YOURCOACH

Deep Dive Into

Health Coaching, Physical Therapy & Pain Management

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About **YourCoach.Health**

At *YourCoach.Health* we stand up, scale and operate best-in-class health coaching services via our easily and seamlessly embedded technology, powered by the largest army of validated health and wellness coaches. If you are an organization looking to integrate or scale health coaching for your population or around your product or service, we are here for you!

Content

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Executive Summary

Pain disorders are highly prevalent in the U.S., affecting *every fifth* American of all ages and backgrounds. Lower back pain, migraines, headaches, and arthritis are some of the most common conditions, with *50 million* Americans experiencing pain issues.

In addition, high-impact pain, defined as chronic pain that limits life or work activities on most days or every day during the past 6 months, reportedly has affected *8%* of the U.S. population, or *19.6 million* individuals.

Pain conditions not only cause physical suffering but also contribute to emotional distress, anxiety, depression, social isolation, loss of productivity, and significant healthcare expenditures. Chronic pain *is a leading cause* of disability and lost workdays.

Health and wellness coaches are emerging as integral partners in promoting physical and mental health and sometimes, more importantly, helping to manage chronic pain. By employing evidence-based strategies and behavior change techniques, health coaches empower clients to take an active role in preventing and managing ongoing disorders and chronic pain.

Studies have demonstrated that personalized coaching can lead to reductions in pain intensity, pain-related interference, disability, and the rate of care-seeking; decrease in anxiety and stress levels; increase in physical activity, pain self-efficiency scores, participation in everyday activities; and improve medication adherence.

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What Is Pain?

Pain is a complex and subjective sensory experience that is typically associated with discomfort, distress, or the perception of harm or potential harm to the body. It serves as a protective mechanism and a warning signal, alerting an individual to potential or actual injury.

Pain can *vary widely* in its intensity, duration, and characteristics, and it can be caused by various stimuli and underlying conditions. For example, there is the pain of childbirth, the pain of a headache or backache, and the pain of a heart attack—which all differ significantly.

The *science of pain* is complex and includes:

Nociceptors

These are specialized sensory receptors located throughout the body, including the skin, muscles, and internal organs. *Nociceptors* detect noxious or potentially harmful stimuli, such as heat, pressure, chemicals, or tissue damage.

Transmission

When a noxious stimulus is detected, nerve signals are generated and transmitted through the nervous system to the brain. This transmission involves a series of neural pathways and *neurotransmitters*.

Perception

Pain perception occurs in the brain, where the incoming signals are processed. The brain interprets these signals and assigns them qualities like location and intensity.

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What Is Chronic Pain?

Chronic pain is persistent and long-lasting pain that typically lasts for weeks, months, or even years.

Researchers *define* chronic pain as any pain that lasts longer than three months. The pain might be there all the time, or it may come and go and can happen anywhere in the body.

Chronic pain can result from *various causes*, including:

Medical Conditions

Conditions such as arthritis, fibromyalgia, neuropathy, diabetes and migraines can lead to chronic pain.

Injuries

Some injuries, especially those affecting the nerves or musculoskeletal system, can result in long-term pain.

Surgery

Post-surgical pain can become chronic for some individuals.

Lifestyle Factors

Prolonged stress, poor sleep, a sedentary lifestyle, and obesity can contribute to chronic pain.

Unknown Causes

In some cases, chronic pain may not have a clear underlying cause, making it a challenge to manage.

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The Most Common Types of Pain

Acute Pain

Acute pain is usually short-lived and serves as a warning or protective mechanism. It arises suddenly, often in response to injury or an illness, and typically resolves as the underlying cause is treated. Examples of acute pain include a cut, a burn, a broken bone, or surgical pain.

Chronic Pain

Chronic pain persists over an extended period, typically for at least three to six months or longer. It may result from an underlying medical condition or injury, or it can exist without an apparent cause. Chronic pain can significantly impact a person's quality of life and may require long-term management.

Nociceptive Pain

Nociceptive pain arises from the activation of specialized receptors (nociceptors) in response to tissue damage or inflammation. This type of pain is often localized and is described as aching, throbbing, or sharp. Examples of nociceptive pain include post-operative pain and pain from arthritis.

Neuropathic Pain

Neuropathic pain is caused by damage or dysfunction of the nervous system. It can be chronic and is often described as burning, tingling, shooting, or electric shock-like. Conditions like diabetic neuropathy and sciatica are associated with neuropathic pain.

Visceral Pain

Visceral pain originates from internal organs and is often described as a deep, dull ache or cramping sensation. Conditions such as irritable bowel syndrome (IBS) or kidney stones can cause visceral pain.

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The Most Common Types of Pain

Referred Pain

Referred pain occurs when pain is felt in an area of the body different from the actual source of the pain. For example, pain from a heart attack can be referred to the left arm. Referred pain can be confusing as the source of the discomfort is not where it is felt.

