



Medibio Investor Presentation

August 2017

ASX: MEB
OTCQB: MDBIF

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A photograph of a doctor and a woman sitting at a desk in an office. The doctor, on the left, is wearing a white lab coat, a blue shirt, a striped tie, and a stethoscope. He is looking at a laptop screen. The woman, on the right, is wearing a yellow sweater and is also looking at the laptop screen. They appear to be in a collaborative meeting. The background shows a window with blinds and some office supplies on the desk.

CHANGING THE WAY MENTAL HEALTH CARE IS DELIVERED

CORPORATE OVERVIEW

Who are we?

Medibio is a Digital Mental Health pioneer who has developed the first objective testing system for the diagnosis of depression and other mental health disorders

What are we doing?

By leveraging a panel of patented autonomic, circadian and sleep biomarkers, Medibio is able to objectively characterize broad spectrum mental illness

The problem

Depression is a global epidemic affecting over 350M people world-wide. Given the current subjective nature of diagnosis and clinical decisions, less than 10% of patients receive optimal care. The problem is further amplified by the lack of access to psychiatrists resulting in under-qualified GPs shouldering the burden

The solution

Medibio's proprietary Digital Mental Health Platform enables GPs and mental health clinicians to cost-effectively screen, precisely diagnose and objectively confirm treatment effectiveness to better manage patients

Why invest in us?

- **Innovative technology** – The potential to be the world's first objective system for the diagnosis of a largely intangible health epidemic
- **Targeting a large market** - Depression is estimated to cost US economy US\$210 billion a year with the cost in Australia estimated at \$12.6 billion annually
- **Superior value proposition** – Quick, objective and non-intrusive method which enables early identification, confirms treatment efficacy and enables data-driven patient management
- **Validation studies with leading researchers in the industry** - Johns Hopkins, Mayo Clinic, Emory University, Ottawa University, BMRI
- **Global partnerships with notable players in the market:** Medtronic, Preventice, Zephyr Biopatch, and currently rolling out our Corporate Stress Product with Wellness Channel partners
- **Patent protected technology** – Based on 20 years of research
- **Regulatory approvals underway** – Plans to file for FDA approval and CE Mark approval

CORPORATE STRUCTURE

CAPITAL STRUCTURE (ASX:MEB) (OTCQB:MDBIF)

(amounts shown in AUD\$)

Market Cap **\$58.0M**
Share Price \$0.39
as of 1 August 2017
Shares on Issue 148.7M

Market Cap (fully diluted) **\$67.9M**
Share Price \$0.39
as of 1 August 2017
Fully diluted shares 174.2M
(per March 29, 2017 Appendix 3B)

Cash Available **\$10M**

(June 30, 2017 cash balance plus \$5M anticipated inflow over 9 months from R&D rebate, stock option exercise, & partly paid shares)

ANALYST RESEARCH & COVERAGE

Morgans: ADD; Target price: A\$1.20

Baillieu Holst: BUY; Price target A\$0.60

SUBSTANTIAL SHAREHOLDERS

10.5% 

FIDELITY
Institutional holder

7.2% 

CLAUDE SOLITARIO
Held since 2015, co-founder

52.4% 

TOP 20

OUR UNIQUE
POSITION
TO IMPACT
MENTAL ILLNESS



CHRIS INDERMAUR
Chairman
Seasoned ASX Chair



DR. ADAM DARKINS
Deputy Chairman
(Incoming Chairman)
Telehealth Icon



**DR. FRANKLIN
PRENDERGAST**
Non-Executive Director
Healthcare Luminary



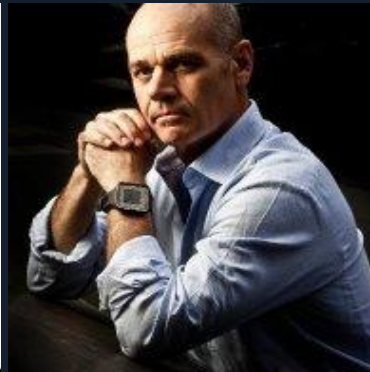
MICHAEL PHELPS
Non-Executive Director
*World Class Athlete and Mental
Health Advocate*



PATRICK KENNEDY
Non-Executive Director
*Former US Congressman and
Mental Health Advocate*



KRIS KNAUER
Non-Executive Director
Investor



ANDREW MAXWELL
Non-Executive Director
Former Biotech CEO



JACK COSENTINO
CEO/Managing Director

DR. ADAM DARKINSA man with short, light-colored hair, wearing a dark suit jacket, a light-colored checkered shirt, and a red tie, is shown in profile from the chest up. He is looking towards the right of the frame. His hands are clasped in front of him. The background is a solid, dark blue-grey color.

