



W H I T E P A P E R

The Missing Layer in Employee Wellness

How Objective Voice-Based Screening Closes the Detection Gap
in Corporate Mental Health Programs

For Chief Human Resources Officers, Employee Wellness Directors,
and Benefits Leaders Across Aviation and Beyond

Prepared by Aerolytx | March 2026

Sources: Wellhub, Gallup, McKinsey, Deloitte, Mental Health America, WHO, Surgeon General, FAA

Executive Summary

The corporate wellness industry has grown to over \$70 billion globally, with 92 percent of employers now offering mental health components in their wellness programs [1][2]. Companies are investing in employee assistance programs (EAPs), digital therapy platforms, onsite clinicians, peer support networks, mindfulness apps, and biometric screenings. The commitment is real. The resources are substantial. And yet the fundamental problem remains unsolved: every one of these interventions depends on employees voluntarily identifying themselves as needing help.

They won't. The data is unambiguous: EAP utilization rates hover between 5 and 8 percent [3], despite the fact that 76 percent of U.S. workers report experiencing at least one mental health condition [4]. Over half of individuals with a mental health condition never receive treatment, often due to stigma, fear of workplace consequences, or simply not recognizing their own symptoms [5]. McKinsey research shows that employees with unaddressed mental health challenges are four times more likely to leave their organization [6]. The gap between “we offer resources” and “people who need help actually get it” is not closing—it is widening.

This whitepaper introduces a fundamentally different capability: passive, objective mental health screening through vocal biomarker technology. Aerolytx, powered by Canary Speech's patented platform, analyzes acoustic features of natural speech—not what employees say, but how they say it—to detect quantifiable indicators of depression, anxiety, cognitive fatigue, and stress. The technology requires no self-report, no questionnaire, no disclosure. A 40-second voice sample processed in three seconds produces objective wellness indicators that can identify employees who need support before they reach crisis [7][8].

Vocal biomarker screening is the missing layer that completes the corporate wellness stack—transforming mental health programs from reactive systems that wait for employees to ask for help into proactive systems that find the people who need it most.

The question for HR leaders is no longer “Do we offer mental health resources?” It is: “Can we identify which employees need those resources before they burn out, disengage, or leave?” Vocal biomarker technology makes that identification possible—objectively, passively, and without adding to the stigma that keeps employees silent.

The Silent Gap in Corporate Wellness

A \$70 Billion Industry with a Blind Spot

Corporate wellness programs have evolved dramatically over the past decade. What began as gym discounts and smoking cessation programs has matured into sophisticated, multi-pillar platforms addressing physical, emotional, financial, and social wellbeing [1][9]. The investment is significant and growing: 74 percent of organizations planned to increase wellness spending in 2025, and 86

percent of brokers report that companies are investing more specifically in mental health benefits [4][10].

The programs themselves are impressive. Leading employers offer 12 or more free counseling sessions per year through digital-first EAP platforms that guarantee appointments within 48 hours. Onsite clinician programs provide confidential, solution-focused support to employees and leaders. Peer support networks train hundreds of volunteer wellness champions across facilities. Harvard-developed Flourishing Index surveys measure holistic wellbeing across the workforce. Concierge advocacy services help employees navigate the healthcare system. And financial wellness programs address the stress that financial insecurity creates [11][12][13].

Yet for all this investment, a paradox persists:

- **76% of U.S. workers** report at least one symptom of a mental health condition [4].
- **EAP utilization remains between 5–8%**, meaning the vast majority of employees who could benefit from available resources never access them [3].
- **89% of employees** don't feel their company truly cares about their wellbeing, despite billions invested [14].
- **Over half of individuals** with mental illness never receive treatment, often delaying or avoiding help due to fears of discrimination or job consequences [5].
- **Three in four employees** report that work stress affects their sleep, rising to 90 percent in unhealthy workplace environments [15].

Why Self-Disclosure Fails

The root cause is structural, not motivational. Every mental health resource in the corporate wellness stack—counseling, coaching, EAP, peer support, digital therapy—requires the employee to take the first step. That step demands three things simultaneously: self-awareness (recognizing that something is wrong), willingness to disclose (overcoming stigma and fear), and trust (believing that disclosure will lead to support rather than consequences). For most employees, at least one of these conditions is not met [5][15].