Psychogenic Pain

Psychogenic pain is primarily driven by psychological factors and may not have a clear physical cause. Conditions like somatic symptom disorder can lead to this type of pain.

Mixed Pain

Mixed pain involves a combination of nociceptive and neuropathic pain or other types. It can be challenging to diagnose and treat due to its complex nature.

Cancer Pain

Cancer-related pain can arise from the tumor pressing on tissues, nerve damage due to cancer treatment, or pain related to advanced cancer. It may be acute or chronic and requires specialized management.

Phantom Pain

Phantom pain is a sensation of pain in a body part that has been amputated or is no longer present. This phenomenon is not well understood but is believed to involve changes in the brain's perception of pain.

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How Does Chronic Pain Affect Our Overall Health?

Physical Functioning

Chronic pain *can limit* an individual's physical abilities and functioning. It can restrict mobility, making it difficult to perform everyday tasks, such as walking, standing, or bending. This reduced physical activity can lead to a decline in physical fitness and *muscle strength*.

Sleep Disturbances

Pain *often disrupts* sleep patterns, resulting in difficulties with falling asleep, staying asleep, or achieving restful sleep. Sleep disturbances can exacerbate the experience of pain and *contribute* to daytime fatigue and cognitive impairment.

Cognitive Function

Chronic pain *can affect* attention, memory, decision-making, slow cognitive processing, affect language and communication, and lead to impulsive decision-making. This can lead to decreased productivity and impair one's ability to focus on work, study, or daily activities.

Medication Use & SUD

People with chronic pain may rely on pain medications, including opioids and other painkillers, to manage their symptoms. Long-term use of these medications *can lead* to side effects, substance use disorder, dependency, and, in some cases, addiction.

Social Isolation

Chronic pain *can limit a person's ability* to engage in social and recreational activities. As a result, individuals with chronic pain *may experience* social isolation, leading to feelings of loneliness and a decreased sense of connection with others.

Coexisting Health Conditions

Chronic pain is often comorbid with other health conditions, such as *obesity*, *cardiovascular problems*, and *digestive issues*. The presence of chronic pain can complicate the management and treatment of these concurrent health issues.

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How Does Chronic Pain Affect Mental Health?

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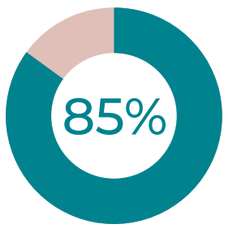

Up to 85% of people with chronic pain experience severe depression, *a 2017 study* shows.

Chronic pain and mental health disorders often co-occur. In fact, studies *have shown* the relationship between depression and pain is *bidirectional*: depression is a positive predictor of the development of chronic pain, and chronic pain increases the risk of developing depression.

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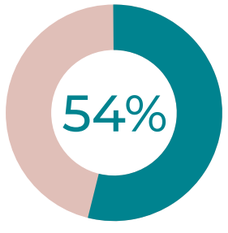
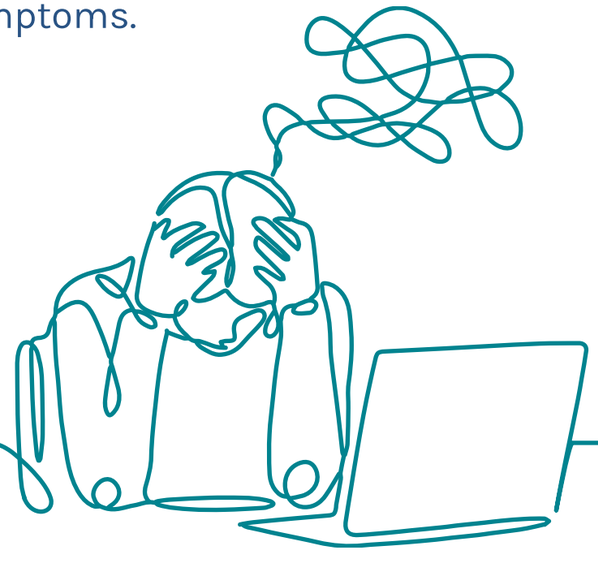


54% of people with chronic pain experienced severe anxiety, according to *Mental Health America report*.

People who experience chronic pain *are more likely* to experience other mental health conditions, including severe anxiety, severe depression, bipolar disorder and PTSD. For example, among people screened for depression, *47%* of those with chronic pain experienced severe depression compared to *36%* of those without chronic pain.

This emotional distress from pain can lead to sleep disorders and social isolation, causing individuals to withdraw from activities and relationships and resulting in feelings of loneliness, as well as exacerbating depressive symptoms.



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The State of Chronic Pain in the U.S.

Data:

One in five (*20.9%*) adult Americans, or *50 million* people, are suffering from chronic pain, which is defined as pain on most days in the prior 6 months.

Data:

Chronic pain costs the U.S. up to

$635 billion ↗

each year in medical treatments, disability payments, and lost productivity.

