

The interconnection of Nutrition and Mental Illness

The American Psychiatric Association defines mental illnesses as “health conditions involving changes in emotion, thinking or behavior (or a combination of these). Mental illnesses are associated with distress and/or problems functioning in social, work, or family activities.”¹

Mental illness collectively refers to all diagnosable mental disorders. Depression, anxiety disorders, schizophrenia, eating disorders, substance use disorder, and bipolar disorder are examples. Mental disorders—of which there are more than 200 types—are common.

Two broad categories are used to define mental illness:²

- **ANY MENTAL ILLNESS (AMI)** is a mental, behavioral or emotional disorder. AMI can vary in impact, ranging from no impairment to mild, moderate and severe impairment.
- **SERIOUS MENTAL ILLNESS (SMI)** is a mental, behavioral or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities.

The Centers for Disease Control and Prevention (CDC) reports:



1 in 5

Americans will experience a mental illness in any given year.



of Americans will be diagnosed with a mental illness at some point in their lifetime.



1 in 25

1 in 25 Americans lives with a serious mental illness, such as schizophrenia, bipolar disorder or major depression.



52.9 million (21%) of U.S. adults experienced mental illness

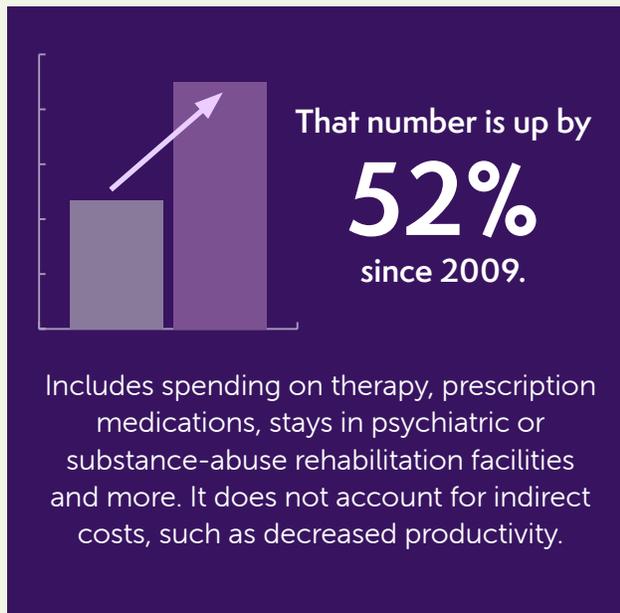
14.2 million (5.6%) experienced serious mental illness.³



Source: National Institute of Mental Health, 2020

Escalating Costs of Mental Illness

The costs associated with mental illness are high and growing.



Mental health disorders are among the most common causes of disability in the nation and include major depression, bipolar disorder, schizophrenia and obsessive-compulsive disorder.

Source: <https://www.hopkinsmedicine.org/health/wellness-and-prevention/mental-health-disorder-statistics>