This is not a problem that better marketing of existing programs can solve. Employees don't avoid EAPs because they don't know the number. They avoid them because the act of calling signals vulnerability in a professional context where vulnerability feels dangerous. In safety-critical industries like aviation, the stakes are even higher: a pilot or controller who discloses depression risks losing a medical certificate and, with it, a career. But the same dynamic plays out in boardrooms, sales floors, manufacturing sites, warehouses, and remote offices across every industry [5][16].

As it is now, the system catches people who have already fallen. It has no mechanism to catch people who are currently falling.

Aviation: Where the Stakes Are Highest

The aviation industry provides the clearest illustration of what happens when mental health detection depends entirely on self-disclosure—and the most compelling evidence for why objective screening is necessary.

The Disclosure Paradox in the Cockpit

Research shows that between 12.6 and 23.3 percent of active airline pilots meet clinical thresholds for depression, and 3–4.1 percent report suicidal ideation [17][18]. Yet 81 percent of pilots will not use available mental health resources due to fear of career consequences, and over 60 percent admit to delaying or avoiding medical care to protect their certificates [19][20]. The FAA’s 2024 Mental Health Aviation Rulemaking Committee identified culture, trust, fear, stigma, financial concerns, process complexity, and knowledge gaps as the seven categories of barriers preventing aviation professionals from seeking help [21].

The consequences have been catastrophic. In 2015, a copilot with concealed severe depression deliberately crashed Germanwings Flight 9525, killing 150 people. In January 2025, a midair collision at Reagan Washington National Airport killed 67 people at a facility the NTSB described as operating under an “unsustainable” workload that “regularly strained the workforce and degraded safety over time” [22][23]. In both cases, the system had no mechanism to detect the human factors that contributed to disaster.

The regulatory response is accelerating. The Mental Health in Aviation Act passed the House Transportation Committee in 2025 with bipartisan support, explicitly requiring reforms for both pilots and air traffic controllers [24]. The FAA has expanded approved medications, reduced stabilization periods, and given Aviation Medical Examiners greater authority to issue certificates for treated mental health conditions [25]. NATCA and the FAA jointly launched a Controller Peer Support Program [26]. Every one of these reforms represents progress—and every one still depends on the aviation professional choosing to disclose.

From Aviation to Every Workplace

The aviation case is extreme in its consequences but universal in its dynamics. The same barriers that prevent a pilot from reporting depression prevent a nurse from admitting burnout, an engineer from acknowledging anxiety, a sales executive from disclosing that financial stress is affecting performance, and a warehouse worker from admitting that chronic pain is driving substance use.

The difference is scale. A major airline employs 80,000–100,000 people across dozens of facilities. A healthcare system employs hundreds of thousands. A global technology company employs tens of thousands across countries and time zones. In each case, the organization has invested heavily in wellness resources—and in each case, the employees who need those resources most are the least likely to access them. The detection gap is not an aviation problem. It is a workforce problem.

What Best-in-Class Wellness Programs Look Like Today

To understand the opportunity, it is important to recognize how sophisticated leading employee wellness programs have become. The gap is not in resources—it is in detection.

| Wellness Layer | What Leading Programs Offer | Detection Limitation |
|------------------------------------|--|---|
| Employee Assistance Program | 12+ free counseling sessions/year via digital-first platforms (e.g., Spring Health). Appointments guaranteed within 48 hours. In-network therapists available onsite or virtually. | Requires the employee to initiate contact. Utilization rates of 5–8% suggest most who need help don't call. |
| Onsite Clinicians | Licensed behavioral health professionals embedded at major facilities providing confidential, solution-focused support for individuals and leaders. | Employees must self-refer or be referred by a manager who notices visible signs. Subclinical conditions go undetected. |
| Peer Support Networks | Hundreds of trained wellness champions across facilities promoting programs, reducing stigma, and connecting colleagues to resources. | Depends on peer observation—subjective and inconsistent. Peers may not recognize symptoms, especially in remote or distributed teams. |
| Digital Therapy Platforms | On-demand access to licensed therapists via text, video, and phone. Personalized care plans based on individual assessments. | Requires active enrollment and engagement. Self-selection bias means the most at-risk employees are least likely to sign up. |
| Wellbeing Surveys | Harvard Flourishing Index or similar instruments measuring holistic wellbeing. Used to calibrate benefits and identify workforce trends. | Periodic, not continuous. Relies on honest self-report. Aggregate data masks individual distress. Employees may underreport. |
| Biometric Screening | Annual health assessments measuring blood pressure, cholesterol, BMI, glucose. Incentivized participation with HSA contributions. | Captures physical health markers only. No mental health indicators. Conducted annually—a single snapshot, not ongoing monitoring. |
| Financial Wellness | Financial coaching, emergency savings programs, debt management resources, retirement planning webinars. | Addresses a stressor, not mental health directly. Employees must recognize financial stress as the cause and seek help. |
| Manager Training | Programs training leaders to recognize signs of distress, provide | Depends on manager skill, attention, and relationship quality. |