In the United States, chronic pain affects more people and is more common than diabetes, depression, or even cardiovascular diseases. According to the latest data, *every fifth* American adult has experienced chronic pain on most days in the prior half of the year.

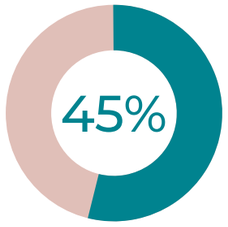
High-impact pain, defined as chronic pain that limits life or work activities on most days or every day during the past 6 months, has reportedly affected *8%* of the U.S. population, or *19.6 million* people.

The Prevalence of Chronic Pain is Higher Among Women than Men

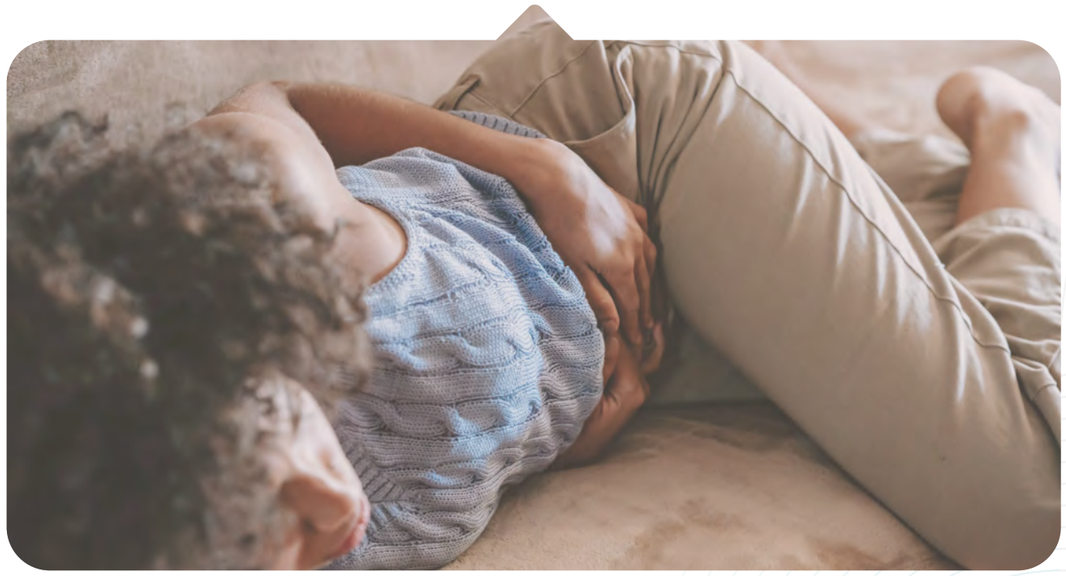
Chronic pain is a complex and pervasive issue that affects millions of people worldwide, but women *are disproportionately impacted*. Conditions including fibromyalgia, endometriosis, and migraines all affect females more frequently and their pain is sometimes treated less seriously when treatment is sought.

Shockingly, studies have shown women wait an average of *65 minutes* before receiving an analgesic for acute abdominal pain in the United States, while men wait only 49 minutes. Women *are even half as likely* as men to receive painkillers after a coronary bypass surgery.

Data:



of women said they didn't think their healthcare providers took their pain seriously, according to *the 2019 HealthyWomen survey*.



Key factors that contribute to the gender disparity:

Hormonal Factors

Hormonal fluctuations throughout a woman's life, such as those related to the menstrual cycle, pregnancy, and menopause, can affect the perception of pain. Conditions like endometriosis and certain types of migraines are hormonally influenced and can lead to chronic pain.

Pain Sensitivity

Some research *suggests* that women may have a lower pain threshold and be more sensitive to pain compared to men. This heightened pain sensitivity can contribute to the increased prevalence of chronic pain conditions among women.

Psychosocial Factors

Sociocultural and psychological factors *can influence* the reporting and management of chronic pain. Women may be more likely to seek medical attention and discuss their symptoms openly, which can result in higher rates of diagnosis and reporting.

Sociocultural Norms

Traditional gender norms and societal expectations may play a role. Women may feel more comfortable expressing pain and vulnerability, while men may be less inclined to report pain due to cultural expectations of stoicism and not showing weakness.

Different Types of Pain

Women may *be more prone* to specific types of chronic pain conditions, such as fibromyalgia and certain musculoskeletal pain, which can contribute to the overall gender disparity in chronic pain prevalence.

Healthcare Access

Women tend to access healthcare services *more frequently than men*, potentially leading to higher rates of diagnosis and reporting of chronic pain conditions. This increased healthcare utilization can result in higher documented prevalence.