“As Medibio's unique technology is maturing, it has the potential to support new models of mental health care that focus on wellness. By objectifying diagnosis and management to specifically address the rapidly growing health care needs of this population, business growth will be driven organically, and help transform mental health care delivery worldwide”

Dr. Adam Darkins, MD, MPH, FRCS

DR FRANKLYN PRENDERGAST



“During my career at Mayo the key thing that stood out to me is that the mental health care system is broken. I joined Medibio because they have a tool that can address it”

Dr Frank Prendergast, M.D., Ph.D.

MICHAEL PHELPS

A photograph of Michael Phelps swimming in a pool. He is wearing a white swim cap with "NBAC" and "NP" on it, and blue goggles. He is in a streamlined position, with his arms extended forward and his head above water. The background is a blurred blue pool with lane lines.

"I have personally experienced Medibio's technology and believe it can help make a profound impact in diagnosing mental health and empowering people to seek the help and support they may need"

Michael Phelps

photo credit "Aqua Sphere"

PATRICK KENNEDY

A photograph of Patrick Kennedy, a man with short brown hair, wearing a light blue zip-up sweater over a blue polo shirt. He is leaning on a wooden railing with his hands clasped. The background is a blurred outdoor setting with trees and a building.

“I see a future where everyone who needs mental health care gets it. We must end the separate and unequal treatment of mental health and addiction, and ensure each of us is able to achieve a full, meaningful life.”

Patrick Kennedy
Founder, The Kennedy Forum

photo : NBC News

“The single greatest illness that affects humankind”

Professor Stephen Lawrie
Head of Psychiatry at Edinburgh



THE REASON WHY
PREVALENCE

350 MILLION

suffer from depression

26%

ADULTS IN US

Leading cause of disability in the US

1 in 13

suffer from anxiety

7.7M

PTSD sufferers in the United States alone,
or, **3.5%** of the population

27%

ADULTS IN EUROPE

THE REASON WHY
PATIENT CARE DISCONNECT

1 in 4 ADULTS WILL HAVE A
MENTAL HEALTH DIAGNOSIS

7.8 PSYCHIATRISTS PER 100,000
PEOPLE IN THE US (.0078%)



21M SUICIDE ATTEMPTS
FROM MENTAL ILLNESS

THE REASON WHY
**SUB-OPTIMAL
TREATMENT**

OUT OF
350 MILLION
patients globally
< 7% total
receive optimal treatment

ONLY 50%

are ever diagnosed (Gonzalez, 2010)

SCREENING

30%

are incorrectly diagnosed

(Angst, 2011)

DIAGNOSIS

20%

receive optimal
treatment

(Barbui, 2006)

TREATMENT

THE REASON WHY COST



“Mental illness will result in \$6 trillion in health-care costs, globally”

- WHO

REFERENCES

- [NIMH article](#)
- World Health Organization. (WHO 2011a). *Global status report on non-communicable diseases 2010*. Geneva: WHO World Mental Health Day 2015

