



# Innovation and Trends in Behavioral Health

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# Presenters



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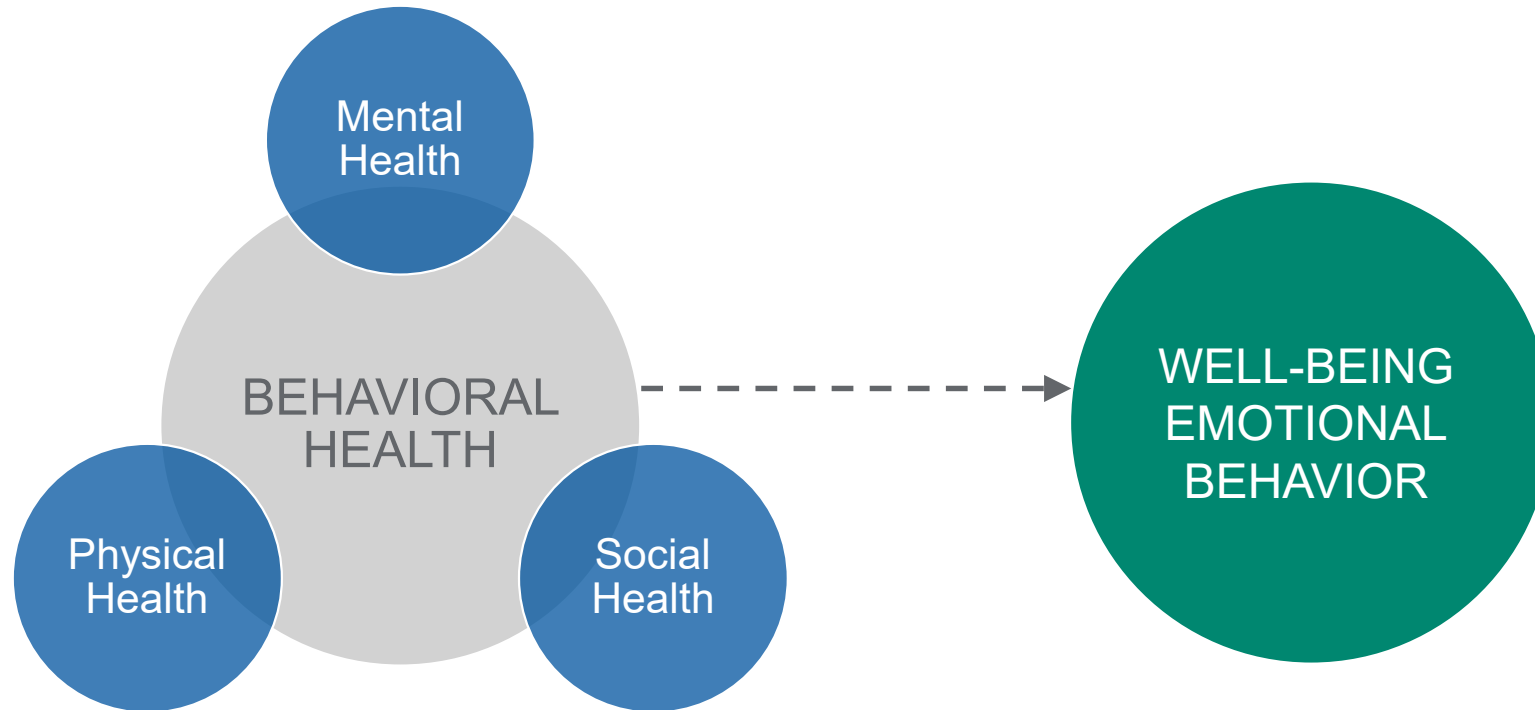
# What is Behavioral Health?

Behavioral health is how one's day-to-day thinking habits affect their overall well-being, emotions, biology, and behavior.

It is often used interchangeably with mental health, but it is a far broader term.

It incorporates not just mental wellness, but **the way one's thoughts play out in real life.**

# Behavioral health



# Examples of Behavioral Health



## GOOD BEHAVIORAL HEALTH

- Exercising
- Eating a healthy diet
- Maintaining a strong support system
- Managing an existing disease or injury



## POOR BEHAVIORAL HEALTH

- Disordered eating
- Substance abuse
- Social isolation
- Disengagement

# Frequency of behavioral health issues in healthcare/workers' comp

**\$193B** per year

Lost earnings due to mental illness<sup>1</sup>.

People with depression have a

**40% higher risk**

of developing cardiovascular and metabolic diseases than the general population.<sup>1</sup>

- Concern is elevated for workers' compensation and auto no-fault claimants, as injuries can increase the risk or symptoms of certain mental health conditions, such as depression, anxiety, and post-traumatic stress disorder (PTSD).
- Additionally, injury-related symptoms, such as chronic pain and insomnia, can further precipitate and prolong symptoms of mental or behavioral health.