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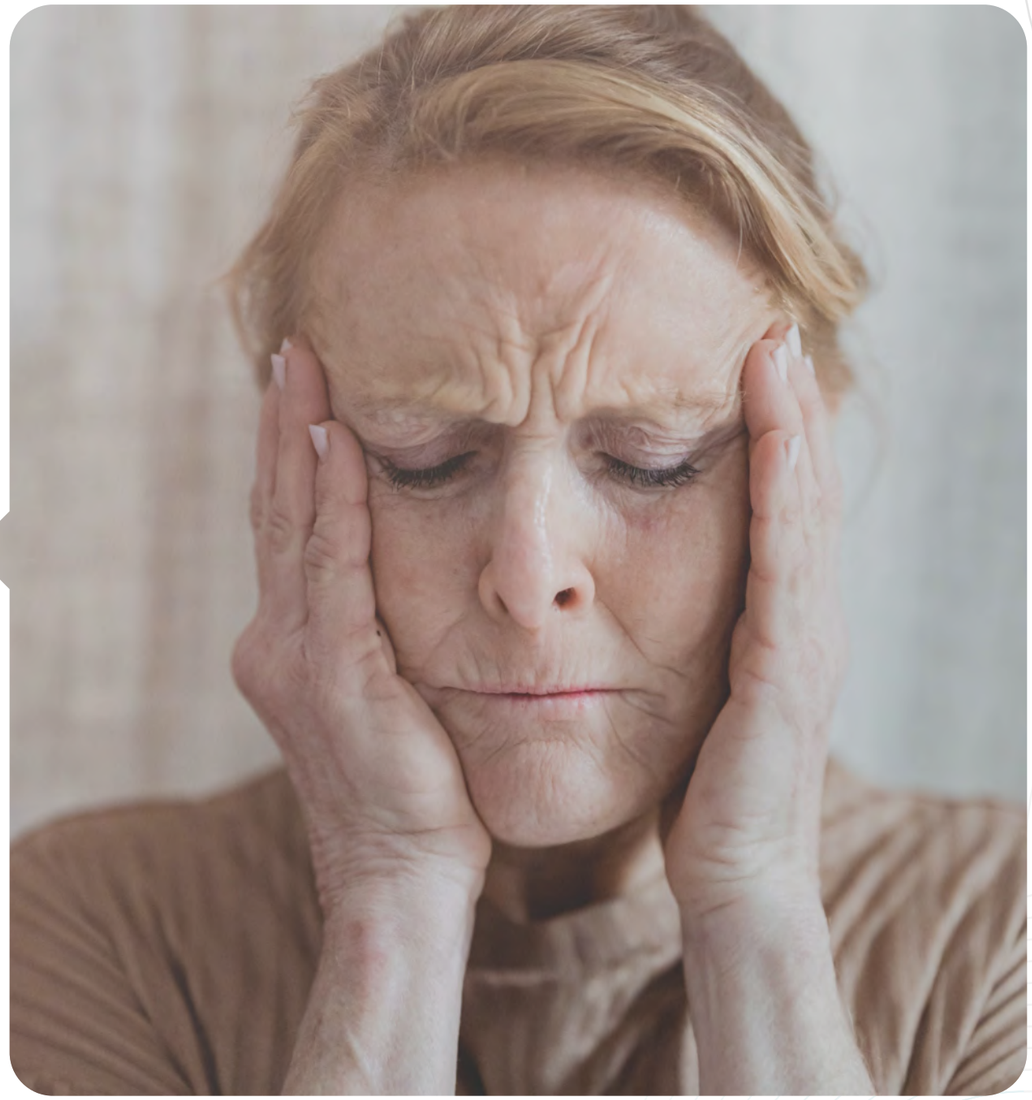
Chronic Pain is More Common than Diabetes or Depression

Chronic pain is substantially more common in the U.S. than diabetes, depression, and high blood pressure, studies have found. A 2023 study, published in *JAMA*, looked at data from more than 10,000 participants through the National Health Interview Survey, which is conducted annually by the CDC's National Center for Health Statistics.



Among people who reported being pain-free in 2019, the annual rate of chronic pain the next year was 52.4 per 1,000 people, and there were 12 cases of high-impact chronic pain per 1,000 people. *By comparison*, the researchers say, there are 7.1 cases of diabetes, 15.9 cases of depression, and 45.3 cases of high blood pressure per 1,000 people per year.

Researchers also found that two-thirds (*62.3%*) of participants who reported chronic pain in 2019 said they were still experiencing it a year later. Only 10% of people with chronic pain in 2019 were pain-free in 2020.

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The Most Common Pain Conditions in the U.S.