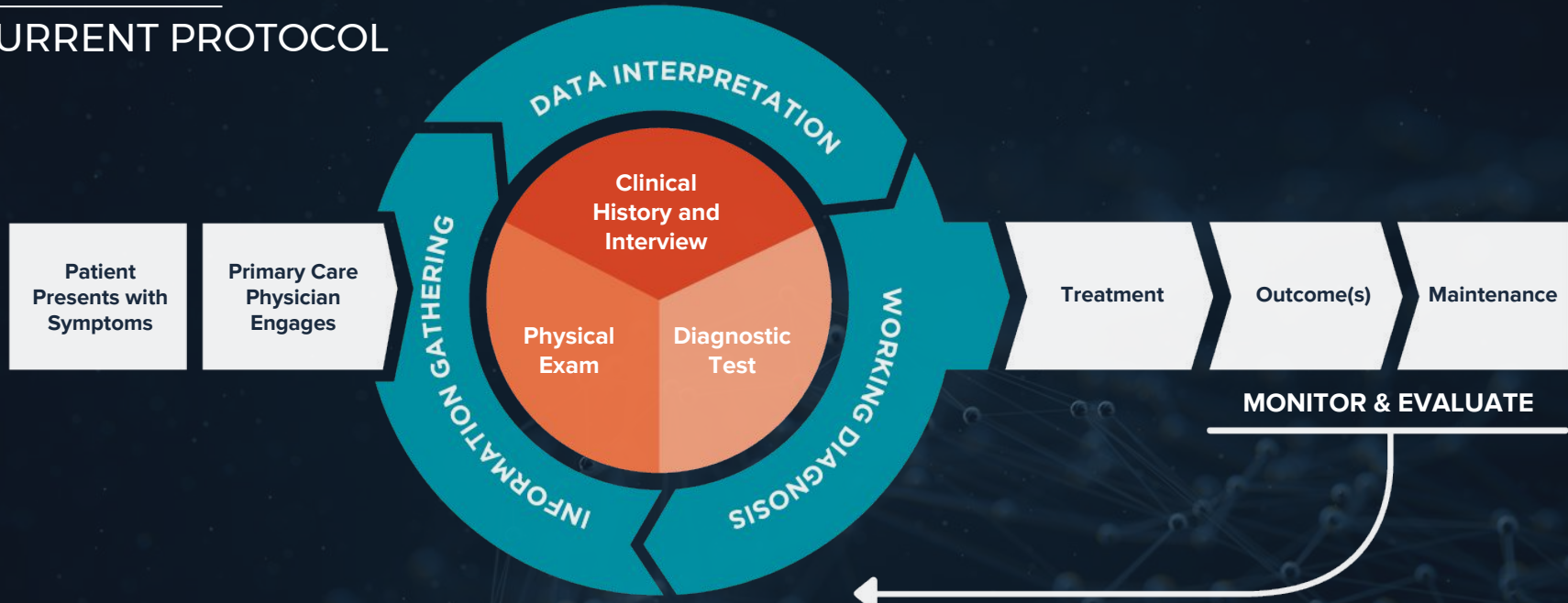
\$94.5B

Direct cost to treat
Major Depressive Disorder
(MDD) annually in the USA

\$12.6B

Direct cost to treat
Depression annually
in Australia

CURRENT PROTOCOL



SCREENING

Pre-Appointment Questionnaire

Patient Self-Identifying

DIAGNOSIS

DSM-5

Diagnostic & Statistical Manual of Mental Health

- Subjective Evaluation Tool
- 75-85% of Patients Diagnosed by Primary Care Physician
- OR less than 20% Diagnosed and Treated by Psychiatrists

TREATMENT

PHQ-9

Patient Health Questionnaire

Subjective Questionnaire Conducted up to Every 1-2 weeks

STATE OF THE ARCHAIC
NOT STATE OF THE ART

WE MUST MOVE BEYOND SUBJECTIVE DIAGNOSIS

“The strength of each of the editions of DSM has been “reliability” – each edition has ensured that clinicians use the same terms in the same ways.

