

INNOVATIVE CLINICAL APPROACHES

Treating Chronic Stress Related Health Issues with Biofeedback

Dr. Yousef Turshani, Chief Medical Officer
San Mateo Medical Center
yturshani@smcgov.org



SAN MATEO COUNTY HEALTH
**SAN MATEO
MEDICAL CENTER**



OUR VISION & MISSION

Every patient will live their healthiest life.

We partner with our community to provide excellent healthcare for patients, including those experiencing social, environmental, or economic challenges.

WE ARE THE SAFETY NET

- The only public hospital and clinic system in San Mateo County (only 13 counties in CA have public hospitals)
- We are a small community hospital with a large clinic system
- Most patients have health coverage through the County, state, or federal government

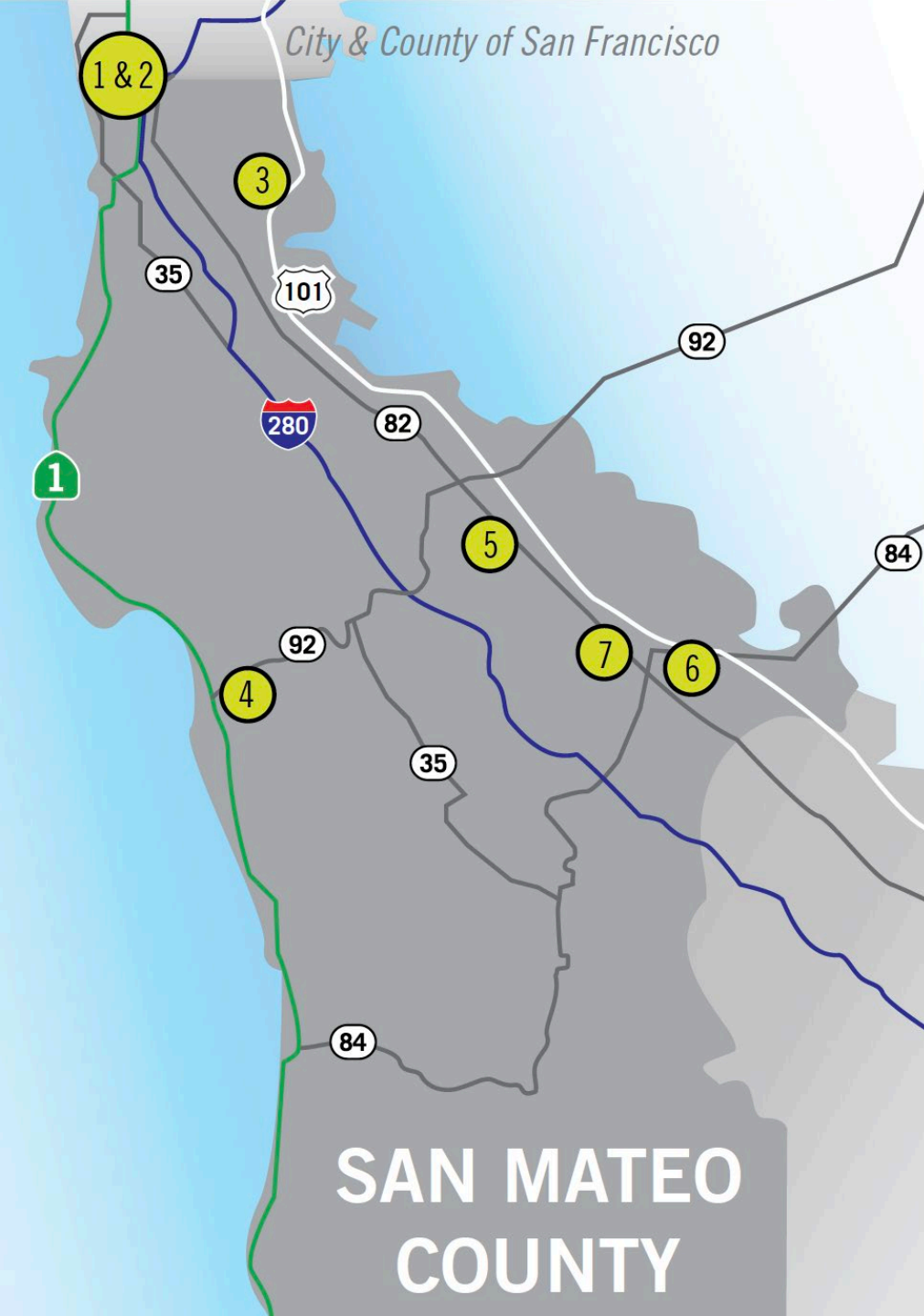




MEDICAL
HOME FOR
58,350
PATIENTS

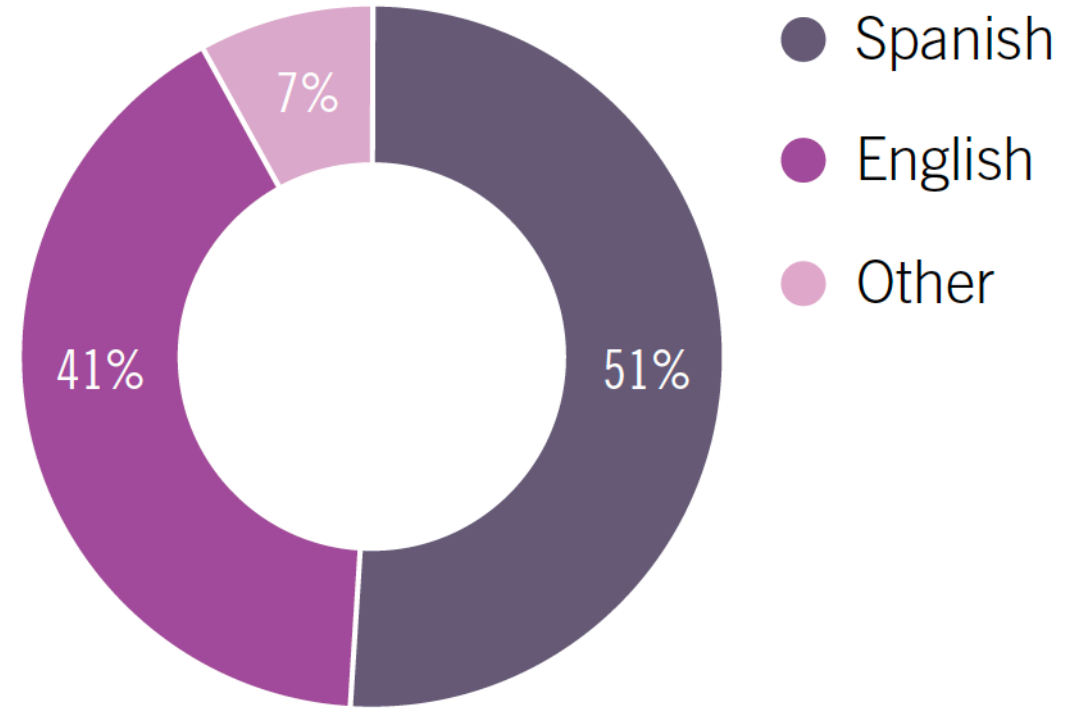


21
CLINICS
7
LOCATIONS



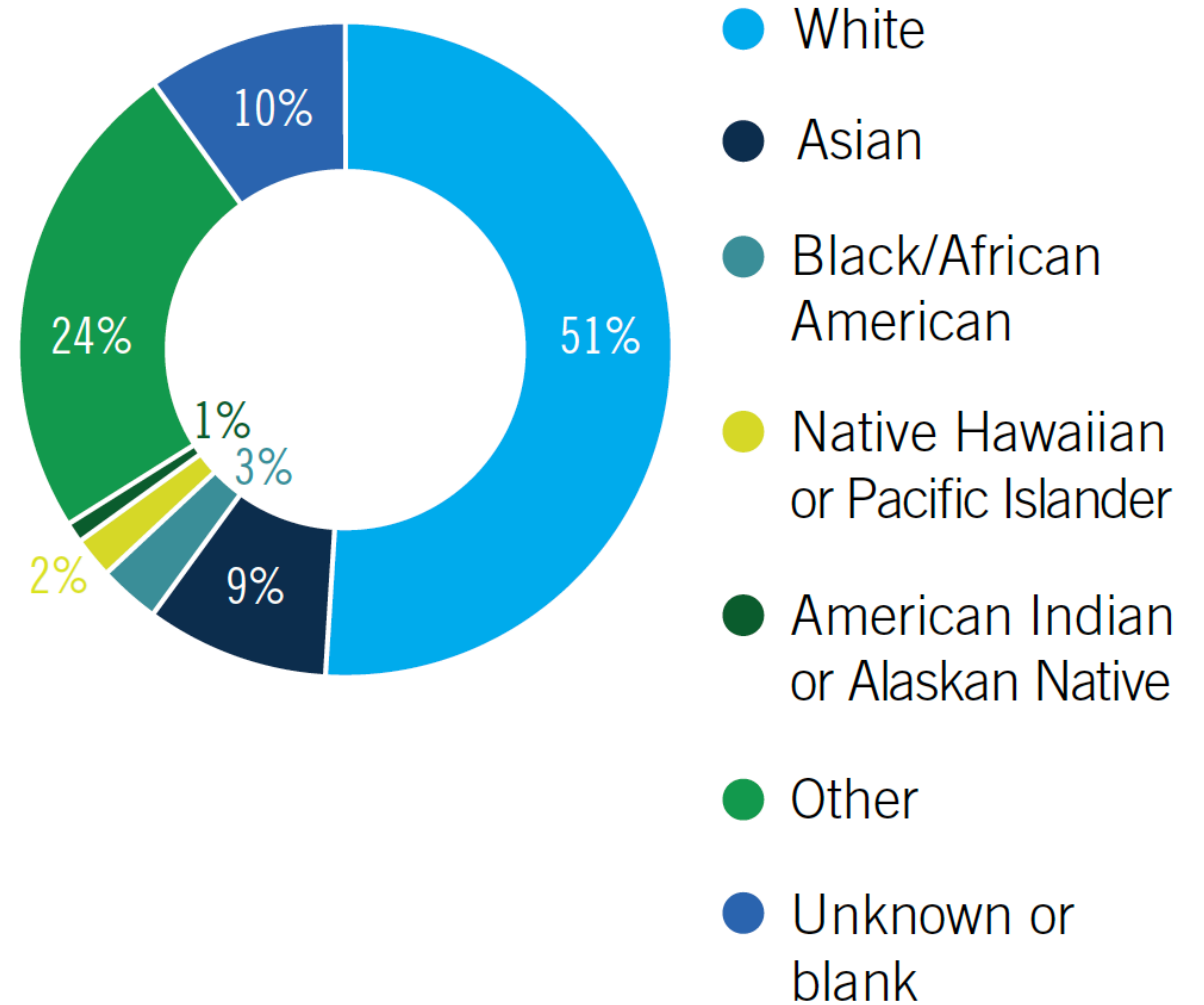
- 1 Daly City Health Center
- 2 Daly City Youth Health Center
- 3 South San Francisco Clinic
- 4 Coastside Clinic
- 5 San Mateo Clinics
- 6 Sequoia Teen Wellness Center
- 7 Fair Oaks Health Center