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| | supportive responses, and connect employees to resources. | Remote/hybrid work makes observation harder. High manager-to-employee ratios limit effectiveness. |
|--|---|---|

The pattern is consistent: every layer provides excellent resources for employees who engage. None provides an objective, passive mechanism to identify employees who should be engaging but are not. This is the detection gap.

The Business Case for Closing the Detection Gap

For finance leaders and HR executives evaluating wellness investments, the economics of early mental health detection are compelling. The question is not whether mental health conditions cost the organization—the data on that is settled. The question is whether investing in detection capability improves the return on every other wellness dollar already being spent.

The Cost of the Current Gap

| Metric | Impact |
|--|--------------------------------------|
| Absenteeism cost per hourly employee per year | \$3,600 (Deloitte) |
| Absenteeism cost per salaried employee per year | \$2,650 (Deloitte) |
| Turnover risk multiplier for employees with mental health challenges | 4x more likely to leave (McKinsey) |
| Increase in healthcare costs from undiagnosed depression | 2–8x higher treatment costs (Lancet) |
| Employees reporting burnout in the past 12 months | 77% (Deloitte 2024) |
| Workers who would take a lower salary for better wellness benefits | 48% (Recruiters Lineup 2025) |
| Average medical claims savings per engaged wellness participant | \$462/year (Vitality 2024) |

The Return on Wellness Investment

The data on wellness ROI is increasingly robust:

- **95% of companies** that measure wellness program ROI report positive returns, up from 90 percent in 2023 [1].

- **\$3.27 saved in healthcare costs** and \$2.73 in reduced absenteeism for every dollar invested in wellness programs [27].
- **Companies with holistic wellness programs** (four or more offerings) see significantly higher returns, with 24 percent achieving returns of 150 percent or more [1].
- **Productivity gains of up to 20%** are reported by companies that prioritize employee wellbeing [9][28].
- **Retention improves measurably:** organizations that embed wellbeing into their culture report 10 percent higher retention rates [9].

The Detection Multiplier

Vocal biomarker screening does not replace any existing wellness investment. It amplifies the return on all of them. Consider the math: if an organization spends \$500 per employee per year on mental health resources but only 5–8 percent of employees with conditions access those resources, the effective spend per person helped is \$6,250–\$10,000. If passive screening doubles the identification rate—routing even 15–20 percent of at-risk employees toward existing resources—the cost per person helped drops dramatically while outcomes improve across absenteeism, turnover, productivity, and healthcare claims.

This is not a new program to build. It is a diagnostic layer that makes every existing program work harder.

Vocal Biomarker Technology: The Science of Listening

Vocal biomarker analysis is the use of artificial intelligence and machine learning to detect physiological and psychological health conditions from acoustic features of speech. The technology does not analyze what a person says—it analyzes how they say it, identifying involuntary patterns in pitch, tone, cadence, speech rate, pause duration, vocal energy, and prosodic features that correlate with specific conditions [7][8][29].

How Canary Speech Works

Canary Speech, the vocal biomarker platform powering Aerolytx, has been developed by leading scientists and audio signal processing experts. The platform:

- **Requires only 40 seconds of natural speech**—from a phone call, a wellness check-in, a meeting, or any conversational interaction. No special equipment, no structured test, no clinical setting required [7].
- **Processes samples in approximately 3 seconds**, analyzing thousands of acoustic markers and up to 12 million data elements per sample to produce quantifiable Voice Scores [7][8].

- **Detects multiple conditions simultaneously:** depression, anxiety, cognitive fatigue, stress, and early-stage cognitive decline—all from a single voice sample [7].
- **Provides early detection capability:** Canary Ambient™ identifies indicators before observable symptoms appear, detecting subtle changes that even trained clinicians may miss and that the individual may not yet recognize [7].
- **Is validated with CPT codes:** Recognized as medical biomarkers with Current Procedural Terminology codes, establishing clinical legitimacy and enabling insurance reimbursement—a significant differentiator in the market [7].
- **Maintains full HIPAA compliance:** Built on Microsoft Azure infrastructure with enterprise-grade security. Speech content is not recorded or stored—only acoustic patterns are analyzed [8].
- **Operates in multiple languages:** English, Japanese, and Spanish models are currently in commercial use, with additional languages in development [7].