<https://www.nami.org/mhstats> Accessed 9/2021

# Risk factors in injured persons

## PRE-INJURY



### History of mental illness

Personal or family



### Individual factors

Low self esteem, difficulty communicating, substance abuse



### Social and economic factors

Low income and exposure to violence or abuse\*

## POST-INJURY

Factors that can negatively affect underlying behavioral health conditions and symptoms



### Chronic pain and insomnia

Worsening pain, sleep disturbance and depression



### Medications

For example: Opioid analgesics, benzodiazepines, anticonvulsants or stimulants



### Drug-drug interactions

Increased sedation, fatigue and risk of overdose

1. Mental Health by the Numbers. National Alliance on Mental Illness. <https://www.nami.org/Learn-More/Mental-Health-By-the-Numbers>. Accessed 9/19/2018



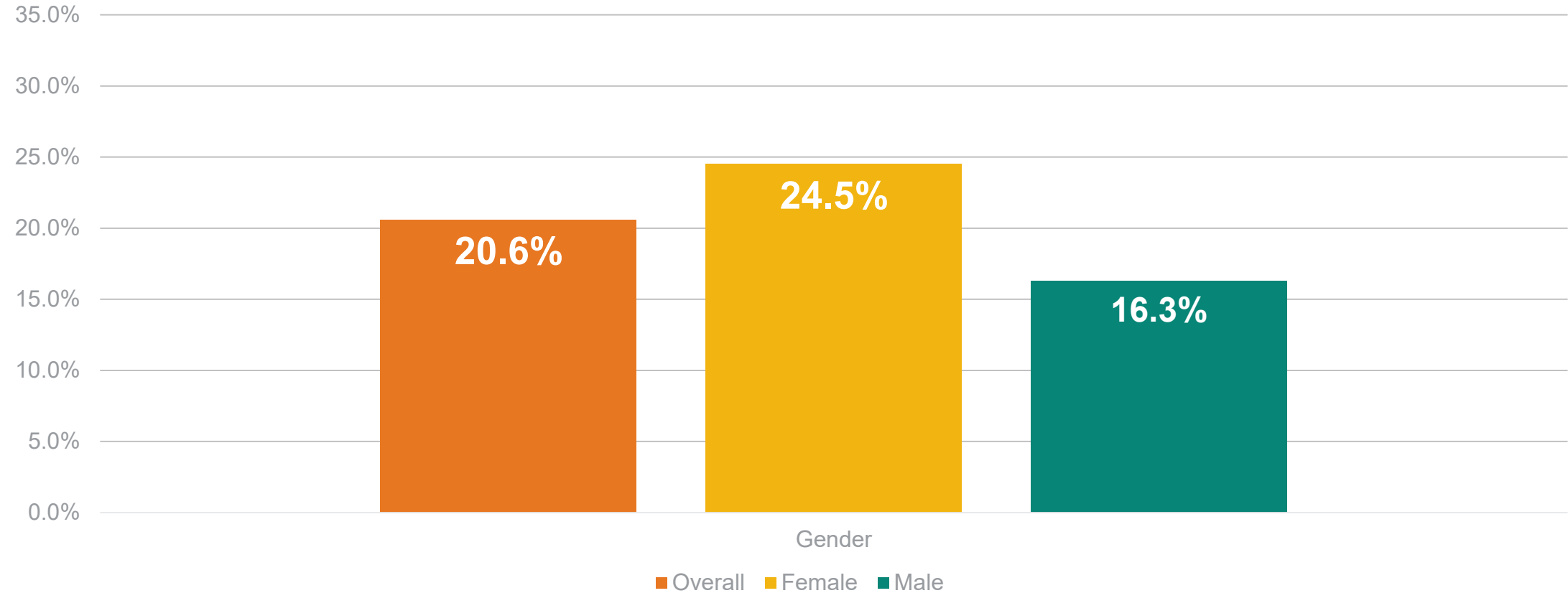
# Influencing outcomes by addressing behavioral health

Addressing the behavioral health concerns of injured persons:

- May increase the benefit or treatments and improve outcomes
- May decrease return to work times
- May help to decrease the use of controlled substances and help avoid misuse