Name of Condition	Description	Prevalence in the U.S.	Symptoms
Headache (Tension)	Mild to moderate headache from stress or tension.	*21%* among the adult population	Dull, aching head pain, often described as a band around the head.
Migraine	Intense, recurring headaches often with other symptoms.	*12%* of people age 12 and over (17% of women and 6% of men)	Severe head pain, nausea, and light sensitivity.
Arthritis	Joint inflammation, causing pain and reduced mobility.	*24%* among adults aged 18 and over	Joint pain, stiffness, swelling, reduced range of motion.
Osteoarthritis	Degenerative joint disease causing pain and stiffness.	*12%* among adults 60 years and over	Joint pain, reduced range of motion, swelling.
Dental Pain	Pain originating from teeth or oral conditions.	*26%* among adults 20 and over	Toothache, gum pain, jaw pain, sensitivity.
Lower Back Pain	Pain in the lower back region, often chronic.	*13%* among adults 20-69 years	Stiffness, muscle spasms, shooting pain, limited mobility.

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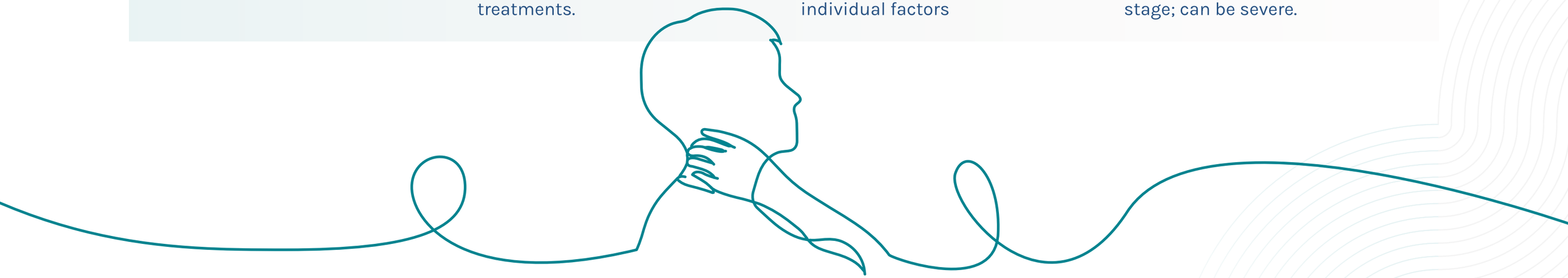
The Most Common Pain Conditions in the U.S.

Name of Condition	Description	Prevalence in the US	Symptoms
Neuropathic Pain	Nerve-related pain due to damage or dysfunction.	*15,7%* among adults	Burning, shooting, or tingling pain, numbness.
Sciatica	Pain radiating from the lower back down the leg.	*2,2%* among the general population	Shooting leg pain, numbness, tingling, weakness.
Fibromyalgia	Chronic pain disorder with widespread tender points.	*2%* of the adult population	Widespread pain, fatigue, sleep disturbances.
Cancer Pain	Pain resulting from cancer and its treatments.	Varied based on cancer and individual factors	Depends on cancer type and stage; can be severe.



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Pain Management Options & Physical Therapy

Diagnosis and Assessment

Physicians begin by thoroughly evaluating the patient's condition, including taking a detailed medical history, conducting physical examinations, and ordering relevant diagnostic tests. This helps identify the cause and severity of the pain.

Medication Management

Physicians can prescribe medications to alleviate pain, such as analgesics, anti-inflammatories, opioids, and muscle relaxants. They carefully consider the type of pain and the patient's individual needs when prescribing these medications.

Interventional Procedures

For certain conditions, physicians may recommend interventional procedures like nerve blocks, epidural injections, or joint injections to target the source of pain, directly.

Physical Therapy and Rehabilitation

Physicians may refer patients to physical therapists or rehabilitation specialists who can provide exercises and therapies to improve strength, flexibility, and functional ability, which can reduce pain.

Non-Pharmacological Approaches

They may recommend non-drug therapies like physical therapy, occupational therapy, and cognitive-behavioral therapy to address pain and its psychological effects.

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Pain Management Options & Physical Therapy

Surgical Interventions

In some cases, surgery may be necessary to correct the underlying cause of pain, such as in cases of spinal issues, joint problems, or certain injuries.

Pain Management Plans

Physicians create individualized pain management plans that consider the patient's unique circumstances, preferences, and pain conditions. These plans may include a combination of treatments.

Monitoring and Adjustments

Physicians regularly monitor the patient's progress and make necessary adjustments to the pain management plan. They assess the effectiveness of treatments and address any side effects.

Education and Counseling

Physicians can educate patients about their pain condition and treatment options. They also offer guidance on lifestyle modifications, including diet, exercise, and stress management.

Communication and Collaboration

Physicians work closely with patients to ensure they understand their pain management options and collaborate with other healthcare providers, such as physical therapists, pain specialists, and health coaches, to create a well-rounded pain management strategy.

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Chronic Pain & Substance Use Disorder

Data:

Nearly 1 in 5 American adults *struggles with* substance use disorder.

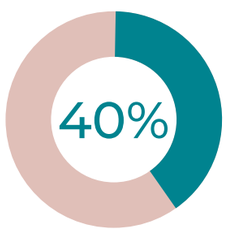
Many individuals with chronic pain rely on prescription opioids, such as oxycodone or hydrocodone, to manage their pain. These medications can be highly effective in providing relief, but they can be highly addictive as well.

