

New Study in JMIR Reveals How TQIntelligence's AI/ML Voice Algorithm Identifies Psychiatric Severity within Seconds

*Designed For Clinicians By Clinicians™,
TQI Can Detect Emotional Distress
Severity with ~ 85% Accuracy*

ATLANTA, GEORGIA, USA, July 12, 2023 /EINPresswire.com/ -- [TQIntelligence \(TQI\)](#), the only global AI-powered pediatric mental health platform that uses voice to instantly screen/triage for trauma-based emotional distress in underserved communities, today announced the first peer-reviewed study that demonstrates how AI/ML can positively impact mental healthcare for children and adolescents – especially in marginalized and low-income

communities. The study titled “Detecting clinically relevant emotional distress and functional impairments in children and adolescents” was recently published in JMIR (Journal of Medical Internet Research). [The in-depth study](#) showed how TQI’s patented speech algorithm could detect emotional distress severity with as much as 85% accuracy.

TQIntelligence’s Clarity AI™ features a proprietary voice-based algorithm that objectively and quickly identifies and targets high-risk patients to improve treatment outcomes; such innovations are necessary to reduce hospitalizations (or ER visits) and accelerate clinical services. Using predictive analytics to manage high-risk patients enables clinicians to immediately triage high-risk patients and reassure families that they will be given the right level of care at the right time, regardless of income, ethnicity, age, sexual orientation, or culture. Participants were recruited from Family Ties Enterprise, Inc., Thompson Child and Family Focus, and Georgia Hope.

“By using short voice audio samples (as little as 30 seconds), Clarity AI is an adaptive, culture-agnostic, and evidence-based decision support tool that augments what clinicians do anywhere,



Use TQIntelligence anywhere, anytime

anytime,” said Dr. Yared Alemu, Founder and CEO of TQIntelligence. “Similar to how a thermometer measures temperature, TQI uses voice/speech to measure the severity of emotional distress with technology based on the scientific relationship between trauma, stress, and the human voice. Our clinical partnerships with Family Ties Enterprise, Inc., Georgia HOPE, and Thompson Child and Family Focus have continued to validate the breakthrough impact of our approach.”



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Dr. Yared Alemu, Founder and CEO, TQIntelligence

About the Study

Background: childhood emotional distress and functional impairment are serious problems that can significantly impact a child’s development, level of functioning, and well-being. Early detection and intervention are essential for improving outcomes. This study is a step toward closing the gap on the following:

- 60% of the counties in the US lack a psychiatrist. By 2025, the US will have a shortage of 250,000 mental health professionals.
- The rate of suicide among black youth has increased by 80%.
- Two-thirds of children's mental health issues have little

to no treatment.

Results

The TQI study demonstrates that an automated speech analysis algorithm can detect clinically relevant emotional distress and functional impairment in children and adolescents. The algorithm is being trained on a large data set of speech recordings from children diagnosed with emotional/behavioral disorders and multiple functional impairments.

In this first phase of our study, we have developed a prototype of the algorithm that has detected emotional distress and functional impairment with a high degree of accuracy (79% to 85%) based on five universal emotions: anger, happiness, fear, neutral, and sadness.

What’s next?

TQIntelligence is working on publishing two additional research studies: 1) based on the outcome of 9000 voice samples, further validating the strength and accuracy of our algorithm, and 2) focused on a longitudinal study of 50 patients from low-income communities receiving

consistent mental health treatment for at least nine months.

TQI Recognition

Backed by the National Science Foundation Phase 1 and Phase 2 grant, TQIntelligence has also received funding from Google for Startups and the Google Black Founders Fund as well as an investment from Blue Cross Blue Shield and Jumpstart Foundry. TQI was also recently selected as one of the Top 40 Innovative Technology Companies in Georgia by the Technology Association of Georgia for the second consecutive year. It was also featured by the Atlanta 11 Alive broadcast as [an innovative startup that uses AI to detect trauma in kids](#). The segment shows how easily the solution can be integrated into a therapist's current workflow and save time with the application's ability to take notes and track each child's progress.

About TQIntelligence

Founded by Dr. Yared Alemu, TQIntelligence (TQI) is the only global AI-powered pediatric mental health platform that uses voice to instantly screen/triage for trauma-based emotional distress to determine the right level of care and to support clinicians in underserved communities. Similar to how a thermometer measures temperature, TQI uses voice/speech to measure the severity of emotional distress. TQI's technology is based on the scientific relationship between trauma, stress, and the human voice; the platform uses the prosodic and acoustic features of speech to predict each person's level of emotional distress (negative emotions). TQI is the industry-leading AI-based platform that leverages patented voice recognition technology and uses 100% voice samples from marginalized communities worldwide to enable affordable, impactful, and evidence-based Mental Healthcare for Everyone, Everywhere™.

For more information, visit www.tqintelligence.com or contact Mark Feinberg at mf@tqintelligence.com.

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