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CURRENT HEALTHCARE CHALLENGES

Staffing Shortages

One study projects that if US workforce trends continue, more than **6.5 million** healthcare professionals will permanently leave their positions by 2026, while only 1.9 million will step in to replace them, leaving a national industry shortage of more than **4 million workers**.

Source: Mediac

Mental Health

21% of adults are experiencing a mental illness. Equivalent to over 60 million Americans. **16%** of youth report suffering from at least one major depressive episode in the past year. More than **2.7 million youth** are experiencing severe major depression.

Source: Mental Health America

Chronic Conditions

Six in ten Americans live with at least one chronic disease, like heart disease and stroke, cancer, or diabetes. These and other chronic diseases are the leading causes of death and disability in America, and they are also a leading driver of health care costs.

Source: CDC

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STAFFING SHORTAGES

There are several reasons for staffing shortages in the healthcare industry. Some of them include:

- Chronic conditions:** Diabetes, heart disease, cancer, and Alzheimer's disease leading to overextended staff.
- Burnout:** Overworked employees are leaving the profession at an accelerating rate.
- Demographics:** People are living longer while members of the aging healthcare workforce are retiring faster than they can be replaced.

By the 2030s, the United States could be faced with a shortage of nearly 200,000 nurses and 124,000 physicians.

300K

Source: The HR

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Complications of STAFFING SHORTAGES

47% INCREASE IN INFECTIONS

The Centers for Disease Control and Prevention (CDC) reported that bloodstream infections alone rose **47 percent** in 2020.

The cause was the combined effect of hospital staff shortages and high patient caseloads, both due to the **COVID-19** pandemic.

Source: Tulane University

9+ Hours BOARDING TIMES


Between January 2020 and December 2021, researchers found that boarding times were greater than four hours nearly 90 percent of the time when occupancy was greater than 85 percent.

Patients were found to wait an average of 6.5 hours for a bed.

Median boarding times were **over nine hours**.

Source: JAHN Open Network

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MENTAL HEALTH

There is no single cause for mental illness. A number of factors can contribute to risk for mental illness, such as;

- **Adverse Childhood Experiences**, such as trauma or a history of abuse (for example, child abuse, sexual assault, witnessing violence, etc.)
- **Chronic medical conditions**, such as cancer or diabetes
- **Biological factors** or chemical imbalances in the brain
- **Alcohol or drugs**
- **Loneliness/isolation**

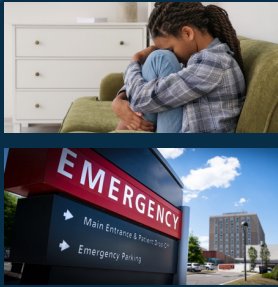
Source: CDC

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Mental Health IN YOUTH


America's emergency rooms are being flooded by children suffering from psychiatric emergencies like anxiety, depression and suicidal thoughts.

- **Every year, about 1/2 million children** with mental and behavioral health problems are evaluated in ERs.
- ER cases involving a pediatric mental health crisis tend to be very complex and require a much longer hospital stay – 17 hours versus 5 hours, on average, for all ER visits.



Source: US News, Aug. 16, 2023

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Mental Health IN ADULTS

- **1 in 4 American adults** suffers from a diagnosable mental disorder in a given year.
- Mental health crises account for **60 million visits to primary care and 6 million ER visits annually.**
- **Worldwide:** Due to the **COVID-19 pandemic**, the number of anxiety and depressive disorders grew. Depressive symptoms grew from a base of about **193 million people worldwide to 246 million, which is about 26%.**
- Anxiety disorders grew from about 298 million people affected to 374 million, which is about a 25% increase.

Source: Forbes

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FOCUS, PRODUCTIVITY
and Other Casualties of the Pandemic

- Google searches for "how to get your brain to focus" have increased 300% since February 2022.
- 88% of companies now say their productivity has been affected.
- According to a Thrive Global survey, over 75% of employees feel overwhelmed and significantly less productive as a result of working from home and pandemic-related distractions.

Source: Thrive Global

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CHRONIC CONDITIONS

- Today, an estimated 133 million Americans – nearly half the population – suffer from at least one chronic illness, such as hypertension, heart disease and arthritis.
- By 2030, this number is expected to reach 170 million.
- 80 percent of prescription drug use are individuals with chronic conditions.
- Three of every four health care dollars are spent to care for individuals with chronic conditions.

Source: American Hospital Association

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Top 4 CHRONIC CONDITIONS

- Cardiovascular Disease
- Obesity
- Diabetes
- Hypertension

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Source: American Heart Association

Top 4 CHRONIC CONDITIONS




Cardiovascular Disease

- More than half a billion people around the world continue to be affected by cardiovascular diseases, which accounted for **20.5 million deaths in 2021** - close to a third of all deaths globally and an overall increase on the estimated 121 million CVD deaths.
- In 2021, according to the Global Burden of Disease Study, high blood pressure was the leading modifiable risk factor globally for mortality and contributed to 10.6 million CVD deaths worldwide.