LANGUAGE



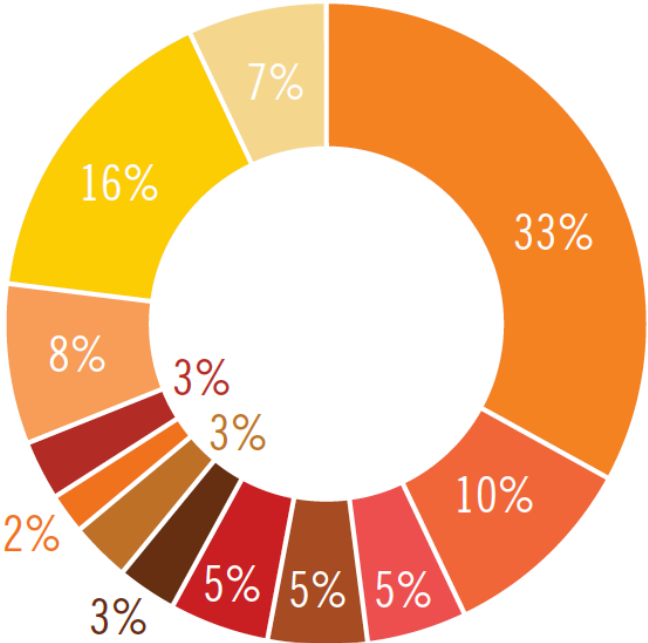
We provide care in the preferred language of each patient.

RACE



Race refers to how society groups people based on their physical traits.

ETHNICITY



- Mexican
- Central American
- Latin American
- Filipino
- Guatemalan
- Salvadorian
- Chinese
- African American
- Other White
- Other/Mixed
- Other Ethnicity
- Unknown or blank

Ethnicity refers to how society groups people based on a shared heritage.

DEPARTMENT OF PSYCHIATRY

- Psychiatric Emergency Services
- Acute Inpatient Services
- Consult Liaison Services
- Integrated Behavioral Health (IBH)

INTEGRATED BEHAVIORAL HEALTH

- Provides integrated medical and behavioral care in the primary care setting.
- Promotes access, equitable treatment, and whole-person care
- Reduces stigma associated with mental health treatment



MEET MARIA

- 42 years old from Michoacan, Mexico
- History of severe trauma
- 3 – 4 visits to Emergency Room every year for 7 years with high blood pressure and headaches
- Reported neck and shoulder pain, chest tightness, feeling tired, and other physical symptoms known to be stress-related
- Primary care provider referred to IBH for evaluation
- Maria declined mental health treatment due to the belief that her problems were medical and "therapy is for crazy people."

MENTAL ILLNESS STIGMA

- Higher among racial/ethnic minorities
- Major barrier to accessing treatment
- Cultural, linguistic, literacy factors
- Underuse of mental health services

STRESS / TRAUMA

- One of the top ten determinants of health disparity
- Can directly affect biological processes that lead to disease
- High stress burden in racial/ethnic groups from trauma
- Lack of resources & other structural barrier