In some cases, individuals may misuse or abuse their prescription opioids, taking them more frequently or in higher doses than prescribed, which can quickly lead to addiction - which, in turn, can worsen chronic pain. Substance use disorder can lead to increased pain sensitivity, potentially making the original pain problem even more challenging to manage.

A 2016 study, published in the Journal of General Internal Medicine, found that 87% of those who screened positive for illegal drug use, misuse of prescription drugs or heavy alcohol use suffered from chronic pain. Half of these patients graded the pain as severe.

Opioid misuse and addiction is one of the most serious public health problems in the U.S. leading to more than *106,699* drug overdose deaths in 2021, alone. Moreover, within the same year, *46.3 million* people (or 16.5% of the population) met the criteria for having a substance use disorder (SUD), defined as the compulsive and harmful use of substances, despite negative consequences.

Data:



Studies *show* that among 151 patients with chronic non-cancer pain, 40% met the criteria for drug dependence.

87%

of patients with chronic pain have Substance Use Disorder (SUD)

81%

percent identified self-medication for pain as the reason for misuse

79%

consumed alcohol heavily to manage pain

51%

reported using one or more drug specifically to alleviate physical pain

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How Health Coaches Can and Do Help

Health coaching can be a keystone to ensuring important behavior changes become incorporated into daily routines, which is essential when protecting and promoting overall health and wellbeing. Coaches leverage an *evidence-based approach* to help with managing disease catalyzing changes in nutrition, behavior, physical activity levels, self-acceptance, mental health improvements, enhanced quality of life, and more.

At the heart of health coaching is a holistic approach, which considers the person as a whole, rather than focusing on an individual illness or health concern.

Health coaches maintain a client-centered approach, wherein the client is the expert in choosing their goals, engaging in self-discovery or active learning processes, and self-monitoring behaviors to increase accountability, all with the support and help of a health coach, until the desired outcomes are achieved. Instead of telling clients what they should or shouldn't do, coaches help clients to discover their own power and path to change.

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A Health Coach **is** ...

- A highly skilled and certified professional
- Knowledgeable in human behavior, motivational techniques and health outcomes
- A change agent helping clients set and achieve health goals and build new habits
- Trained in helping a client maintain a positive and healthy mindset while working towards health and wellness goals by focusing on their strengths

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A Health Coach is NOT ...

Although health coaches **can and do work alongside patient care teams or in collaboration with other health care professionals** to help clients enact health change day-to-day, it's important to understand their *scope of practice*.

A health coach is NOT a Doctor

Health coaches can not diagnose or prescribe. Health coaches are integral members of the health and care team and work with patients in helping them reach their health & wellness goals and adhere to a plan prescribed by their doctor.

A health coach is NOT a Therapist

Health coaches don't need to be therapists or psychologists, and great coaches don't try to mimic what a mental healthcare professional does. These professionals can complement one another and often work together.

A health coach is NOT a Personal Trainer

While coaches encourage physical activity, they focus on many other aspects of a person's wellbeing including emotional and mental wellness. They do not typically create fitness regimens in the same way that personal trainers do. However, some health coaches do hold fitness certifications and can help those who are seeking both a health coach and a personal trainer.

A health coach is NOT a Nutritionist or Dietitian

Health coaches can help clients establish action plans for generalized healthy eating behaviors, whereas nutritionists and dietitians can prescribe meal plans and give specific nutritional advice to clients according to their medical needs or goals.

Insight: *Demystifying Health Coaching: Unpacking the Differences Between Dieticians, Nutritionists & Health Coaches*

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How Health Coaches Can & Do Help with Pain Management

Education and Empowerment

Health coaches can educate clients about the different aspects of pain, including its causes, triggers, and mechanisms. They help clients understand their pain, which can empower them to make informed decisions about their pain management plans.

Goal Setting and Accountability

Health coaches assist clients in setting realistic goals for pain management and help them create action plans to achieve these goals. They can provide ongoing support and accountability, which can be crucial for long-term success.

Lifestyle and Behavior Modification

Studies *have shown* that health coaches are champions of behavior change and lifestyle improvements. They work with clients to identify lifestyle factors that may exacerbate or alleviate pain and help clients make positive changes, such as improving diet, exercising more, getting better sleep, and managing stress.

Self-Care Strategies

Studies *suggest* that relaxation and breathing exercises *can affect* pain perception and intensity, especially when they *are used* on a regular basis. Health coaches teach clients self-care strategies, including breathing exercises and mindfulness, which can help reduce pain perception and improve overall well-being.

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How Health Coaches Can & Do Help with Pain Management

Treatment Adherence and Self-Care

Studies *show* that health coaching is an effective approach to helping clients with *treatment adherence*, ensuring they follow prescribed medications, attend appointments, and pursue self-care routines. Coaches can provide reminders, accountability, and strategies to overcome barriers that may interfere with adherence. Coaches also emphasize the importance of self-care and encourage clients to prioritize their well-being.