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Source: World Obesity Federation

Top 4 CHRONIC CONDITIONS




Obesity

- The World Obesity Federation's 2023 atlas predicts that **51% of the world, or more than 4 billion people, will be obese or overweight within the next 12 years.**
- Rates of obesity are rising particularly quickly among children and in lower-income countries.
- **Four million people die each year** as a result of obesity, according to the World Health Organization (WHO).

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Source: IDF

Top 4 CHRONIC CONDITIONS




Diabetes

- 537 million adults (20-79 years) are living with diabetes - 1 in 10. This number is predicted to rise to 643 million by 2030 and **783 million by 2045.**
- Over 3 in 4 adults with diabetes live in low- and middle-income countries.
- Diabetes is responsible for 6.7 million deaths in 2021 **1 every 5 seconds.**

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Top 4 CHRONIC CONDITIONS




Hypertension

- Hypertension is the number one risk factor for death globally, affecting more than 1 billion people. It accounts for about half of all heart disease and stroke-related deaths worldwide.
- The number of people living with high blood pressure doubled between 1990 and 2019, from 650 million to 1.3 billion.
- An increase in the number of people effectively treated for hypertension could prevent 76 million deaths between 2023 and 2050.

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The Connection of CHRONIC CONDITIONS



- **Food**
What we eat, matters. Food high in cholesterol, trans fat and sugar can lead to obesity.
- **Obesity**
Obese individuals require more blood to supply oxygen and nutrients to their bodies which causes an increase in blood pressure.
- **Hypertension**
High cholesterol, blood pressure and heart attacks are common in obese individuals, while they also have a much greater chance of developing diabetes.
- **Diabetes**
High blood glucose from diabetes can damage your blood vessels and the nerves that control your heart and blood vessels. Over time, this damage can lead to heart disease.
- **Cardiovascular Disease**
Eating a diet high in saturated fats, trans fat, and cholesterol has been linked to heart disease and related conditions, such as atherosclerosis. Also, too much salt (sodium) in the diet can raise blood pressure.

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Response TO CHALLENGES



Environmental **Institutional** **Social** **Behavioral**

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Response TO CHALLENGES

Source: Environmental Health Perspectives

Community characteristics

- Access to healthcare, education, employment
- Access to green spaces
- Social cohesion
- Crime and safety

Acute or chronic exposure to environmental hazards

- Neurotoxins and other chemicals (lead, air, pollution, etc.)
- Stressors (heat, humidity, drought, etc.)
- Disasters

Individual Changes

- Biological response to exposure
- Psychological response to exposure

Community Changes

- Loss of resources, jobs, infrastructure
- Loss of historical community, places, sacred sites
- Disrupted social networks

Individual characteristics

- Natural resources
- Genetic vulnerability
- Psychological resources
- Gender and cultural responsibilities

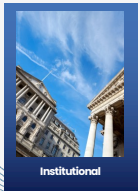
Psycho-social stressors

- Adversity, interpersonal conflict, victimization
- Identity-based discrimination

Decline in mental health at the individual level

- Decline in mental health at the community level

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Response TO CHALLENGES

Source: chronicdisease.org

According to the CDC, **90% of the nation's \$3.8 trillion per year healthcare costs can be attributed to people with chronic diseases and mental health conditions.**


- Treatment of the seven most common chronic diseases, coupled with productivity losses, will cost the U.S. economy \$2 trillion dollars annually - \$8,600 per person - by 2030.

Missed preventive screenings

- + delayed treatment of existing diseases
- + forgone chronic disease management activities
- + changes in health behaviors that have a negative impact on health

= growing health debt that will come due soon. This debt likely will be paid most by those who can least afford the outcome: the uninsured, and those who have lacked access to healthcare.

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Response TO CHALLENGES

Source: CDC

Social isolation and loneliness have become widespread problems in the United States, posing a serious threat to our mental and physical health. Social isolation and loneliness have been linked to increased risk for:

- Heart disease and stroke
- Type 2 diabetes
- Depression and anxiety
- Addiction
- Suicidality and self-harm
- Dementia

Increased Health Risks

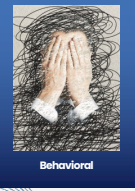
Social isolation increases your risk¹ of:

- Dementia by 50%
- Heart disease by 29%
- Stroke by 32%

Earlier death

Loneliness costs the US economy an estimated \$406 billion a year, in addition to the estimated \$6.7 billion a year in Medicare costs for socially isolated older adults.

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Behavioral

Response TO CHALLENGES


People with behavioral health conditions are at greater risk of developing chronic diseases such as heart disease or diabetes and more likely to have unstable employment, insecure housing, or involvement with the criminal justice system.

In 2020, **less than 1/2** of adults and youth with mental health conditions and less than 10 percent with substance use disorders got treatment over the course of the year.

