeking mental health treatment, these steps are critical for employee buy in. "An issue with employee engagement in this or any
program, is confidentiality. Tiatros removes this barrier with a platform that fosters a comfortable space for sustained participation,” states Kim P. Norman, MD a practicing psychiatrist, researcher and thought leader in scalable therapeutics. Dr. Norman further notes that the group sessions offer a means for employees to learn more positive reactions to life’s challenges, of any size.

A leader in customer relationship management, a Silicon Valley technology giant promoted the group therapy sessions as a way for its employees to learn more positive reactions when faced with life’s large and small challenges, as well as improve overall wellbeing. The supporting community approach Tiatros employees is, in and of itself, therapeutic and the employees’ small commitment yields big rewards.

Whereas patients in traditional, one-on-one psychotherapy see a clinician once a week for 45 minutes, most people using the Tiatros platform engage every day, while some engage multiple times a day. Cerrone says this “creates a psychotherapeutic environment with much more frequent and active engagement,” and turns the peer group into a self-help guide with the help of social networking-style tools.

“We have compelling, independent, empirical evidence that the social aspect of our solution is critical in achieving remarkably high program completion rates and clinical outcomes that are as good, or even a little better, than those found in traditional in-person psychotherapy,” she reports.

Academic researchers have been able to validate through preliminary results a 73% program completion rate among peer groups in Tiatros programs that were optimized for the user experience. The high percentage was attributed to significant increases in the number of daily therapeutic touch points.

Other early experience with this novel treatment modality found that all program participants had a reduction in symptoms of post-traumatic stress and demonstrated measurable growth. There also were dramatic reductions in fear and sadness and significant spikes in joy by the end of the eight-week intervention.

In addition, physical ailments such as headaches, body pain, gastrointestinal distress, etc., often seen in post-traumatic stress disorder fell from moderate or severe levels at the beginning of the program to normal or minimal levels upon completion. Some program participants also reduced their alcohol consumption and/or began a commitment to recovery as a direct result of post-traumatic growth they achieved while participating in the program.


Creating a “psychological safety” culture of resilience in the workplace is imperative. “Google considers psychological safety to be the most critical trait of successful teams,” reports Shana Lebowitz, strategy reporter, Business Insider. “Leaders who create psychological safety and hold their employees accountable for excellence are the highest performing.”

**Measuring value**

The value of workplace health promotion programs continue to yield value on investment results. “There’s a growing body of evidence suggesting that enterprise investment in well-designed, comprehensive workplace health and well-being initiatives that are also supported by a health-promoting culture can yield high participation rates, sustained behavior change, improved health and workplace performance and positive economic outcomes,” according to Jessica Grossmeier, PhD, MPH, Vice President, Health Enhancement Research Organization (HERO). “Employers recognize that the mental status and performance agility of their workforce plays a major role on the bottom line of their businesses,” further states Grossmeier.

The use of digital therapeutics is also garnering considerable attention beyond academic circles. For example, Tiatros was recently recognized as a HealthTech Innovator in the 2017 Global Digital Health 100 and at the TiE50, Silicon Valley’s premier annual awards program for early-stage technology startups worldwide as selected by an expert panel of judges. The company also
was mentioned in market reports published by Gartner and Juniper Research.

In the next few years, Tiatros hopes to improve its approach and integrate bot technology so that it can scale up to meet growing demand across the U.S. and ultimately, around the world. A key objective is to increase personalization of the individual user experience for better clinical outcomes.

Ceronne’s mental health resilience well-being innovation lab plans to release to customers the nation’s first Behavioral Health Mind-Body Connection Index — Organization Health Resilience Wellbeing Dashboard in mid 2019.

In the end, the emphasis is on quantifiable value. “What we’re finding is we have so much more and better data than the fields of psychiatry and psychology have ever had before,” Cerrone reports. “Our customers all anticipate that we will save them potentially a great deal of money,” she continues, “but no one has asked us to document cost savings.

“Rather, they’re interested in how the behavioral health and psychological resilience programs improve the health, productivity and psychological resilience of their entire workforce. We do this by using several validated productivity and clinical outcome measures, as well innovative advanced analytic methods.”

**About the author**

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