Collaboration with healthcare providers

Health coaches work collaboratively with healthcare and medical professionals, such as physical therapists, chiropractors, and pain specialists, to implement a comprehensive approach to managing chronic pain and support medication management and treatment adherence. By working together, they can develop integrated plans that address the client's specific needs and enhance the effectiveness of disease prevention or management strategies.

Monitoring Progress

Health coaches empower clients with tools, skills, and mechanisms to track and monitor clients' progress in managing their pain. They may suggest the use of journals, questionnaires, or other assessment tools to measure improvements and help the client gain awareness around their pain management strategy.

Emotional Support

Dealing with pain can be emotionally challenging. Health coaching helps reduce stress and anxiety, studies *have shown*. Health coaches provide emotional support and help clients cope with the psychological aspects of pain, including feelings of anxiety, frustration, depression, and isolation.

The Science of Health Coaching

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Summary

Numerous studies suggest health coaching is an effective intervention for reducing chronic pain and its intensity. Moreover, results indicate a significant decrease in mid-term pain, short-term disability, mid-term disability, and low back pain.

Among secondary outcomes, a decrease in the rate of care-seeking, anxiety, and stress were observed. Finally, coaching participants demonstrated an increase in physical activity, pain self-efficiency scores, participation in everyday activities scores, and improvements in medication adherence. All scores are significantly higher compared to control groups.

	Health Coaching	Control Group	% change
Pain Intensity score	-31%	-9%	22%
Pain-related disability score	-22%	-9%	13%
Care-seeking rate	-38%	-3%	35%
Anxiety	-55%	-22%	33%
Pain self-efficacy scores	+29%	+16%	13%
Achieved physical activity goal	+65%	+22%	43%
Self-reported walking, min/week	+113 min	+4 min	183.1 min
Medication Adherence	+23%	+5%	18%

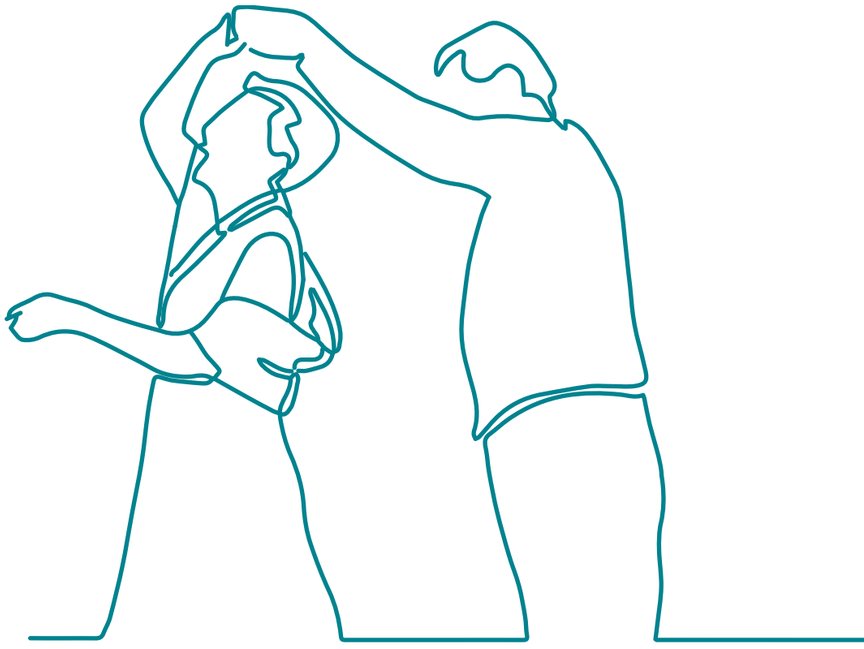
Reducing Chronic Pain Among Patients with Chronic Diseases

A 2020 study, with more than 180 participants with chronic diseases such as diabetes, cardiovascular disease and cancer, evaluated the effects of health & wellness coaching on individuals with chronic pain.

Researchers used *Pain Outcomes Questionnaire (POQ)* scores to measure results, which contains five domains: mobility, activities of daily living, negative affect, vitality, and fear of activity. Each domain was assessed through an 11-point Likert scale (0 = "never" to 10 = "always"), which means that a lower score signals improvements.