Provider shortages are a major reason that access to treatment is limited, particularly in rural areas. It's **estimated that the U.S. needs an additional 7,400 mental health providers to meet current demand.** People in urgent need of help with behavioral health issues sometimes spend hours, even days, waiting in the emergency department.

Source: Common Health Fund

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The Connection OF HEALTH

- Compromised physical health can be a source of stress that threatens psychological well-being.
- Mental health problems can threaten physical health, such as weakening the immune system.
- Community health and well-being are interconnected with both.
- Structural and systemic inequity and disinvestment shape all forms of health.

Source: American Psychological Association

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EXTERNAL FACTORS

Six in ten adults in the U.S. have a chronic disease and **four in ten** adults have two or more. The chronic diseases are leading drivers of the nation's \$4.1 trillion in annual health care costs.

Tobacco Use
More than **16 million** Americans are living with a disease caused by smoking.

Poor Nutrition
It is estimated that at least **117 million** American adults were living with nutrition-related chronic diseases as of 2017. In 2018, there were an estimated 6.5 million people living with nutrition-related cancer.

Lack of Physical Activity
In the U.S., about **1 in 2 adults** do not get enough physical activity. **\$17 Billion** in annual health care costs are related to low physical activity.

Excessive Alcohol Use
Excessive alcohol use is a leading preventable cause of death in the United States, shortening the lives of those who die by an average of **28 years**.

Source: CDC

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Source: Harvard Health

POOR NUTRITION

- Serotonin neurotransmitter that helps regulate sleep and appetite, mediate moods, and inhibit pain.
- Since about **95% of your serotonin** is produced in your gastrointestinal tract, and your gastrointestinal tract is lined with a hundred million nerve cells, or neurons, the inner workings of your digestive system don't just help you digest food, but also guide your emotions.
- A diet rich in fruits, vegetables, whole grains, and legumes and low in red and processed meats was associated with 10% lower odds of depressive symptoms.
- Research has observed correlations between anxiety and a high intake of saturated fat, low intake of fruit, and poor diet quality overall.

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Source: Cleveland 2023 Aug 01

PHYSICAL ACTIVITY

- One study reported that **insufficient physical activity is positively associated with poor sleep quality**: sleep disturbances, more than 60 minutes of sleep latency, less than seven-hour sleep duration, use of sleep medication, and daytime dysfunction.
- Scientists have investigated several non-pharmacological methods to enhance sleep quality and address sleep disorders, and one among these approaches is **engaging in physical activity**.
- A lack of exercise is associated with a **decrease in cognitive functions**.

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Source: Mental Health Foundation

ALCOHOL USE

- Alcohol is a neurotoxin that can disrupt communications of the brain.
- Alcohol mainly affects; the **Nucleus accumbens**: part of the reward pathway, Glutamate receptors: Glutamate is a chemical that excites neurons and GABA receptors: the chemical that slows the brain down.
- Leads to intellectual impairment, headaches, memory loss, slowed thinking, slurred speech, and trouble with balance and coordination, numbness and pain in your hands and feet, seizures and dementia.
- People who drink alcohol are more likely to develop **mental health problems**. It's also true that people with **severe mental illness** are more likely to have **alcohol problems**.

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TOBACCO USE

- According to the Surgeon General's Report (SGR), nearly **9 out of 10 adults** who smoke started before **age 18**, and nearly all started by age 26.
- Nicotine and opioid addictions are mutually reinforcing, such that individuals with opioid use disorders are more likely to smoke and **nicotine use is a strong predictor of prescription opioid misuse**.
- Adolescent exposure to nicotine has been shown to increase susceptibility to opioid addiction in adulthood.

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Published: February 28, 2024

Marijuana use linked to higher risk of heart attack and stroke

Using cannabis – either by smoking, eating or vaping it – may raise the risk for heart attacks and strokes, new research suggests.

Survey respondents who said they use cannabis, or marijuana, had a **higher risk for cardiovascular** problems regardless of whether they used tobacco products or had other underlying cardiovascular risk factors, the study found. **The research** was published in the journal of the American Heart Association.

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It's all connected

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SPECIAL REPORT:

CHRONIC PAIN HITS KIDS, ADULTS AND WALLETS, BUT CAN BE TACKLED

A special report in USA Today looks at different aspects of chronic pain, including how expensive it is to manage the condition. The report also looks into which treatments work for children, how drug alternatives can make a difference, whether cannabis helps, and the future of treatment.