# Past Year Prevalence of any mental illness among U.S Adults (2019)

## By Gender



<https://www.nimh.nih.gov/health/statistics/mental-illness>

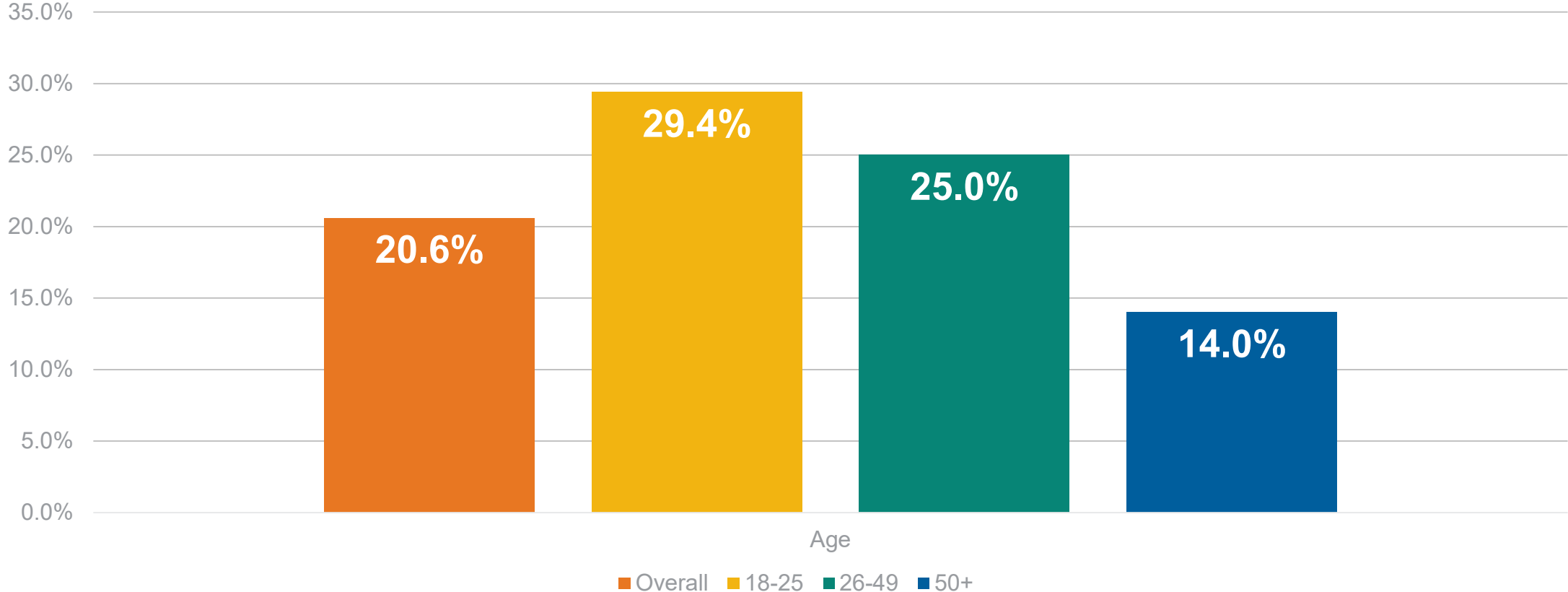
Data Courtesy of SAMHSA



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# Past Year Prevalence of any mental illness among U.S Adults (2019) By Age



<https://www.nimh.nih.gov/health/statistics/mental-illness>  
Data Courtesy of SAMHSA

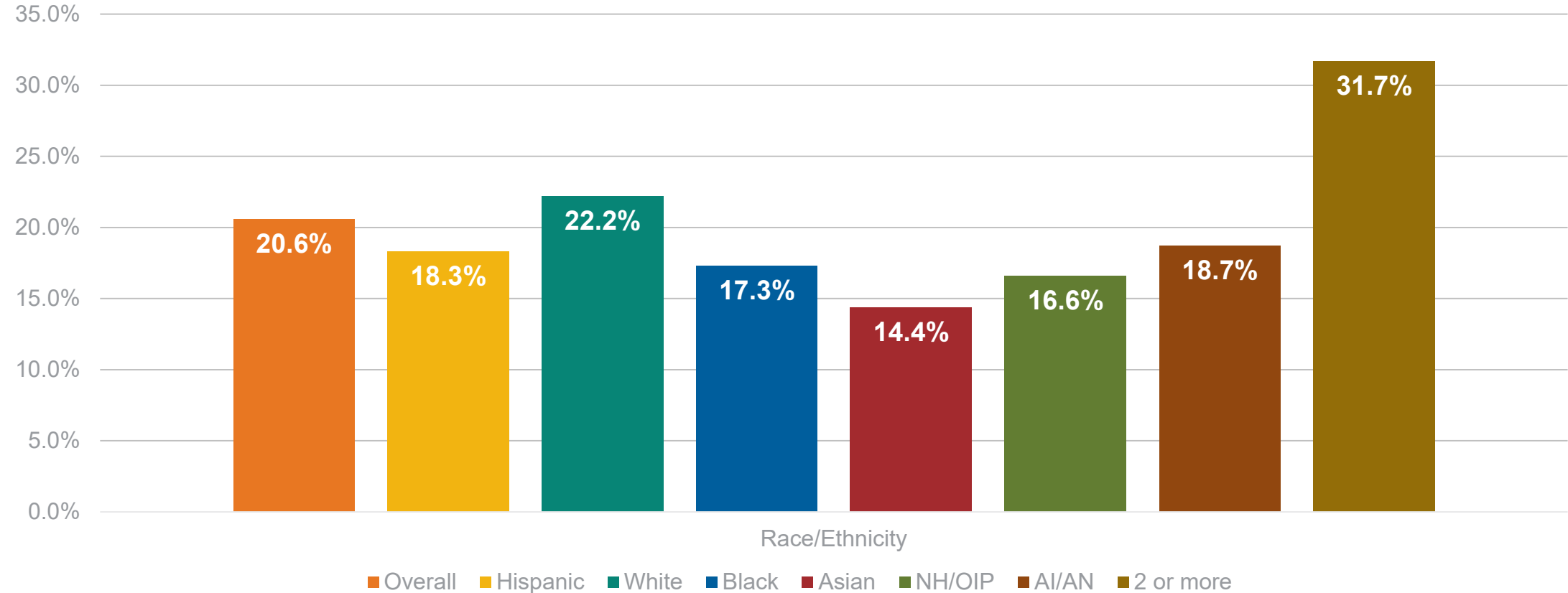


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# Past Year Prevalence of any mental illness among U.S Adults (2019)