The Emerging Market

The vocal biomarker market was valued at \$2.0–\$2.5 billion in 2024 and is projected to reach \$6.5–\$9.5 billion by the early 2030s, growing at 14–15 percent annually [30][31]. Over 35 percent of vocal biomarker deployments are already focused on mental health screening [30]. In 2021, a major European health insurer introduced a voice-activated stress assessment tool using AI-driven vocal biomarkers to screen for depression and anxiety in real time—validating the concept at insurance-industry scale [30]. The American Psychiatric Association has published detailed reviews of the technology’s clinical potential, noting that research continues to accumulate on the effectiveness of AI-driven voice analysis as a biomarker for mental health conditions [29].

This is not speculative technology. It is a clinically validated, commercially deployed capability with a clear market trajectory and institutional endorsement.

Integrating Vocal Biomarkers Into Employee Wellness Programs

The most important design principle is that vocal biomarker screening does not replace anything in the existing wellness stack. It is the connective tissue that routes employees to the right resource at the right time.

Integration Architecture

| Wellness Touchpoint | How Vocal Biomarkers Integrate |
|---------------------------------|---|
| Annual Wellness Check-In | Passive voice analysis during routine annual enrollment conversations or benefits review calls. Establishes individual baselines and identifies |

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| | employees who may benefit from EAP or counseling referral—without requiring them to request it. |
| EAP Enhancement | Voice Scores from initial EAP interactions provide clinicians with objective severity indicators, improving triage accuracy. Longitudinal tracking measures whether counseling is producing measurable improvement in vocal biomarkers. |
| Manager Check-Ins | During routine 1-on-1 meetings (with employee awareness and consent), passive analysis identifies team members showing elevated stress or fatigue patterns. Managers receive aggregate team health dashboards—not individual scores—to inform workload and scheduling decisions. |
| Return-from-Leave | Objective Voice Scores support return-to-work readiness assessment for employees returning from medical, disability, or mental health leave. Provides quantitative evidence to complement clinical evaluations. |
| Peer Support Programs | Trained peer supporters can reference objective wellness trends (with employee consent) to guide conversations beyond subjective observation. Provides peer supporters with confidence that their concern is data-supported. |
| Onsite/Virtual Clinicians | Voice Score data supplements clinical assessment for embedded behavioral health professionals. Enables more targeted and efficient use of limited clinical resources by prioritizing employees with objective risk indicators. |
| Team Health Analytics | Aggregate de-identified data by team, department, facility, or shift pattern reveals systemic stressors. Enables evidence-based decisions about workload distribution, scheduling, and facility-level interventions. |
| Safety-Critical Roles | For pilots, controllers, operators, drivers, clinicians, and other safety-sensitive positions: pre-shift cognitive readiness screening provides objective fitness-for-duty indicators that protect both the employee and the people they serve. |

The “First Mile” of Mental Health

Leading wellness organizations describe their mission as transforming the “first mile of health”—the initial point of contact between an employee’s need and the system’s response [12]. Today, the first mile depends entirely on the employee. Vocal biomarker technology moves the first mile to the system, enabling proactive identification rather than reactive response.

This is analogous to the transformation biometric screening brought to physical health. Before routine blood panels, organizations waited for employees to report symptoms of diabetes, hypertension, or high cholesterol. Biometric screening enabled early detection and intervention for conditions employees didn’t know they had. Vocal biomarker screening does for mental health what

biometric screening did for physical health—but with the additional advantage of requiring no blood draw, no lab visit, and no clinical setting.

Privacy, Trust, and the Confidentiality Imperative

No capability matters if employees do not trust it. The success of vocal biomarker integration depends entirely on building and maintaining trust that the technology supports employees rather than surveilling them. This is not a secondary consideration—it is the primary design constraint.