THE WEAKNESS IS ITS LACK OF VALIDITY

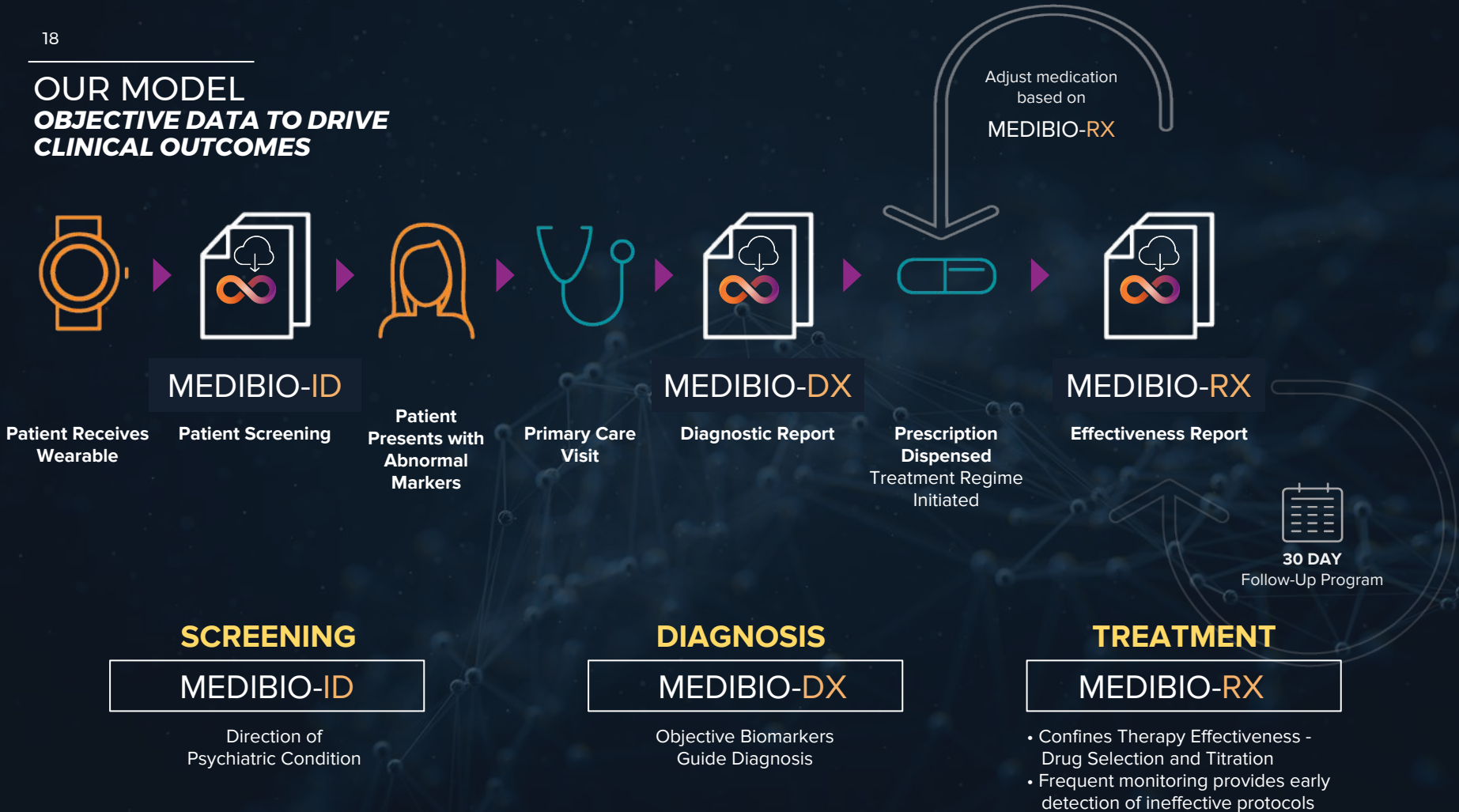
In the rest of medicine, this would be equivalent to creating diagnostic systems based on the nature of chest pain or the quality of fever. Indeed, **symptom-based diagnosis, once common in other areas of medicine, has been largely replaced in the past half century** as we have understood that symptoms alone rarely indicate the best choice of treatment.”

— THOMAS INSEL, FORMER HEAD OF NIMH

The image shows the cover of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). The cover is blue with white and yellow text. The title "DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS" is written in white, with "FIFTH EDITION" below it. The acronym "DSM-5™" is prominently displayed in large white letters. The cover is slightly tilted and has a yellow border.