Source: USA Today

USA Today: Pain in America: The Expensive, Complicated Problem Of Managing Pain
Every morning, even before opening her eyes, Pamela Bell begins to scan her body. She pays attention to how each limb feels, then reaches for her neck, feeling her way up. It's to ease the grip in her neck and shoulder, where people hold most of their tension, then breathing deeply and relaxing. (Hennrichs, 12/11)

USA Today: Kids Face Chronic Pain. What Treatments Work For Them?
Dr. Roger Feldman hates the term "no pain, no gain." Instead, the pediatric orthopedic surgeon wishes he could perform his own alternative to their lecture and see when they last learned of trying to push through. (Hennrichs, 12/11)

USA Today: Pain Relief Beyond Pills: Drug Alternatives Are Making A Difference
This New Yorker Mitchell was skeptical the first time he searched a pop clinic. "Initially, I thought it was a joke. That's for women and old people. But then Mitchell saw a fellow veteran in his making someone he never saw he could do himself. (Hennrichs, 12/11)

USA Today: Marijuana For Pain Relief? Experts 'Take On Cannabis For Pain Control'
Rob Stone grew up hearing stories about what opiate addiction could do. The former football linebacker, whose father, Mikey, who played in the NFL, was hit a number of his dad's friends got hooked. Some died. He vowed his own story would be different. (Hennrichs, 12/11)

USA Today: Is There An End To Chronic Pain? Future Of Pain Relief Looks Different
Brent Fox knows what it feels like for a tick to bite through his skin. He can tell from the sensation how deep the tick is and how much he has been there. He believes he can identify such things better than other people, because he's not distracted by pain. He doesn't feel any. (Hennrichs, 12/11)

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American Academy of Pediatrics, 2023

CHILDHOOD OBESITY

News Release

American Academy of Pediatrics Issues Its First Comprehensive Guideline on Evaluating, Treating Children and Adolescents With Obesity

Teens age 13 and older with severe obesity should be evaluated for metabolic and bariatric surgery.

Adverse events of Bariatric Surgery include, but are not limited to:

- Malnutrition
- Vomiting
- Ulcers
- Bowel obstruction
- Gallstones
- Hernias
- Internal bleeding
- Leakage
- Perforation of stomach or intestines
- Skin separation
- Spleen or other organ injury
- Stricture
- Pulmonary and/or cardiac problems

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CHILDHOOD OBESITY

According to the National Center for Health Statistics, the prevalence of childhood obesity has more than triples since the 1970s.

- The prevalence of obesity is 19.7% and affected about 14.7 million children and adolescents
- Obesity prevalence was 12.7% among 2 to 5-year-olds, 20.7% among 6 to 11-year-olds, and 22.2% among 12 to 19-year-olds.
- Obesity-related conditions include high blood pressure, high cholesterol, type 2 diabetes, breathing problems such as asthma and sleep apnea and joint problems.

Source: CDC

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Ozempic Can Cause Major Loss of Muscle Mass AND REDUCE BONE DENSITY

- Rapid weight loss from taking GLP-1 medications like Ozempic and Wegovy can cause a decrease in muscle mass, lessen bone density, and lower your resting metabolic rate, leading to sarcopenia.
- Data that is raising concern about sarcopenia as it relates to GLP-1 drugs is driven by a small portion of participants who underwent DEXA (dual-energy X-ray absorptiometry), which measures bone mineral density using spectral imaging.
- Of this subset, the total mass loss was nearly 14 kg and while nearly 8.5 kg (about 60%) was fat loss, the 5 kg lean mass loss reported was 38%, which is on the high end.

Source: Healthline



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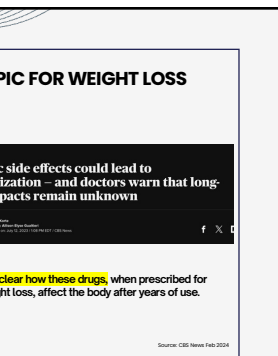
THE TRUTH ABOUT OZEMPIC FOR WEIGHT LOSS

- Ozempic is FDA approved for the treatment of diabetes **only**. It is not a weight loss medication.
- The most common adverse reactions are gastrointestinal related.
- The most common side effect in patients is nausea, followed by abdominal pain, constipation and diarrhea. These side effects can sometimes get better over time but, at least 10% of patients who start these drugs have to be taken off of them because the side effects do not improve.
- The stomach and brain are so connected that intestinal issues can lead to stress, anxiety and depression — it's what's known as the "gut-brain connection."
- Other serious side effects of Ozempic include thyroid tumors, pancreatitis, changes in vision, hypoglycemia, gallbladder issues, kidney failure and cancer.

Ozempic side effects could lead to hospitalization – and doctors warn that long-term impacts remain unknown

It's unclear how these drugs, when prescribed for weight loss, affect the body after years of use.

Source: CBS News Feb 2024



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May 22, 2024 | 3 min read

GLP-1 dispensing among adolescents, young adults rose from 2020 to 2023

- GLP-1 receptor agonist dispensing increased 659.4% among young women and 587.5% among adolescent girls.
- Dispensing of GLP-1 receptor agonists increased nearly 600% among adolescents and young adults in the United States from 2020 to 2023 and was particularly significant among girls and young women, a new study showed.
- More recently, in December, the FDA approved semaglutide for weight loss in **adolescents aged 12 to 17 years** with an initial BMI in the 95th percentile for age and sex. However, little is known about the use of these **medications in younger patients**.