## By Race/Ethnicity



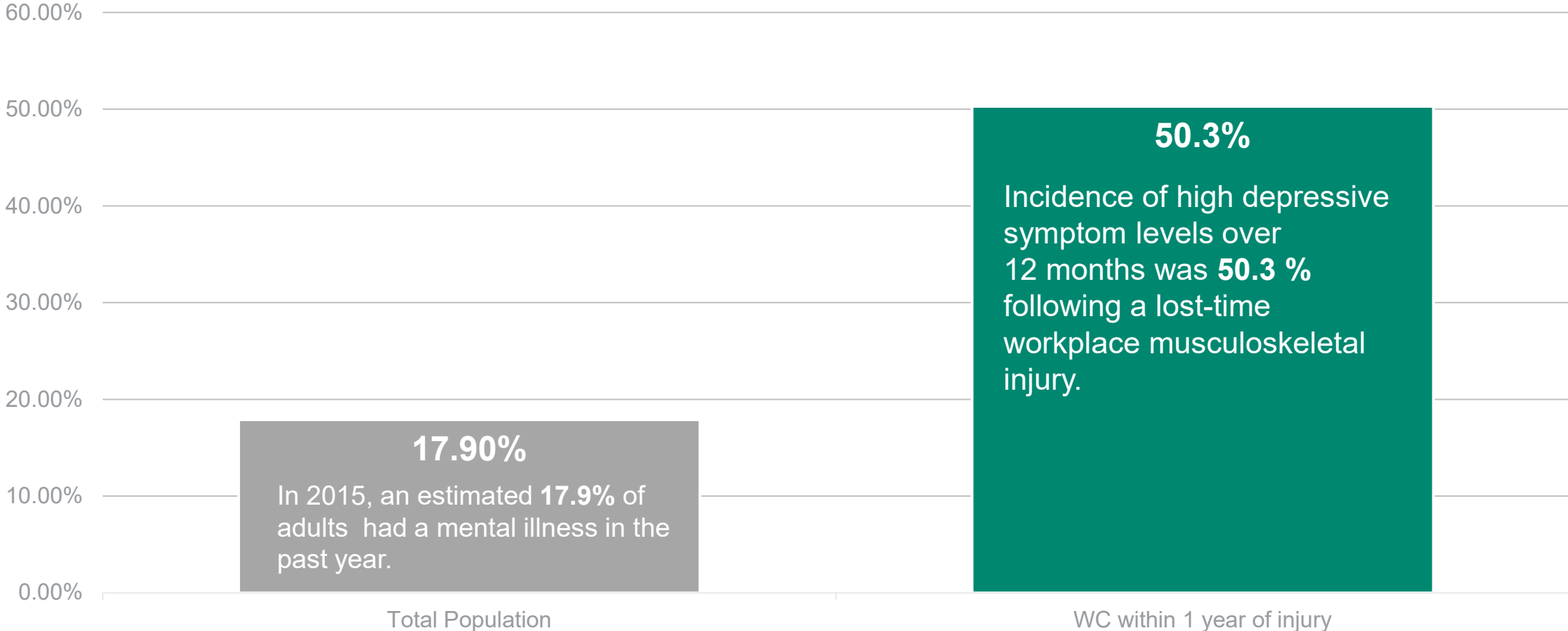
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Data Courtesy of SAMHSA



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# A comparison of prevalence



<https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm#:~:text=Mental%20Health%20Issues%20among%20Adults,all%20U.S.%20adults%20in%202015>. Data Courtesy of SAMHSA

WC estimate is from [https://escholarship.org/content/qt8w6609mq/qt8w6609mq\\_noSplash\\_f1599685a115fbb293cfc52746851676.pdf](https://escholarship.org/content/qt8w6609mq/qt8w6609mq_noSplash_f1599685a115fbb293cfc52746851676.pdf)



# Gender difference



## FEMALE

- Higher number of eating disorders, depression, suicidal ideation and attempts
- Increased prevalence of depression and anxiety



## MALE

- Younger males experience more anger and high-risk behavior
- Typically commit more suicide
- Higher percentage of substance use disorders and antisocial behaviors

# Underlying factors in Women and Men



## WOMEN

- Genetic and biological factors
- Reproductive health issues
- Low self esteem
- Gender wage gap
- Economic factors / socioeconomic disadvantage



## MEN

- Unemployment
- Family
- Divorce and romantic breakup
- Economic factors

# Some impacts of the COVID-19 pandemic

- Fear
- Anxiety
- Depression
- Confusion
- Social isolation
- Health



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# Mental Health Conditions

# Mood Disorders definition

- A condition that severely impacts one's mood and related functions.
- Broad term that includes different types of depression and bipolar disorder.
- Types include:
  - Major Depressive Disorder
  - Seasonal Affective Disorder
  - Bipolar I & II Disorders
  - Cyclothymic Disorders
  - Disruptive Mood Dysregulation Disorder
  - Persistent Depressive Disorder



Source: *Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*

# Mood Disorders - depressive symptoms

- Loss of interest in activities that were once enjoyed
- Appetite disruption
- Sleep disturbance
- Fatigue
- Crying
- Anxiety
- Feelings of isolation, loneliness, sadness, hopelessness and/or worthlessness
- Thoughts of dying and/or suicide

*Source: Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*

# Trauma and Stressor-related Disorders definition

- Direct or indirect exposure to a traumatic event with effects on cognition and mood, and including symptoms of intrusion, avoidance, arousal and reactivity.
- Historically grouped with Anxiety Disorders and with different factors and symptoms.
- Types include:
  - Post-Traumatic Stress Disorder (PTSD)
  - Acute Stress Disorder (ASD)
  - Reactive Attachment Disorder
  - Disinhibited Social Engagement Disorder
  - Other Specified Trauma and Stressor-Related Disorder
  - Unspecified Trauma and Stressor-Related Disorder

Source: *Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*



# Trauma and Stressor-related Disorders symptom clusters

1. Recurrent experiences of the event; i.e., memories, dreams or flashbacks
2. Amplified arousal; i.e., sleep disturbances and reckless behavior
3. Avoiding thoughts, places and memories about the event
4. Negative thoughts, moods, or feelings