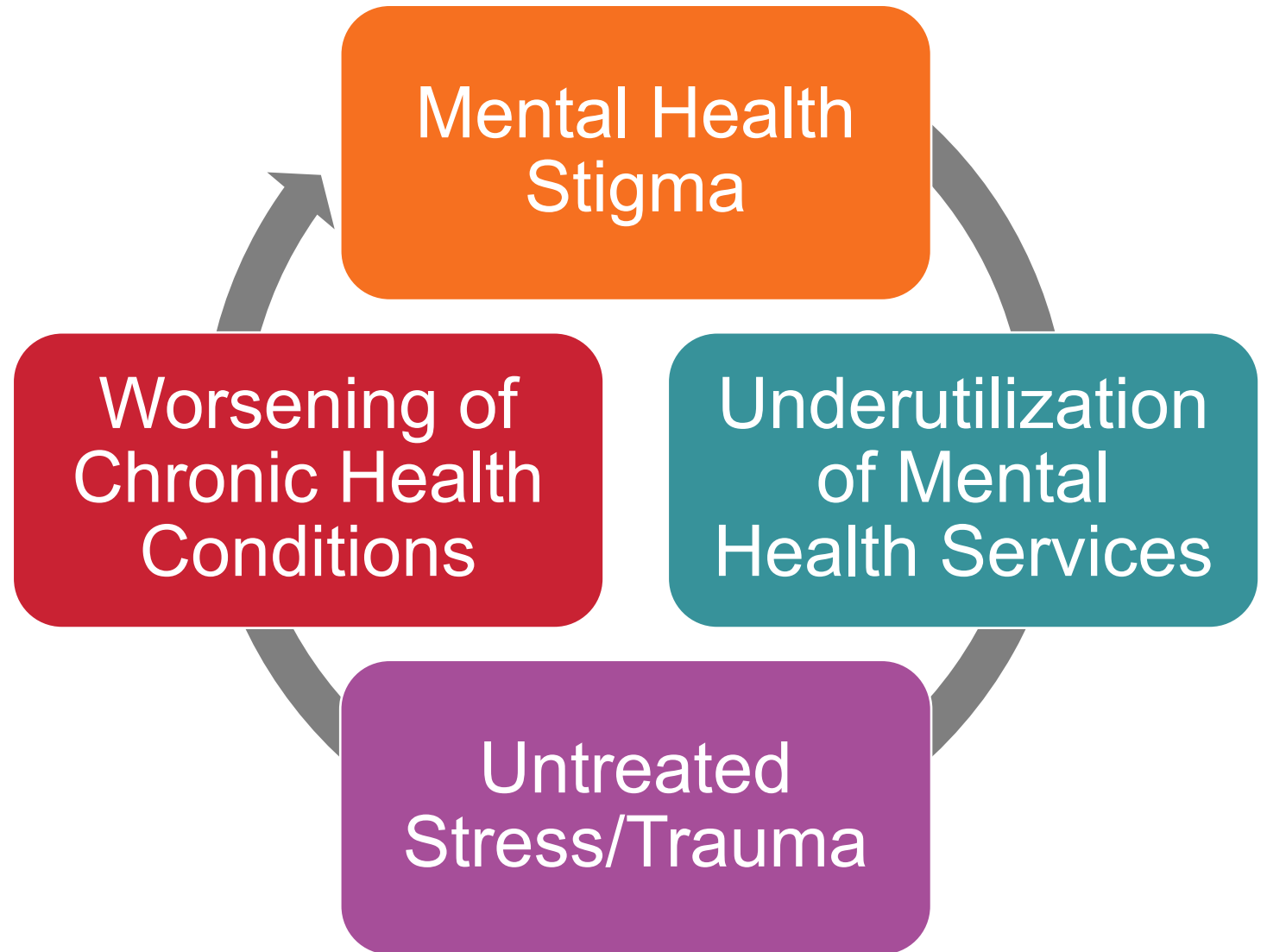
Unique challenges
to racial/ethnic
minority patients
like Maria

HEALTH DISPARITIES

- Well documented among racial/ethnic groups
- Many chronic illnesses have been clearly linked to high levels of stress
- Stress-related chronic diseases common



VICIOUS CYCLE OF STRESS RELATED HEALTH PROBLEMS



How can we provide culturally-congruent treatment that also addresses stress-related mental and physical health issues?