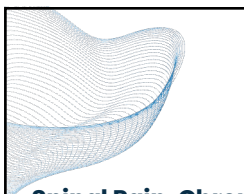
Source: Healthline



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Spinal Pain, Chronic Health Conditions and Health Behaviors

Katie de Luca, Patricia Tavares, Haiou Yang, Eric L. Hurwitz, Bart N. Green, Hannah Dale, Scott Haldeman
2023 Apr 3

Source: International Journal of Environmental Research and Public Health

Introduction
Spinal pain and chronic health conditions are highly prevalent, burdensome, and costly conditions, both in the United States and globally. Using cross-sectional data from the 2016 through 2018 National Health Interview Survey (n = 26,925), we explored associations between spinal pain and chronic health conditions and investigated the influence that a set of confounders may have on the associations between spinal pain and chronic health conditions.

Discussion
From a large sample representative of the US population, we determined that chronic health conditions increased the prevalence odds of spinal pain by 55% for cardiovascular conditions, by 42% for hypertension, by 23% for diabetes, and by 17% for obesity. Individuals with chronic low back pain have been shown to experience more difficulty in managing their health, particularly in utilizing health information on optimizing lifestyle habits.

Conclusion
Four chronic health conditions (cardiovascular conditions, hypertension, diabetes, and obesity) significantly increased the prevalence odds of spinal pain. For all chronic health conditions, tobacco use, being insufficiently active, sleep problems, cognitive impairment, and mental health conditions, significantly increased the prevalence odds of spinal pain compared to cases without spinal pain.

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BIDIRECTIONAL COMORBID ASSOCIATIONS Between Back Pain and Major Depression in US Adults

Haiou Yang, Eric L. Hurwitz, Jian Li, Katie de Luca, Patricia Tavares, Bart Green, Scott Haldeman
2023 Mar, 20

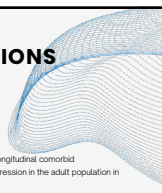
Source: International Journal of Environmental Research and Public Health

Abstract
This study explores both cross-sectional and longitudinal comorbid associations between back pain and major depression in the adult population in the United States.

Method
Data from a sample size of 2358. Logistic regression and Poisson regression models were used. The cross-sectional analysis showed significant associations between back pain and major depression.

Conclusion
This study indicated low back pain and depression are not isolated conditions and that they have a prospective bidirectional association. This study fills a gap in the field and may have implications for the management and prevention of disability associated with both depression and low back pain.

"Since both these disorders cause high levels of disability and may be causally related in a bidirectional manner, it would perhaps be of value to assess and manage patients presenting with depression by enquiring about back pain (and vice versa), and addressing those complaints at the same time, rather than considering the management as isolated health concerns."



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EFFECTIVENESS OF PHYSICAL ACTIVITY INTERVENTIONS
for improving depression, anxiety and distress

2023 Feb 16. Ben Singh, Timothy O'keefe, Rachel Curtis, Dorothea Dumakid, Rosa Viegara, Amanda Watson, Kimberley Szeto, Edward O'Connor, Ty Ferguson, Emily Egilts, Aaron Matthe, Catherine Em Simpson, Carol Maher


Method
Ninety-seven reviews (1039 trials and 128 119 participants) were included. Populations included healthy adults, people with mental health disorders and people with various chronic diseases.

Results
Physical activity had medium effects on depression, anxiety and psychological distress, compared with usual care across all populations. The largest benefits were seen in people with depression, HIV and kidney disease, in pregnant and postpartum women, and in healthy individuals. Higher intensity physical activity was associated with greater improvements in symptoms

Conclusion
Physical activity is highly beneficial for improving symptoms of depression, anxiety and distress across a wide range of adult populations, including the general population, people with diagnosed mental health disorders and people with chronic disease. Physical activity should be a mainstay approach in the management of depression, anxiety and psychological distress.

Source: British Journal of Sports Medicine

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CHRONIC CONDITION
#5: PAIN

Chronic pain is the leading cause of disability globally and affects daily work and life activities for many adults in the United States and has been linked with **depression, Alzheimer disease and related dementias, higher suicide risk, and substance use and misuse.**

- During 2021, an estimated 20.9% of U.S. adults (**51.6 million persons**) experienced chronic pain, and 6.9% (17.1 million persons) experienced high-impact chronic pain.

Source: CDC

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WORLD HEALTH ORGANIZATION
RELEASES GUIDELINES ON CHRONIC LOW BACK PAIN

WHO recommends non-surgical interventions to help people experiencing chronic primary LBP. These interventions include:

- education programs that support knowledge and self-care strategies;
- exercise programs;
- some physical therapies, such as **spinal manipulative therapy** and massage;
- psychological therapies, such as cognitive behavioral therapy; and
- medicines, such as non-steroidal anti-inflammatory medicines.