Source: *Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*



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# Trauma and Stressor-related Disorders

| Domain            | Select symptom - Potential difficulties   |   |
|-------------------|---|---|
| <b>PHYSICAL</b>   | <ul style="list-style-type: none"> <li>• Hypersensitivity to physical contact</li> <li>• Numbness</li> </ul>                          | <ul style="list-style-type: none"> <li>• Coordination &amp; balance</li> <li>• Somatization</li> </ul>    |
| <b>MEDICAL</b>    | <ul style="list-style-type: none"> <li>• Asthma</li> <li>• Autoimmune disorders</li> <li>• Psuedoseizures</li> </ul>                  | <ul style="list-style-type: none"> <li>• Sleep disturbances</li> <li>• Disordered eating</li> </ul>       |
| <b>COGNITIVE</b>  | <ul style="list-style-type: none"> <li>• Attention</li> <li>• Executive functioning</li> <li>• Learning</li> </ul>                    | <ul style="list-style-type: none"> <li>• Processing difficulties</li> <li>• Language problems</li> </ul>  |
| <b>BEHAVIORAL</b> | <ul style="list-style-type: none"> <li>• Impulse control issues</li> <li>• Aggression</li> <li>• Self-destructive behavior</li> </ul> | <ul style="list-style-type: none"> <li>• Opposition / defiance</li> <li>• Excessive compliance</li> </ul> |
| <b>EMOTIONAL</b>  | <ul style="list-style-type: none"> <li>• Affective dysregulation</li> <li>• Dissociative symptoms</li> <li>• Amnesia</li> </ul>       | <ul style="list-style-type: none"> <li>• Low self-esteem</li> <li>• Shame or guilt</li> </ul>             |

# Substance Use Disorders definition

- Patterns of symptoms resulting from the use of a substance, where the use of that substance persists despite problems as a result of doing so.
- SUD ≠ “Addiction”



Source: *Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*

# Substance Use Disorders definition

American Society of Addiction Medicine (ASAM) definition of “addiction”:

*Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.*

*Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one’s behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.*

Source: Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)



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# Substance Use Disorders definition

- SUDs occur on a spectrum; mild, moderate and severe
- Psychoactive substances grouped into 10 classes
- Classification now includes substance-induced and substance-related disorders as well

*Source: Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*

# Substance Use Disorders criteria

- Hazardous use
- Social or interpersonal problems related to use
- Neglected major roles related to use
- Withdrawal
- Tolerance
- Use larger amounts/longer
- Repeated attempts to quit/control use
- Much time spent using
- Physical or psychological problems related to use
- Activities given up due to use
- Craving

Source: *Diagnostic & Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V)*

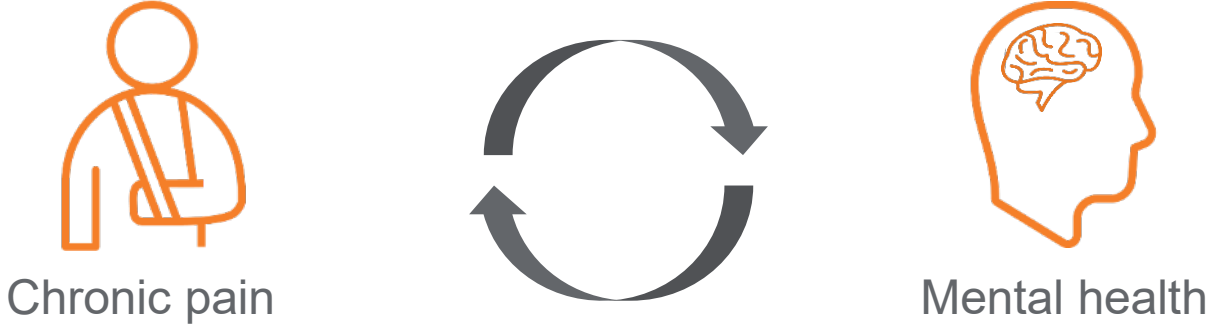


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# **The impact of behavioral health issues on physical health**

# Physical and mental health = a bidirectional relationship



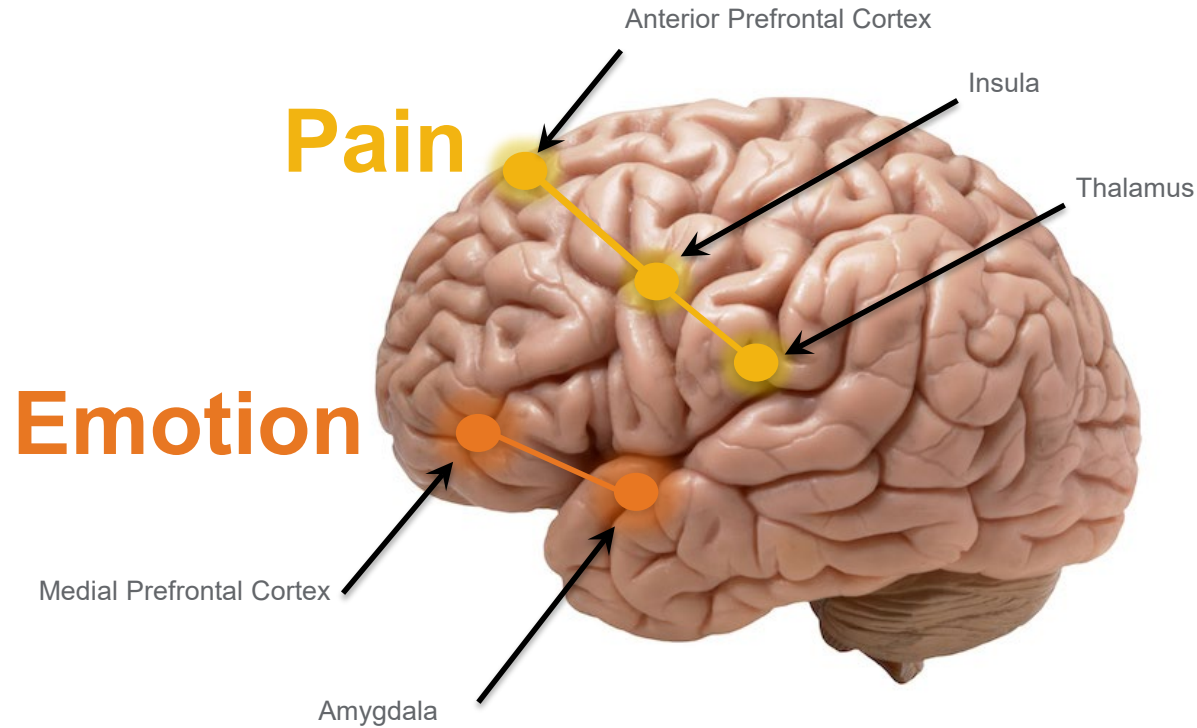
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# Chronic pain and the brain