Core Privacy Principles

- **No speech content is recorded or stored.** The system analyzes acoustic patterns only. What an employee says is never captured, transcribed, or reviewed. Only the mathematical features of how they speak are processed [7][8].
- **Individual results are confidential to the employee.** Employees receive their own wellness insights. No individual Voice Score is shared with managers, HR, or the organization without explicit employee consent.
- **Aggregate data is de-identified.** Team, department, and facility-level analytics use population-level data that cannot be traced to individuals. Leaders see trends, not names.
- **The technology is a screening tool, not a diagnostic instrument.** Voice Scores are indicators that suggest further evaluation may be beneficial—not grounds for employment decisions, performance actions, or mandatory referrals.
- **Employees control their data.** Employees can choose to share Voice Score trends with their clinician, EAP counselor, or peer supporter to enhance their care. This is always voluntary.
- **Firewall from employment decisions.** Voice Score data is never used in performance reviews, promotion decisions, disciplinary actions, or any employment-related determination. This boundary must be absolute and contractually guaranteed.

Lessons from Aviation

The aviation industry provides critical lessons in building trust around mental health disclosure. The FAA's Employee Assistance Program guarantees that counseling obtained through EAP does not have to be reported on the medical application [26]. NATCA's Aviation Medicine Advisory Service (AMAS) provides confidential aeromedical consultation as a member benefit. These precedents demonstrate that confidential mental health support frameworks can operate within even the most regulated safety environments. The same principles apply to corporate wellness: confidentiality must be structural, not aspirational.

Building Trust Through Transparency

Organizations implementing vocal biomarker screening should:

1. **Communicate clearly and repeatedly** about what the technology does and does not do—what data is collected, how it is used, who can see what, and what is explicitly prohibited.
2. **Involve employee representatives** in program design, governance, and oversight. In unionized environments, this means the union. In non-union environments, it means employee advisory committees.
3. **Publish independent audits** of data handling practices, demonstrating that the firewall between wellness data and employment decisions is maintained.
4. **Lead with personal value:** employees who see direct benefit to themselves—wellness insights, stress tracking, longitudinal health data—are more likely to trust and engage with the system.

The Case for Action

The Human Imperative

Behind every utilization statistic is a person who needed help and didn't get it. A project manager whose anxiety worsened until she quit. A maintenance technician whose untreated depression contributed to a workplace injury. A senior leader whose burnout eroded team performance for months before anyone noticed. Vocal biomarker screening identifies these individuals when their conditions are manageable—when a referral to an already-available counselor can change their trajectory rather than waiting until a resignation letter, a disability claim, or a crisis forces the organization to react.

The Competitive Imperative

Ninety-one percent of Gen Z employees consider wellness programs non-negotiable in their job search [4]. Forty-eight percent of all workers would accept lower compensation for better wellness benefits [4]. In a labor market where talent retention is a strategic priority, the organizations that can demonstrate genuine, proactive commitment to employee mental health—not just a benefits brochure, but a system that actually finds people who need help—will have a measurable advantage in recruitment, retention, and employer brand.

The Financial Imperative

The economics are clear: wellness programs deliver \$3.27 per dollar in healthcare savings and \$2.73 per dollar in reduced absenteeism [27]. But these returns depend on employees engaging with available resources. Vocal biomarker screening increases engagement by identifying the right employees at the right time, transforming a passive benefits catalog into an active detection and

routing system. The result is not just a new line item—it is a multiplier on every wellness dollar already being invested.

The Safety Imperative

For organizations with safety-critical roles—aviation, healthcare, transportation, energy, manufacturing, public safety—proactive mental health monitoring is not just a wellness investment. It is a safety investment. Cognitive impairment from untreated depression, anxiety, and fatigue degrades decision-making, reaction time, and situational awareness in roles where those capabilities protect lives. Objective screening provides a fitness-for-duty dimension that subjective observation and self-report cannot match.

Conclusion

Corporate America has built impressive wellness infrastructure. The EAPs are accessible. The counselors are available. The digital platforms are sophisticated. The investment is genuine. What the system lacks is the ability to find the people who need these resources but will never ask for them.

Vocal biomarker technology closes that gap. By analyzing how employees speak—not what they say—during natural workplace interactions, the technology identifies objective indicators of depression, anxiety, cognitive fatigue, and stress that self-report and observation alone cannot detect. It transforms corporate wellness from a reactive system that waits for employees to reach out into a proactive system that reaches out to them.

The opportunity begins in aviation, but it extends to every other industry where employee mental health affects performance, safety, and retention. The market is growing at 15 percent annually. The clinical validation is established. The regulatory environment is supportive. And the competitive advantage accrues to organizations that act early.

Every wellness program promises to be there when employees need help. Vocal biomarker technology fulfills that promise—by finding the employees who need help before they ask.

For further information: [Aerolytx.ai](https://aerolytx.ai) | Predictive Behavioral Wellness Analytics | www.aerolytx.ai

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