BIOFEEDBACK

Evidence based treatment using specialized equipment to train people on how to recover from stress and stress-related medical conditions

When you are stressed

- Heart & breathing rates increase
- Muscles tighten
- Blood pressure increases

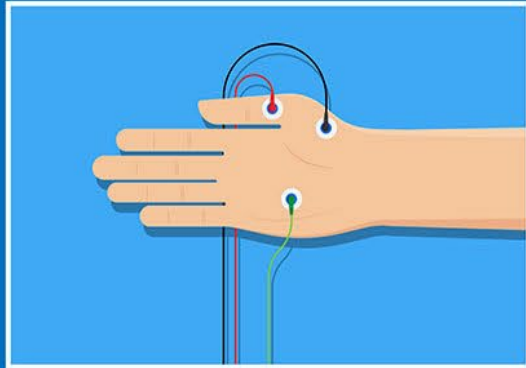
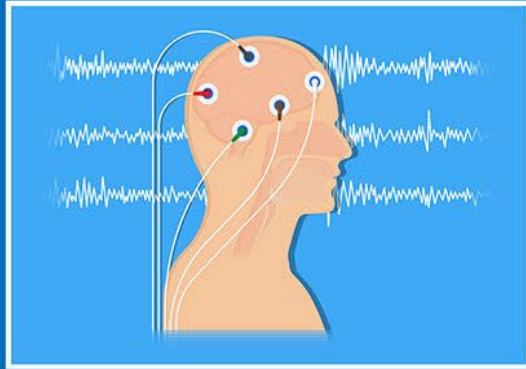
Biofeedback trains you to

- Slow heart and breathing rates
- Relax muscles
- Lower blood pressure

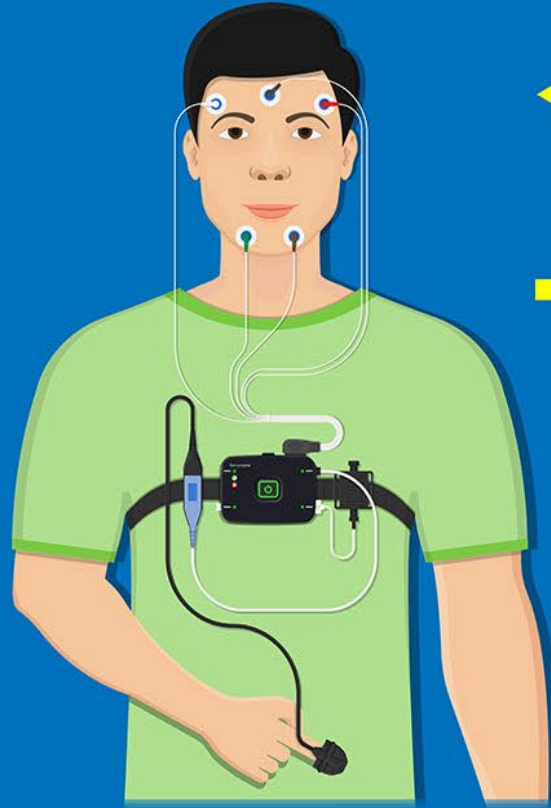
BIOFEEDBACK APPLICATIONS

- Anxiety / Stress
- Headaches / Chronic Pain
- Depression / PTSD
- Stress-Related Medical Conditions
 - Diabetes
 - Hypertension
 - IBS