Source: WHO


WHO advises against interventions such as:

- lumbar braces, belts and/or supports;
- some physical therapies, such as traction (i.e. pulling on part of the body);
- and some medicines, such as opioid pain killers, which can be associated with overdose and dependence.

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Source: The Washington Post, December 1, 2023

The Washington Post



HOW TO PROMOTE GOOD POSTURE AND AVOID BECOMING HUNCHED OVER

- About 20 to 40 percent of people older than 60 and 65 percent of people over 70 are unable to straighten up.
- Outside of work, 46 percent of adults in the United States spend five to six hours a day looking at their cellphones, and 11 percent do so for seven or more hours.
- Looking down at screens "puts an increased load on the neck, which stresses muscles and ligaments of the neck," says Kavita Trivedi, associate medical director of the Multidisciplinary Spine Center at the University of Texas Southwestern Medical Center in Dallas.

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The Facebook logo makes sense...



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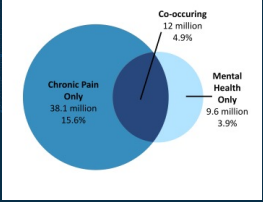
Source: Mercola Health, Jan. 2024

TAKE A STAND: THE DANGERS OF PROLONGED SITTING

- A study published in 2015 found that, compared to those who exercised often and engaged in few sedentary behaviors, those who rarely exercised and spent many hours sitting had an almost **eightfold increased risk of dying prematurely.**
- Physiologically, it has been suggested that the loss of focal contractile stimulation induced through sitting leads to both the **suppression of skeletal muscle lipoprotein lipase (LPL) activity** (which is necessary for triglyceride uptake and high-density lipoprotein (HDL) cholesterol production) and **reduced glucose uptake.**

• Sitting for more than eight hours a day was associated with a 9% increased risk of Type 2 diabetes and 22% higher risk of death from any cause.

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Co-occurrence of chronic pain and anxiety/depression symptoms in U.S. adults:
prevalence, functional impacts, and opportunities

Source: September 21, 2023, De La Rosa, Jennifer S.A., Brady, Benjamin R.A.B., Ibrahim, MZhab M.A.G, Hender, Katherine E.A., Wallace, Jessica S.A., Padilla, Ayssa R., Vandersch, Todd W.K.

The research team analyzed data from 31,997 people who participated in the National Health Interview Survey, which has been identified as the best single source for surveillance of chronic pain.

Adults with chronic pain were approximately five times more likely to report anxiety or depression symptoms compared with those without chronic pain. And, among all U.S. adults living today with unremitted anxiety or depression, the majority (55.6%) are people who also have chronic pain.

Approximately 12 million people, or 4.9% of the United States adult population, have co-occurring chronic pain and anxiety or depression symptoms.

46



Source: CDC

LONG TERM EFFECTS OF CHRONIC PAIN

- Chronic pain leads to significantly decreased quality of life, reduced productivity, lost wages, worsening of chronic disease and psychiatric disorders such as depression, anxiety, and substance abuse disorders.
- Patients with chronic pain are also at a significantly increased risk for suicide and suicidal ideation.
- Many medications often used to treat chronic pain have potential risks and side effects and possible complications associated with their use.

In 2019, 22.1% of U.S. adults with chronic pain used a prescription opioid.

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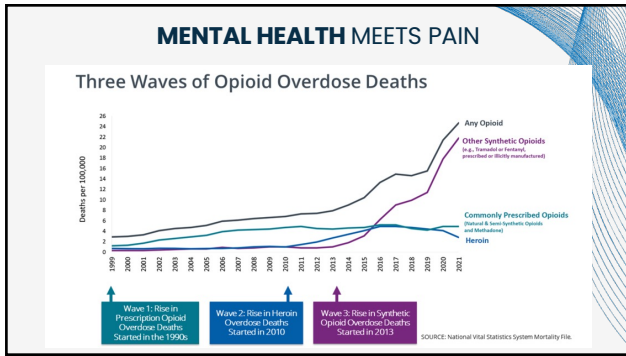


THE OPIOID EPIDEMIC

- The number of overdose deaths involving opioids, including prescription opioids, heroin, and synthetic opioids (like fentanyl), in 2021 was 10 times the number in 1999.
- Overdoses involving opioids killed more than 80,000 people in 2021, and nearly 88% of those deaths involved synthetic opioids.
- In 2021, 45 people died each day from a prescription opioid overdose, totaling nearly 17,000 deaths.** Prescription opioids were involved in nearly 21% of all opioid overdose deaths in 2021.