Mental Illness and Physical Health

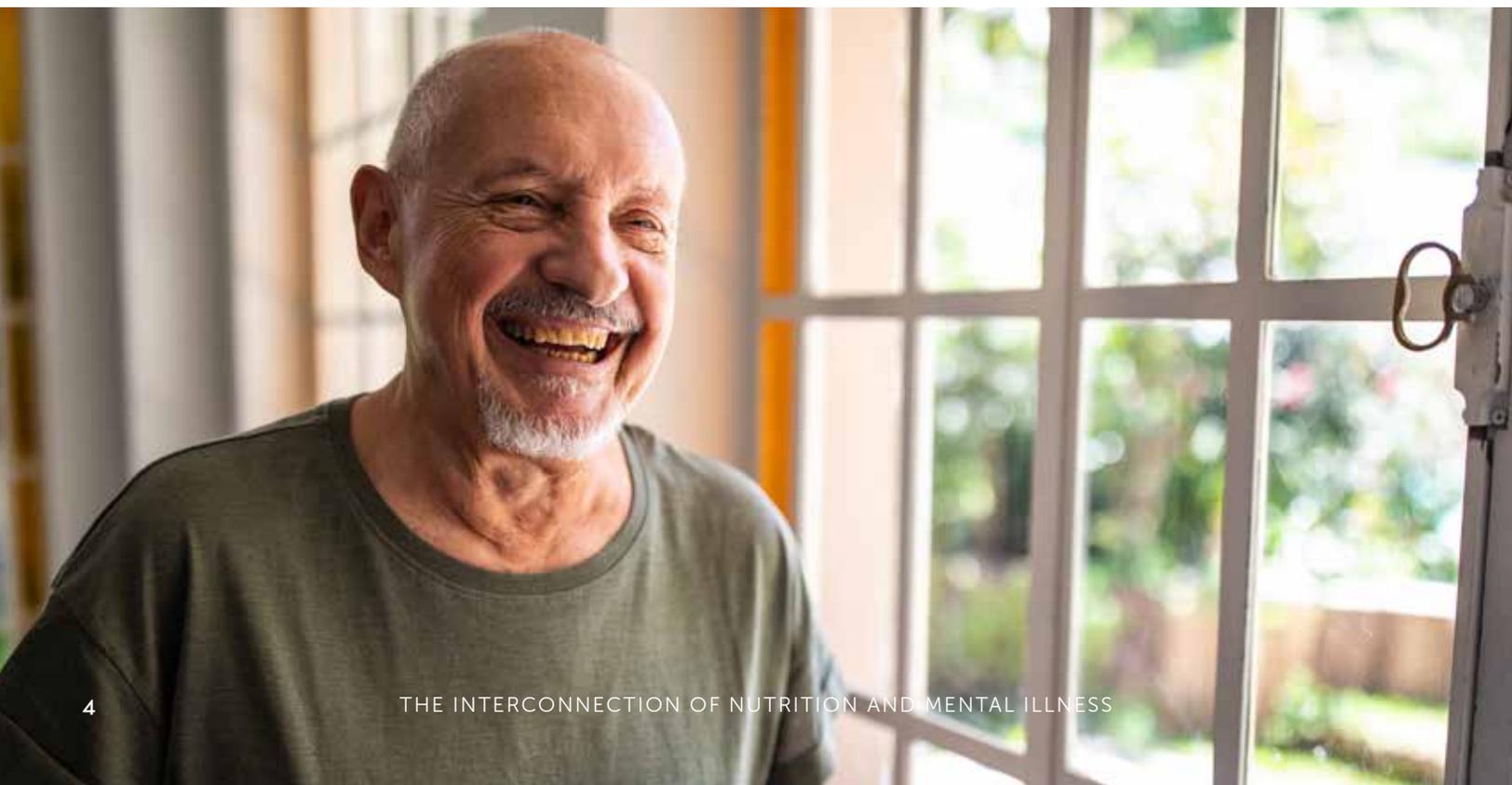
An estimated one-third of people diagnosed with a serious, life-changing chronic illness will experience symptoms of depression.⁷

The link between mental and physical health is indisputable. Mental health disorders are strongly associated with the risk, management, progression, and outcome of serious chronic diseases and health conditions—including diabetes, hypertension, stroke, heart disease, and cancer.

One common finding is that people who suffer from chronic diseases are more likely to also suffer from depression. One's risk increases if the illness is more serious and causes greater disruption in the person's life.⁶

Mental health disorders often precede chronic health issues, while chronic diseases can magnify symptoms of mental health disorders.⁸ This triggers a crippling cycle of poor health:

- 1 People living with mental illness experience a range of physical symptoms that result from the illness itself as well as treatment. Mental illnesses can alter hormonal balances and sleep cycles, while psychiatric medications may have side effects like weight gain and irregular heart rhythms. Such symptoms can increase one's vulnerability to a range of physical conditions.⁹
- 2 People living with mental illness may develop unhealthy behaviors. Mental illness can impact social and cognitive functions and lower energy levels, causing individuals to lose interest in their own health. As a result, they may adopt poor eating and sleeping habits or start smoking and abusing substances—all of which contribute to negative health outcomes.¹⁰



People who suffer from chronic diseases are more likely to also suffer from depression.



What role does nutrition play in mental illness?

ESSENTIAL ROLE OF NUTRITION

Significant evidence underscores the critical role of nutrition in overall health. According to the CDC, adults who eat a healthy diet not only live longer, but they also have a lower risk of obesity, heart disease, type 2 diabetes, and certain cancers. Healthy eating can help people with chronic diseases to manage their conditions and prevent complications.¹¹



Can diet help prevent mental health disorders, and is nutrition helpful in treating them?