Sensors-transducers measure the patient's physiological status

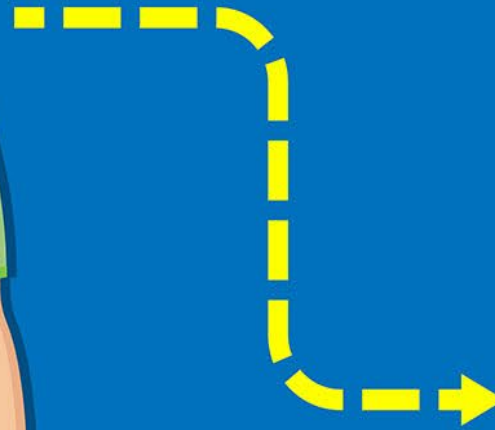


Patient



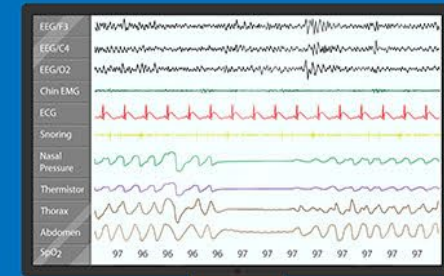
ADD

Audio - Visual
Feedback



Measured Signal
From Sensor - Transducer

Audio - Visual Stimulation
Screen Display



Signal
Processing



BIOFEEDBACK TECHNIQUES

Muscle Relaxation

Diaphragmatic
Breathing

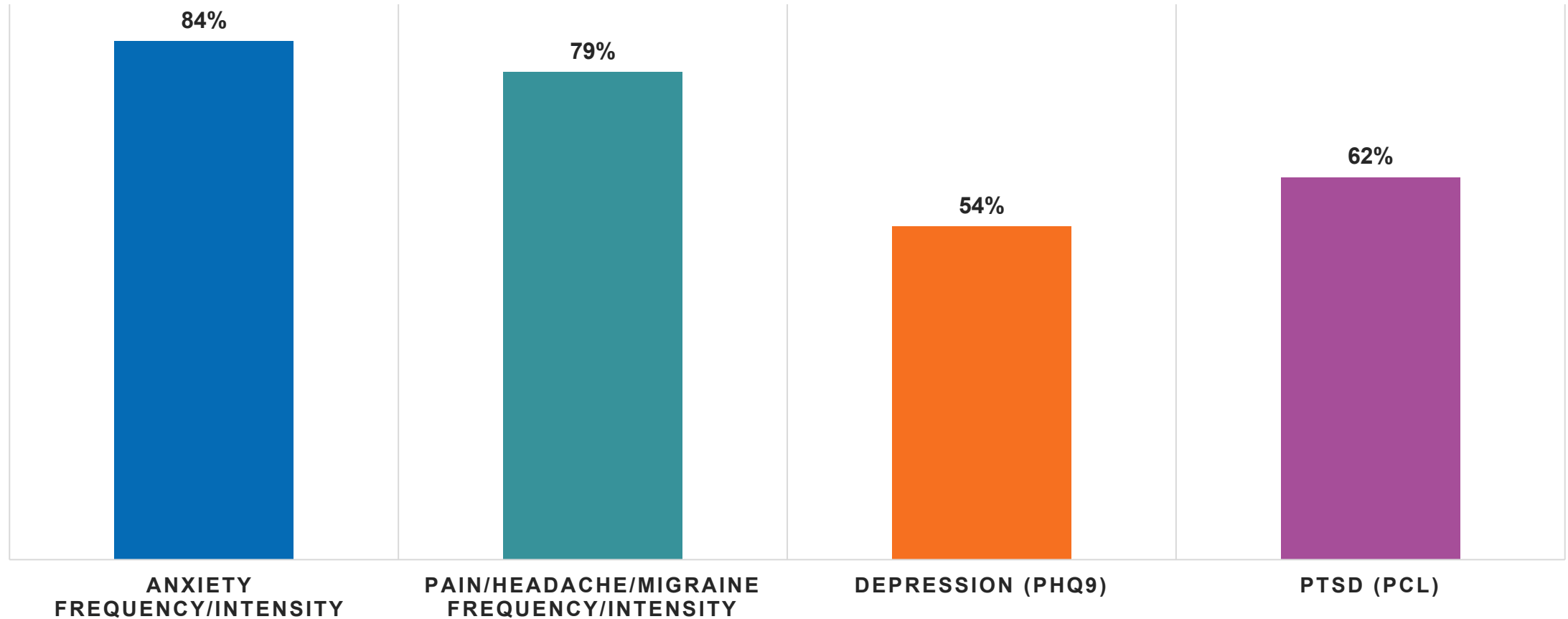
Mindfulness

Established
Relaxation
Strategies

Self- Compassion



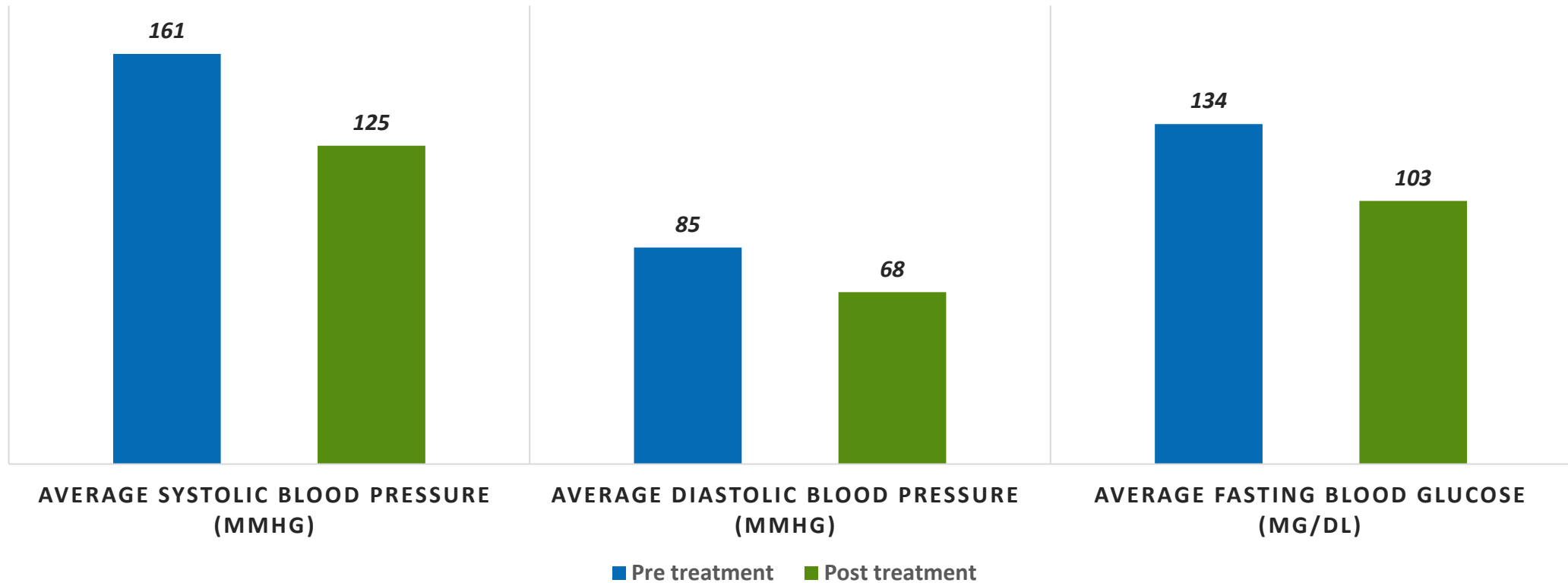
SELF REPORTED IMPROVEMENTS



Data gathered 2020 – 2023

CHRONIC DISEASE MANAGEMENT

Home-monitoring, pre and post biofeedback treatment



Data gathered 2020 – 2023



MARIA'S EXPERIENCE

- From 3 - 4 Emergency Room visits each year to zero visits this past year
- Significantly better managed
 - Post traumatic stress
 - Headache
 - Blood pressure



“I’ve learned what stress is, how to manage it, and how to deal with the trauma that was causing so many problems.”

- *Maria*

“She looks like a different, greatly improved woman. Her somatic complaints have improved about 70% without medications!”

- *Maria’s doctor*

INNOVATIVE AND UNIQUE

- Highly specialized, evidenced-based treatment not normally available to minorities
- Culturally tailored to address systemic barriers to accessing mental health services
- Services integrated into our Primary Care settings
- Treatment protocols designed by our IBH team
 - At-home biofeedback training
 - Mindfulness-based
 - Trauma-ready
 - Biofeedback-integrated exposure therapy

QUESTIONS?



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