OUR MODEL

OBJECTIVE DATA TO DRIVE CLINICAL OUTCOMES



BIOMETRIC-BASED OBJECTIVE DIAGNOSIS

A Focused Approach to Treatment:

Panel of circadian, sleep and automatic system biomarkers enables automated, repeatable, and objective characterization of the impact of mental illness on physiologic state

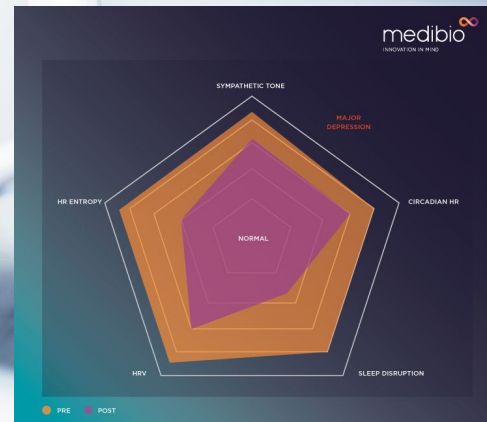
The heart-rate morphology, rate variability and overall sympathetic tone are indicative of the presence of depression.



Lara gets a screening with **MEDIBIO-ID** to determine the severity of her symptoms. She is now equipped to approach alternative resources that specialize in helping those without insurance find care.



Alex receives a detailed Diagnostic Report from **MEDIBIO-DX** and is able to present it along with his disability application. With a detailed account of his PTSD, he is able to qualify and receive benefits for treatment.



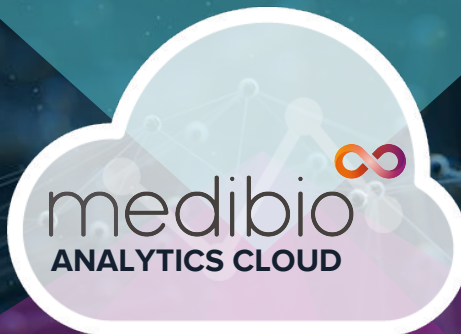
HOW WE INNOVATE

PHYSIOLOGICAL DATA

(ECG, EEG, ACTIGRAPHY)



Device Agnostic approach



APPLICATIONS

Full Spectrum Mental Health

Major Depression Disorder (MDD)

Generalized Anxiety Disorder (GAD)

Post Traumatic Stress Disorder (PTSD)

Schizophrenia Disorder

Bipolar/Unipolar Disorder

OUR ECOSYSTEM

PATIENT INPUTS



Devices



Wearables



Sensors



Medibio sits in a unique position to address the communities of interest around the world...

with a data driven solution.

CLINICIAN OUTPUTS



Patient Records



Telehealth
Platforms



Pharma

REVENUE OPPORTUNITIES



Report Generated
(\$15-\$20 per report)



Patient Screening

1-time GP visit

MEDIBIO-ID



Diagnostic & Decision Support

Monthly Specialist Visit

MEDIBIO-DX



Patient Management

Pharma prescription management & adherence

MEDIBIO-RX



Predictive Population Management

Insurance Company/ Government Pharma

PATH TO REVENUE

Current primary care screening environment alone presents an **\$875M** opportunity. Another **50%** of population are unscreened. This test will be as common as taking a patient's vital signs.

PRODUCT	Per Patient Revenue	Estimated Market Size	Estimated Market Potential
EARLY DETECTION SCREENING MEDIBIO-ID	\$15-\$20 per patient session	43.8 million U.S. adults suffer mental illness annually	\$875 million U.S. Market
ACCURATE DIAGNOSIS MEDIBIO-DX	\$180-\$240 patient/ annually	21.9 million U.S. adults are diagnosed (50% rate)	\$5.3 Billion U.S. Market
RIGHT DRUG TREATMENT MEDIBIO-RX	\$180-\$240 patient/ annually	15.3 million U.S. adults accurately treated (70%)	\$3.7 Billion U.S. Market

Does **not** include treatment, prevention, medication management, data, as well as all other market (paediatric and adolescent) and applications of our system.