Several observational studies have linked overall diet quality with risk of depression and anxiety:



- A meta-analysis of 21 studies from 10 countries found that a healthy dietary pattern, characterized by a high intake of fruit, vegetables, whole grains, olive oil, fish, low-fat dairy and antioxidants, as well as low intakes of animal foods, was associated with a reduced risk of depression. Conversely, a Western-style diet, characterized by a high intake of red and processed meats, refined grains, sweets, high-fat dairy products, butter, and potatoes, as well as a low intake of fruit and vegetables, was linked with a significantly increased risk of depression.¹²



- Another review found that high adherence to a Mediterranean diet (which is rich in plant foods—such as vegetables, fruits, legumes, nuts, and olive oil—and fish) was consistently associated with 32% reduced risk for depression. Moderate adherence was also associated with reduced risk of depression.^{13,14}



- A recent study reported that a dietary pattern characterized by saturated fats and added sugars seems to be related to higher anxiety in older adults (over age 60).¹⁵

Some research demonstrates a high-sugar diet worsens schizophrenia symptoms. In a cross-cultural analysis of the relationship between diet and mental illness, a strong link was found between high sugar consumption and the risk of both depression and schizophrenia.^{16,17}

In recent years, growing research has focused on how diet can improve mental illness. The Supporting the Modification of Lifestyle in Lowered Emotional States (SMILES) trial¹⁸ was the first randomized controlled trials to show dietary changes can improve the mental health of people living with clinically diagnosed depression.

Over 12 weeks, 67 individuals with moderate or severe depression received dietary counseling or social support in addition to their current treatment. The dietary intervention was similar to a Mediterranean diet and also allowed for moderate amounts of red meat and dairy. Results showed the diet group had significantly greater improvements in depressive symptoms. Thirty-two percent of people in the diet group achieved remission, compared with only 8% of those in the social support group.¹⁹

Similarly, in a recent meta-analysis of 16 randomized controlled studies, researchers found dietary interventions significantly reduced depressive symptoms, although no effect of dietary interventions was observed for anxiety.²⁰





Social Determinants of Health

Social determinants of health (SDOH) are conditions in which people are born, grow, live, work, and age. SDOH contribute to wide health disparities and inequities and are known to influence mental health outcomes. According to studies, low economic status, unemployment, strained familial relationships, and unsafe neighborhoods can strongly impact mental health. People with serious mental illness are also more likely to face poverty, social isolation, residential instability, and food insecurity that may delay recovery and reduce quality of life.²¹

A two-way relationship exists between mental health disorders and SDOH, as poor mental health can aggravate personal choices and affect living conditions that limit opportunities.²² In addition, many face barriers to accessing mental health care, which further contributes not only to worsening mental health problems but also greater disparities.

SDOH: Food Insecurity

Access to nutritious food is a vital SDOH. Food insecurity—defined as a lack of consistent access to enough food for every person in a household to live an active, healthy life²³—is linked with negative health outcomes, puts people at higher risk for developing chronic diseases, and is associated with an elevated risk of mental illness.

In a study of over 3,500 low-income men and women, food insecurity was positively associated with depression. Researchers found that as the severity of food insecurity increased, the number of reported depressive symptoms increased. Those with very low food security had three times higher odds of depression compared to those who were food secure.²⁴

People with severe mental illness disproportionately suffer from food insecurity. One study found a 71% prevalence of food insecurity and a 44% prevalence of severe food insecurity among people with severe mental illness—rates substantially higher than observed in other populations. In a chronically ill but not psychiatrically ill population served within the same safety net, the prevalence of food insecurity was found to be 50%, with a 20% prevalence of severe food insecurity.²⁵

A lack of stable access to food presents a host of challenges not only for people with severe mental illness, but also for their family members and caregivers. Challenges may include adhering to prescribed medications and other treatment regimens as well as attending medical appointments at specified times.