Source: CDC

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OPIOID ANALGESIA FOR ACUTE LOW BACK PAIN AND NECK PAIN

a randomised placebo-controlled trial

June 28, 2023, Caitlin M P Jones, PhD, Prof Richard O Day, MD, Prof Bart W Koop, PhD, Prof Jane Latimer, PhD, Prof Chris G Maher, DMSc, Prof Andrew J McLachlan, PhD

Method

OPAL was a triple-blinded, placebo-controlled randomised trial that recruited adults (aged ≥18 years) presenting to one of 157 primary care or emergency department sites in Sydney, NSW, Australia, with 12 weeks or less of low back or neck pain (or both) of at least moderate pain severity. Participants were randomly assigned (1:1) using statistician-generated randomly permuted blocks to guideline-recommended care plus an opioid (oxycodone–naloxone, up to 20 mg oxycodone per day orally) or guideline-recommended care and an identical placebo, for up to 6 weeks.

Conclusion

Mean pain score was calculated at 6 weeks. 61 (35%) of 174 participants in the opioid group reported at least one adverse event versus 51 (30%) of 172 in the placebo group (p=0.30), but more people in the opioid group reported opioid-related adverse events (eg, 13 [7.5%] of 174 participants in the opioid group reported constipation vs six [3.5%] of 173 in the placebo group).

Opioids should not be recommended for acute non-specific low back pain or neck pain given that we found no significant difference in pain severity compared with placebo.

Source: The Lancet

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E = mc²

Energy of a particle at rest

"Everything is energy and that's all there is to it. Match the frequency of the reality you want and you cannot help but get that reality. It can be no other way. This is not philosophy. This is physics."

Professor in **Chiropractic Progress**

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SOLUTIONS TO HEALTHCARE CHALLENGES, CHRONIC CONDITIONS & EXTERNAL FACTORS

- Solutions to Healthcare Challenges**
 - Collaborative Care
 - Healthcare Worker Education
 - Concordant Care
- Solutions to Chronic Conditions**
 - Patient Education
 - Chiropractic Care
 - Preventative Care/Wellness
- Solutions to External Factors**
 - Patient Education
 - Guidance
 - Addressing the Gap

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SOLUTIONS TO HEALTHCARE CHALLENGES

Longitudinal Care Patterns and Utilization Among Patients With New-Onset Neck Pain by Initial Provider Specialty

Oct. 2023, Fenton, Joshua J. MD, MPH; Fang, Shao-You PhD; Ray, Monika PhD; Kennedy, John CCS, CDP; Padilla, Kathie MPH; Amundson, Russell MD; Ethel, David DC; Halteman, Scott DC, MD, PhD; Liu, Anthony J. DC; Sico, Jason MD, MHS; Wayne, Peter M. PhD; Romano, Patrick S. MD, MPH

Method: De-identified administrative claims and electronic health record data were derived from the Optum Labs Data Warehouse, which contains longitudinal health information on over 200M enrollees and patients representing a mixture of ages and geographical regions across the United States. Utilization was assessed during a 180-day follow-up period, including subsequent neck pain visits, diagnostic imaging, and therapeutic interventions.

Results: The cohort included 770,326 patients with new-onset neck pain visits. The most common initial provider specialty was chiropractor (45.2%), followed by primary care (33.4%). Initial provider specialty was strongly associated with the receipt of subsequent neck pain visits with the same provider specialty, 6.8% and 3.4% of patients initially seen by orthopedists received therapeutic injections and major surgery, respectively, compared with 0.4% and 0.1% of patients initially seen by a chiropractor.

Conclusion: Within a large national cohort, chiropractors were the initial provider for a plurality of patients with new-onset neck pain. **Compared with patients initially seen by physician providers, patients treated initially by chiropractors or therapists received fewer and less costly imaging services and were less likely to receive invasive therapeutic interventions during follow-up.**

Source: Spine Journal

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SOLUTIONS TO HEALTHCARE CHALLENGES

Benefits and harms of treatments for chronic nonspecific low back pain without radiculopathy: systematic review and meta-analysis

Nov. 2022, Ronald J. Foleo, Stephanie Mathison, Roger S. Kessler, Corey Wierko, Fabio Zaira, Benjamin T. Brown

Methods: This was a registered systematic review and meta-analysis of randomized controlled trials. Interventions included nonpharmacological (acupuncture, spinal manipulation), pharmacological and invasive treatments compared to placebo.

Results: Studies included interventions of acupuncture; manipulation; pharmacological therapies, including NSAIDs and opioid analgesics; surgery; and epidural corticosteroid injections.

Conclusion: From the limited trials conducted, **nonpharmacological interventions of acupuncture and spinal manipulation provide safer benefits than pharmacological or invasive interventions.** There were high harms ratings for opioids and surgery.

Source: Spine Journal

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Source: Science Direct


SOLUTIONS TO CHRONIC CONDITIONS

Exercise therapy for chronic pain: How does exercise change the limbic brain function?
Oct. 2023, Emiko Saeba, Katsuya Kami

Background: Since the limbic system of chronic pain patients is functionally impaired, they are maladaptive to their situations, unable to take goal-directed behavior and are easily caught by fear-avoidance thinking.