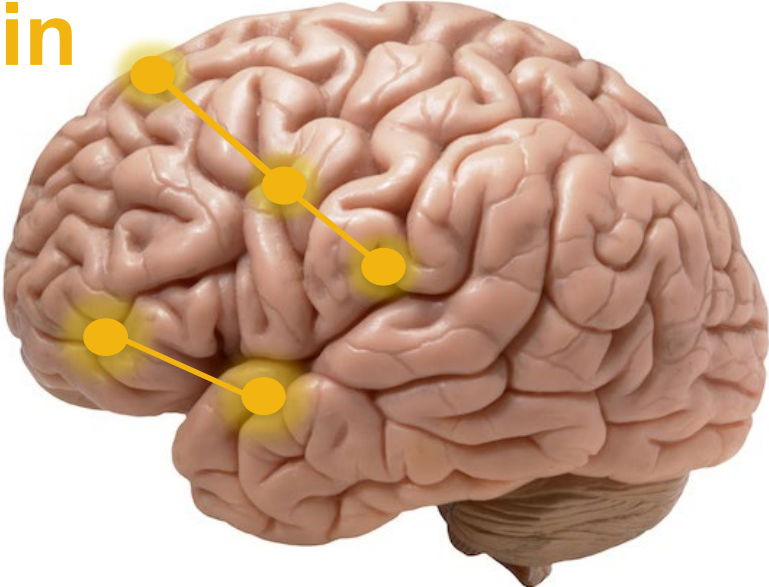


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# Chronic pain and the brain

## Chronic Pain

**PAIN** activates areas of brain regulating **EMOTION.**



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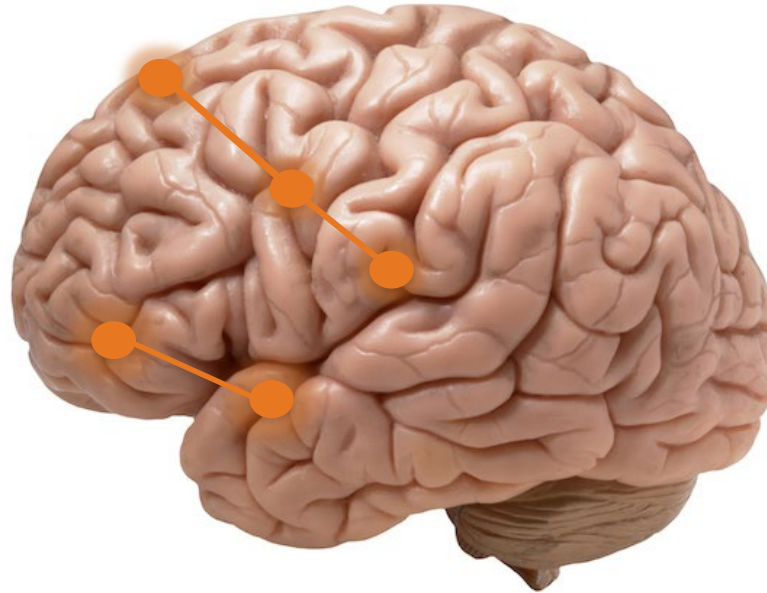
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# Chronic pain and the brain

## Depression & Anxiety

**EMOTION** activates  
areas of brain  
regulating **PAIN**.

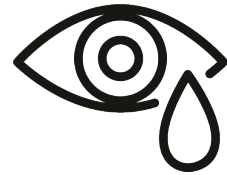
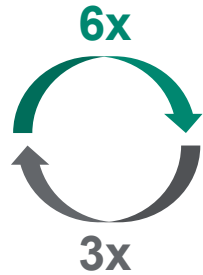


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# Physical and mental health a vicious cycle



Back pain



Depression



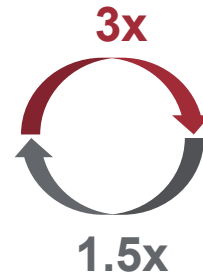
Head pain



Generalized Anxiety Disorder



Chronic pain



Substance use

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# Mental Health Medications

# Antidepressants

- Antidepressants are medications commonly used to treat depression.
- Antidepressants are also used for other health conditions, such as anxiety, pain and insomnia.
- Some people may not feel better with the first medicine they try and may need to try several medicines to find the one that works for them. Others may find that a medicine helped for a while, but their symptoms came back
- The most popular types of antidepressants are called selective serotonin reuptake inhibitors (SSRIs).