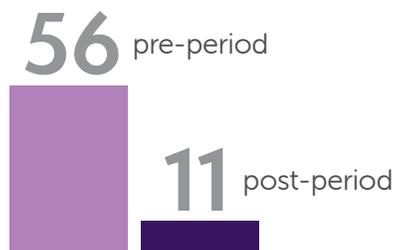
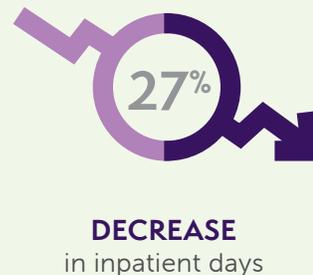
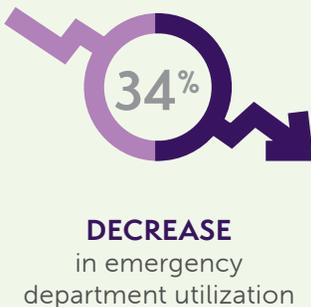
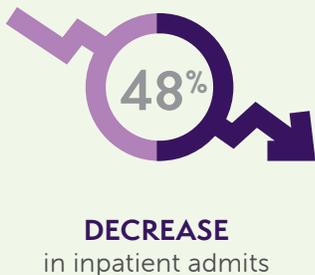
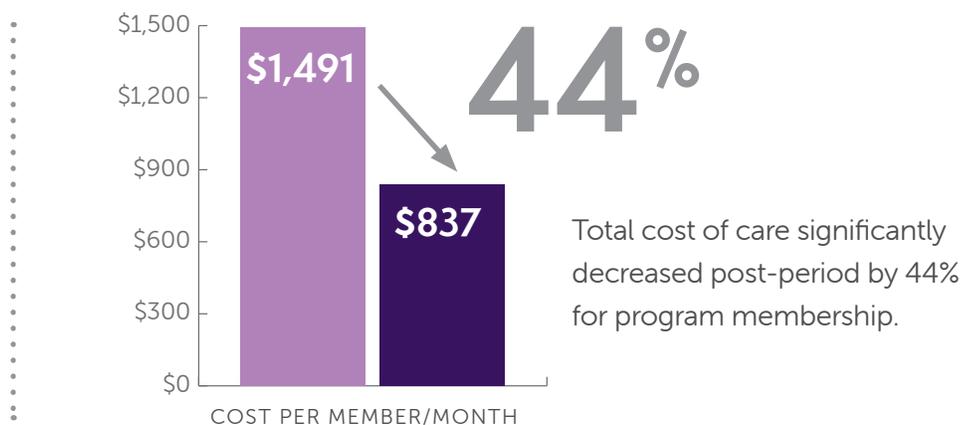
Highlight: Pilot Study

UnitedHealthcare Community Plan of Wisconsin (UHC WI) and Mom's Meals recently collaborated on a pilot program to support high-risk, high-cost members with a behavioral health diagnosis by meeting their basic need for nutrition.

Members = 96 Members

Intervention = 3 condition-appropriate, home-delivered meals for 90 days

RESULTS



Supporting People Who Have a Mental Illness

Across the nation, millions of individuals are living with a mental disorder. Many also face chronic diseases. Programs that focus on nutrition can significantly affect health outcomes and ultimately reduce the economic burden of mental illness.

Health plans and payers are supporting their members with mental illness and chronic conditions as well as addressing food insecurity through home-delivered meals. Specific benefits may include:

- Improved nutrient intake
- Reduced food insecurity
- Improved medication adherence
- Increased engagement with providers
- Lower healthcare utilization (inpatient/outpatient/emergency department)
- Decreased total cost of care

Programs like home-delivered meals are positively impacting the health of people with mental illness.

Conclusion

Mental illnesses are among the most common health conditions in the nation and represent a significant health and economic burden. In 2019, national spending on mental health services reached \$225.1 billion, accounting for 5.5% of all health spending.²⁶

According to research, mental health disorders are strongly associated with the risk, management, progression, and outcome of serious chronic diseases and health conditions—including diabetes, hypertension, stroke, heart disease, and cancer. In fact, mental health disorders often precede chronic health issues, while chronic diseases can magnify symptoms of mental health disorders.²⁷ This entraps many in a vicious cycle of poor health.

For people facing SDOH, food insecurity is particularly linked with negative health outcomes, puts people at risk for developing chronic diseases, and is associated with an elevated risk of mental illness.

A healthy diet is shown to be a fundamental component of one's physical and mental health. Over the years, studies have shown the interconnectedness between nutrition and mental illness, and mounting research focuses on the how nutrition can improve mental illness.

Although eating nutritiously may not eliminate or treat mental illness on its own, a healthy diet must be part of a holistic approach.

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