Prolonged avoidance and physical inactivity exacerbate pain and have detrimental effects on our physical fitness and QOL.

Conclusion: Exercise habits are essential for the prevention and treatment of chronic pain. Patients with chronic pain will be able to overcome their chronic pain states by understanding the causes and processes of pain chronification, break free from fear-avoidance thinking, and proactively work to improve their daily lives, rather than just cringing in the face of the wall of chronic pain



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Source: PLoS One

SOLUTIONS TO CHRONIC CONDITIONS

The Nordic Maintenance Care program: Effectiveness of chiropractic maintenance care versus symptom-guided treatment for recurrent and persistent low back pain—A pragmatic randomized controlled trial
Sept. 2018, Andreas Eklund, Irene Jensen, Måin Lohela-Karlsson, Jan Hugberg

Methods: This pragmatic, investigator-blinded, two arm randomized controlled trial included consecutive patients (18–65 years old) with non-specific LBP, who had an early favorable response to chiropractic care. After an initial course of treatment, eligible subjects were randomized to either MC or control (symptom-guided treatment).

Results: Three hundred and twenty-eight subjects were randomly allocated to one of the two treatment groups. MC resulted in a reduction in the total number of days per week with bothersome LBP compared with symptom-guided treatment. During the 12 month study period, the MC group (n = 163, 3 dropouts) reported 12.8 (95% CI = 10.1, 15.5, p < 0.001) fewer days in total with bothersome LBP compared to the control group (n = 165, 4 dropouts) and received 17.7 (95% CI = 1.8, 2.1, p < 0.001) more treatments.



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SOLUTIONS TO CHRONIC CONDITIONS

Aleve® Speaks The Painful Truth, Encouraging Consumers to Explore Their Pain Management Options

WHIPPANY, N.J., March 25, 2024--(BUSINESS WIRE)--Aleve®, a marquee pain relief product from Bayer indicated for minor pain, in partnership with Mothers Against Prescription Drug Abuse (MAPDA), today launched "The Painful Truth," a campaign developed to encourage consumers to explore, with their doctors, pain relief options such as over-the-counter (OTC) products before taking opioids, when appropriate.



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SOLUTIONS TO CHRONIC CONDITIONS

**POWER IN CHOICE:
ADVOCACY FOR SAFER PAIN RELIEF OPTIONS**

MARY BONO | 57 EE

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SOLUTIONS TO CHRONIC CONDITIONS

NEW RESEARCH

A recent analysis on the adoption of complementary health approaches (CHAs) found the overall use of several CHAs, including chiropractic care, increased from 19.2% in 2002 to 36.7% in 2022.

Swipe →

RESULT

The CHA with the highest use for pain management was chiropractic care. This shift in utilization coincides with increased pain prevalence nationally and may be attributable to several factors, including incorporation of CHAs into best practice pain management guidelines and the need to mitigate unnecessary use of potentially harmful opioids through use of nonopioid interventions.

Source: JAMA

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SOLUTIONS TO CHRONIC CONDITIONS

NEW Research Finds Acetaminophen May Be Less Heart-safe than Previously Thought

The common painkiller acetaminophen was found to alter proteins in the heart tissue when used regularly at moderate doses. The results suggest that long-term medium- to high-dose use could cause heart issues as a result of oxidative stress or the buildup of toxins that are produced as acetaminophen breaks down.

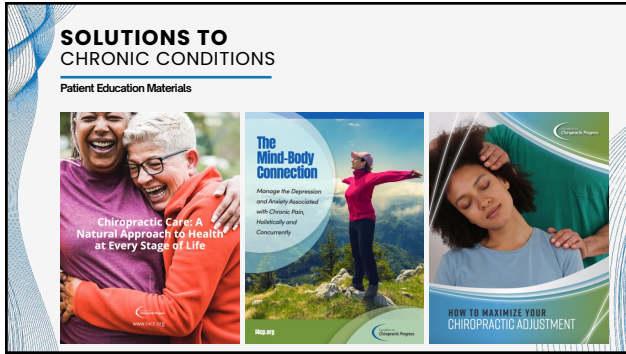
Manage your pain naturally with safe and effective drug-free approaches, such as chiropractic care.

Benefit of Aerobic Exercise for Older Adults

New research indicates that aerobic exercise later in life lowers the risk of cardiovascular disease-related mortality.

Examples include cycling, dancing, hiking, jogging or long distance running, swimming and walking.

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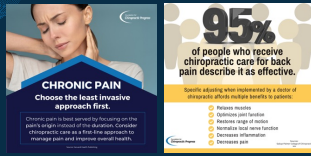

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ADJUSTED REALITY PODCAST

TOP 25%!

FROM DISEASE TO DOCTOR WITH MR. UNIVERSE DR. CHRIS ZAINO

SECRETS OF THE SPINE

CRACK ADDICTS


ADJUSTED REALITY PODCAST





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