## Example SSRIs:

- Fluoxetine
- Citalopram
- Sertraline
- Paroxetine
- Escitalopram

# Anti-Anxiety Medications

- Anti-anxiety medications help reduce the symptoms of anxiety, such as panic attacks, or extreme fear and worry.
- The most common anti-anxiety medications are called benzodiazepines.
- Benzodiazepines can treat generalized anxiety disorder.
- Benzodiazepines are usually second-line treatments, behind SSRIs or other antidepressants.

## Example Benzodiazepines:

- Clonazepam
- Alprazolam
- Lorazepam: Short- term anxiety symptoms

## Cons of using anti-anxiety medication

- Increased tolerance
- Addiction

# Antipsychotics

Antipsychotic medicines are primarily used to manage psychosis including delusions, hallucinations, paranoia or disordered thought.

## Effects:

- Hallucination
- Delusion
- Agitation

## Example Antipsychotics:

- Chlorpromazine
- Haloperidol
- Perphenazine
- Fluphenazine
- Risperidone
- Olanzapine
- Quetiapine
- Ziprasidone
- Aripiprazole
- Paliperidone
- Lurasidone

# Mood Stabilizers

- Mood stabilizers are used primarily to treat bipolar disorder, mood swings associated with other mental disorders, and in some cases, to augment the effect of other medications used to treat depression.
- Lithium is approved for the treatment of mania and the maintenance treatment of bipolar disorder. It use as a long-term treatment.
- Anticonvulsant medications are also used as mood stabilizers.

## Mood Stabilizer Medications:

- Carbamazepine
- Lamotrigine
- Oxcarbazepine
- Valproic Acid

# Medication Assisted Therapy (MAT)

- Medications used to treat opioid use disorder, as well as prevent overuse and sustain abstinence
  - Reduce relapse
  - Reduce overdose and increase survival
  - Increased patients ability to gain and sustain employment
  - Decreased criminal activity
- Pharmacotherapy along with behavioral counseling is considered to be the standard of care

| Medication                 | Indication                      |
|----------------------------|---------------------------------|
| Methadone                  | Pain, opioid use disorder       |
| Buprenorphine +/- naloxone | Pain, opioid use disorder       |
| Naltrexone                 | Alcohol and opioid use disorder |
| Disulfiram                 | Alcohol use disorder            |
| Acamprosate                | Alcohol use disorder            |

<https://www.samhsa.gov/medication-assisted-treatment>



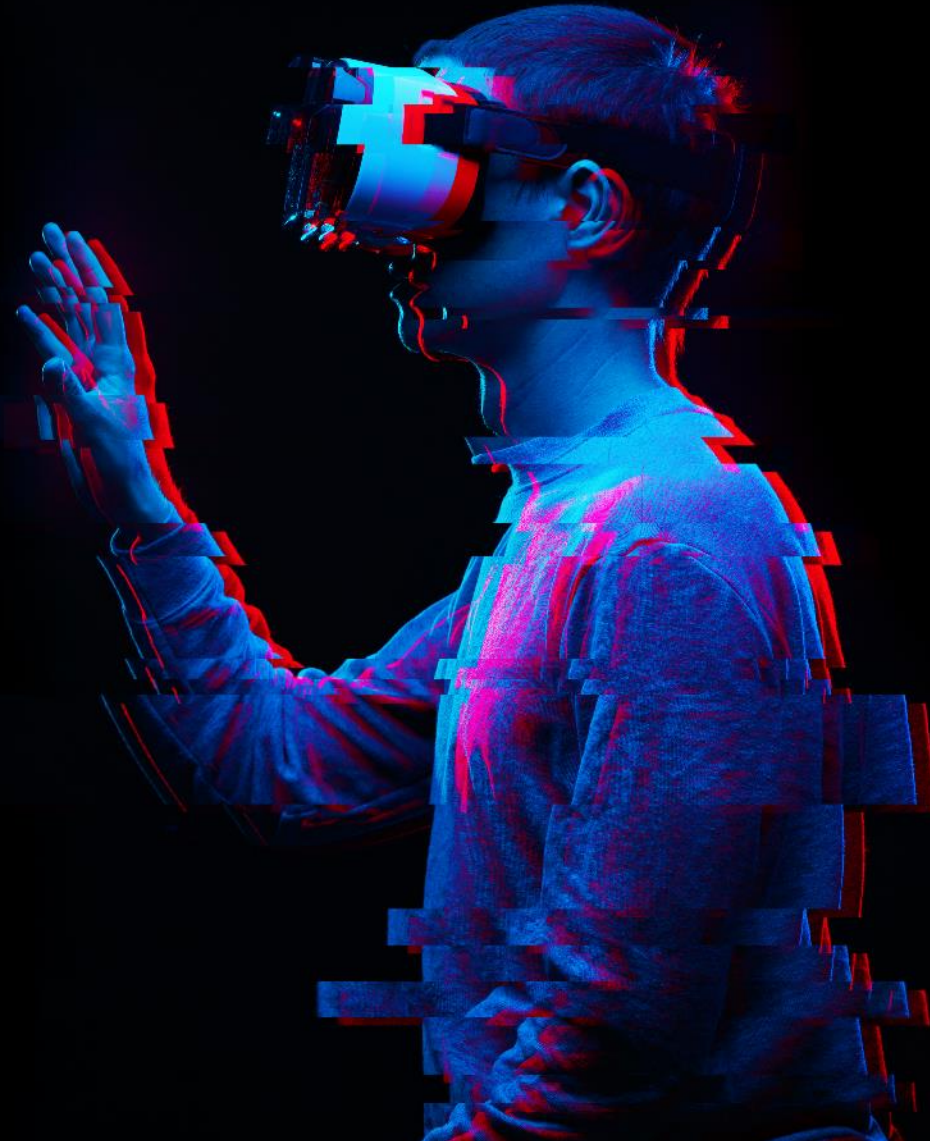
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# Virtual Reality and Behavioral Health

Virtual reality (VR) is a futuristic robotics transmission interface in which the user is actively engaging in a computer-generated three-dimensional virtual world that incorporates computer sensory input devices used to mimic real-world interactive experiences.