OUR MILESTONES

TIMING	MILESTONE	STATUS
Q4, 2016	Pilot Study Validation Johns Hopkins University (Major Depressive Disorder n=20)	✓
Q1, 2017	Strategic Research Partnership - Emory PTSD	✓
Q2, 2017	Completion of John Hopkins University Validation Study (Major Depressive Disorder n=60) Publishing of Peer-reviewed paper - Emory University (PTSD)	✓
Q3, 2017	Agreement with FDA on subject numbers required for depression confirmatory study Commencement of Confirmatory Study to provide data for FDA Submission (n=200) Presentation of independent paper - University of Ottawa (Major Depressive) Announcement of results from the John Hopkins University Exploratory Study (Major Depressive Disorder n=60)	
Q4, 2017	CE Mark submission (Platform, Major Depressive Disorder diagnostic aid) QMS Audit for CE Mark	
Q1, 2018	CE Mark and QMS approval (Platform, Major Depressive Disorder diagnostic aid)	
Q2, 2018	FDA submission (Major Depressive Disorder diagnostic aid)	

The background features a dark blue and black color scheme with a glowing grid of white dashed lines. A candlestick chart with white bars and a white line is overlaid on the grid, showing an upward trend. The overall aesthetic is futuristic and data-driven.

medibio 

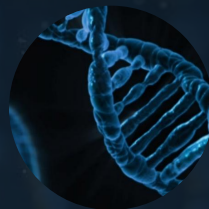
INNOVATION IN MIND

Addendum

PAIN POINT



Current diagnostic tests rely on **clinical interviews with subjective interpretation**



OUR SOLUTION

Quantitative and objective diagnostic based on biomarkers



Concordance rates near **70% for psychiatrists** and **33-50% for primary care physicians**



Repeatable, reliable test with demonstrated classification accuracy of **>80%**



No objective measure of treatment effectiveness leads to long titration cycles



Provides **objective indication of treatment efficacy** enabling time to optimal treatment



The standard of care is assessment by a primary care physician **> Higher cost due to misdiagnosis**



Cost-effective, scalable solution that can be administered at the primary care or specialty level **> more reliable, repeatable and low cost**

OUR IMPACT

CONTINUUM OF CARE

Wearables

*Fitbit, Garmin, Medtronic,
Apple Watch, etc.*

Integrated Mental Health System

Primary Care Physicians

Standard Screener

Communities of Interest

VA, DOD, NIH, NIMH
Standard Screener

Psychiatrists/ Psychologists

Improved Diagnostic Accuracy

Pharmaceuticals

Improves Patient
Experience
Adherence &
Treatment Efficacy

Telehealth Platforms

Medibio System
Integrations

Corporate Wellness

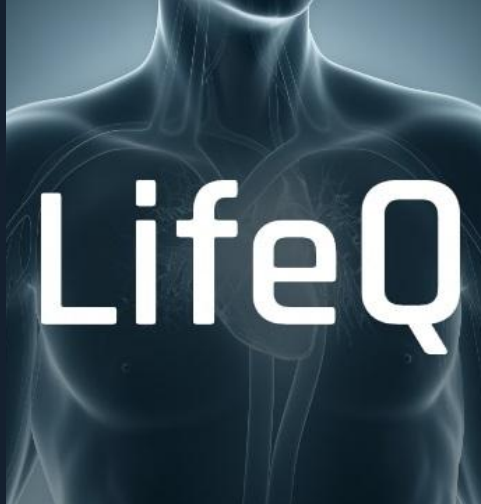
Home Test &
Medication
Management

Payers

Reimbursement for
Improved Health Score

AD3

PARTNERS IN
GROWTH



Medtronic



EMORY
UNIVERSITY

MAYO
CLINIC



JOHNS HOPKINS
MEDICINE
JOHNS HOPKINS
HEALTH SYSTEM

OBJECTIVE DATA TO DRIVE CLINICAL OUTCOMES



SCREENING

MEDIBIO-ID

Direction of
Psychiatric Condition

DIAGNOSIS

MEDIBIO-DX

Objective Biomarkers
Guide Diagnosis

TREATMENT

MEDIBIO-RX

- Confines Therapy Effectiveness - Drug Selection and Titration
- Frequent monitoring provides early detection of ineffective protocols



INNOVATION IN MIND

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