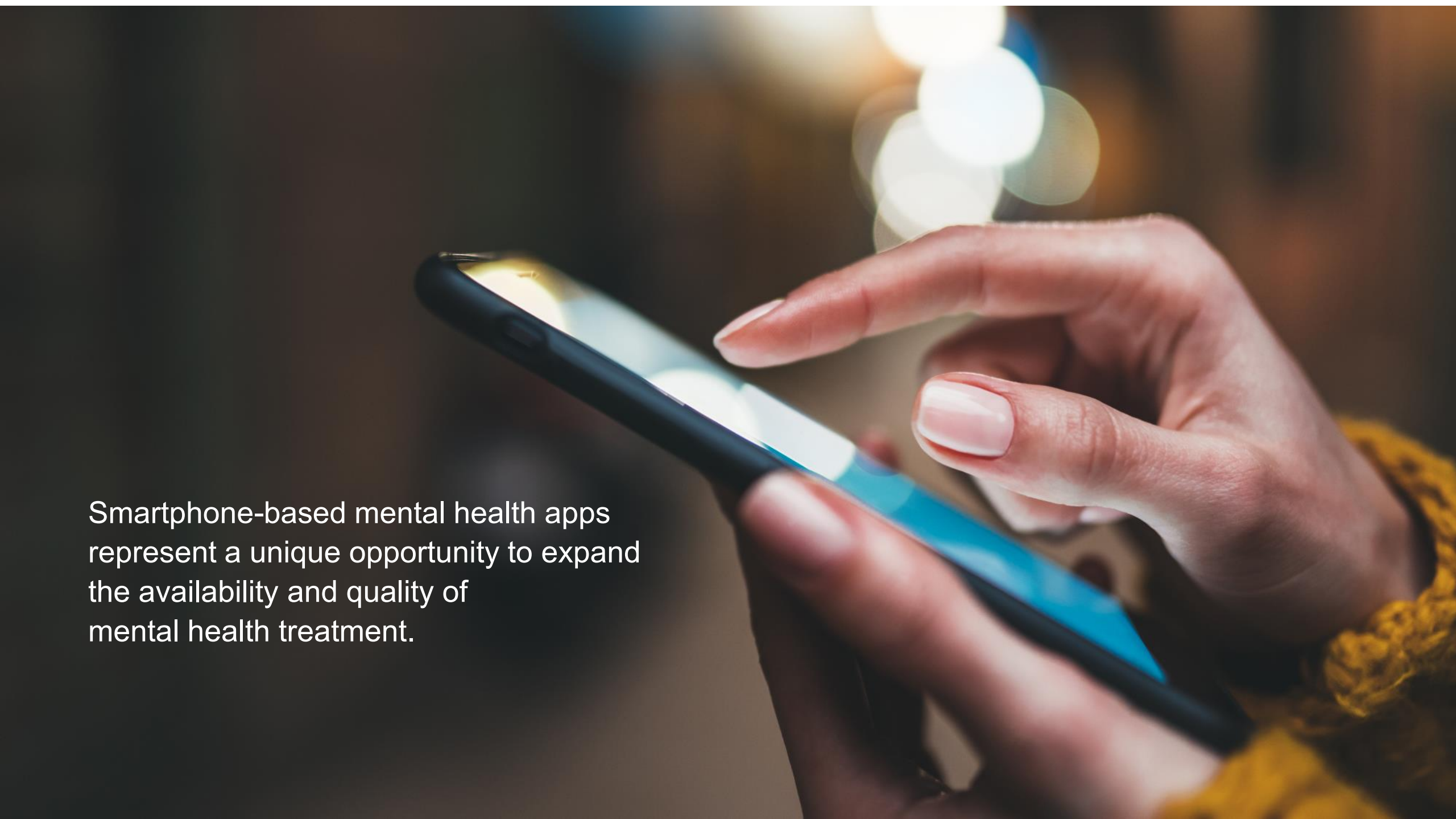
# Benefits of VR

- Psychiatric treatment for anxiety disorders
- Phobias
- Post-traumatic stress disorder
- Acute and chronic pain



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# Smartphone-based Applications



Smartphone-based mental health apps represent a unique opportunity to expand the availability and quality of mental health treatment.

# Effectiveness of apps on...

## ANXIETY

- Users experienced reductions in total anxiety
- Greatest reductions in anxiety symptoms when paired with face-to-face or internet-based therapies

## DEPRESSION

- Significantly reduced patients' depressive symptoms compared to control conditions
- Greatest benefits for individuals with mild to moderate, rather than major, depression

# Summary

- Behavioral health is the scientific study of the emotions, behaviors and biology relating to a person's mental well-being, their ability to function in everyday life and their concept of self.
- The COVID-19 pandemic has negatively affected many people's mental health and created new barriers for people already suffering from mental illness and substance use disorders.
- Medications can play a role in treating several mental disorders and conditions
- The department of psychology and mental health is now pioneering VR to treat medical conditions such as behavioral health conditions
- Smartphone-based mental health apps represent a unique opportunity to expand the availability and quality of mental health treatment.

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