	Baseline		12 months				
POQ Scale:	**Mean**	**SD**	**Mean**	**SD**	**% change**	**P value**	**Effect size**
Pain intensity	6.68	1.77	4.71	2.12	-30%	< 0.001	1.00
Mobility	22.45	10.72	13.64	11.29	-40%	< 0.001	0.81
Activities of Daily Living	11.0	10.48	6.59	9.27	-40%	< 0.001	0.44
Vitality	19.78	5.18	13.85	5.87	-30%	< 0.001	1.10
Negative affect	28.41	11.03	17.93	11.26	-37%	< 0.001	0.94
Fear of activities	11.23	3.81	11.00	2.25	-2%	0.236	0.07
Pain Outcomes Questionnaire Score Total	**101.50**	**28.88**	**67.74**	**13.89**	**-32%**	**< 0.001**	**1.13**

After 12 months of coaching, results showed statistically and clinically significant reductions in pain intensity and pain-related interference. **Overall Pain Outcomes Questionnaire Scores decreased by 32% compared to baseline**, and almost all items showed significant improvements except the fear of activities, which wasn't significant.



Source: Rethorn ZD, Pettitt RW, Dykstra E, Pettitt CD. Health and wellness coaching positively impacts individuals with chronic pain and pain-related interference. PLoS One. 2020 Jul 27;15(7):e0236734. doi: 10.1371/journal.pone.0236734. PMID: 32716976; PMCID: PMC7384647.

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Managing Chronic Non-Cancer Pain in Older Adults

A 2022 study tested the efficiency of an "mHealth intervention," which combines symptom, diet, and behavior tracking via a smartphone application with data analytics to detect associations between symptoms and lifestyle factors, used in combination with weekly health coaching sessions aimed to mitigate chronic non-cancer pain (CNCP) in adults 55 years of age and older.

Study results showed that:

- **Pain intensity scores** decreased by 31% in intervention participants but only by 9% among control arm participants.
- **Pain self-efficacy scores** also increased by 29% in the intervention group vs. 16% in the control group
- **Pain-related disability scores** decreased by 22% among intervention participants vs. by 9% in the control arm
- **Anxiety symptoms** decreased by 55% in the intervention arm vs. 22% among control arm participants
- Finally, the proportion of participants with General Anxiety Disorder (GAD-7) scores at follow-up decreased by 0.35 to 0, whereas controls did not change at all.

Examination of the effects of the intervention

	Baseline estimate	Follow-up estimate (SE)	Follow-up-baseline (p-value)
Pain Intensity (0-10)	-	-	-
Control	**4.90 (1.08)**	**4.53 (1.10)**	**-0.35 (0.605)**
Intervention	**3.83 (0.92)**	**2.62 (0.10)**	**-1.21 (0.136)**
Intervention-control	**-1.07 (1.18)**	**-1.93 (1.26)**	**p=0.412**
Pain related disability 24-item (0-24)	-	-	-
Control	**13.70 (3.33)**	**12.42 (3.35)**	**-1.28 (0.249)**
Intervention	**11.84 (2.85)**	**9.02 (2.90)**	**-2.81 (0.042)**
Intervention-control	**-1.86 (3.58)**	**-3.40 (3.64)**	**p=0.367**
Pain self-efficacy (0-60)	-	-	-
Control	**31.61 (5.68)**	**36.67 (5.62)**	**5.06 (0.284)**
Intervention	**37.61 (4.66)**	**48.59 (5.28)**	**10.98 (0.047)**
Intervention-control	**6.01 (6.23)**	**11.92 (6.65)**	**p=0.400**
General anxiety disorder-7 total (0-21)	-	-	-
Control	**7.07 (2.71)**	**5.53 (2.75)**	**-1.54 (0.350)**
Intervention	**6.87 (2.31)**	**3.07 (2.49)**	**-3.80 (0.057)**
Intervention-control	**-0.20 (2.96)**	**-2.46 (3.13)**	**p=0.372**

Source: Kaul U, Scher C, Henderson CR Jr, Kim P, Dyhrberg M, Rudin V, Lytle M, Bundy N, Reid MC. A mobile health + health coaching application for the management of chronic non-cancer pain in older adults: Results from a pilot randomized controlled study. Front Pain Res (Lausanne). 2022 Jul 25;3:921428.

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Increasing Physical Activity and Reducing The Burden Of Chronic Low Back Pain

A 2019 randomized controlled trial with a blinded outcome assessment included 68 participants with chronic low back pain after treatment discharge. The intervention group received a physical activity information booklet, plus one face-to-face and 12 telephone-based health coaching sessions. The control group (standard care) received the physical activity information booklet and advice to stay active.

Study results showed the intervention group participants had a 38% reduced rate of care-seeking vs 3% in the control group. Among secondary outcomes the intervention group self-reported more walking at follow-up than the control group with a difference of 183.1 min per week.

In addition, a higher proportion of the intervention group attained their physical activity goals at 6 months compared to the control group—20 participants vs. 5. Moreover, participants were largely satisfied with the intervention, giving an 8.7 mean score out of 10.

Mean (SD) of outcomes by group at baseline and follow-ups and effects of intervention

Outcomes	Intervention Baseline	Intervention Follow-up	Control Baseline	Control Follow-up	Intervention vs Control	Intervention Baseline	-
-	n=34	n=31	n=34	n=24	Coef./OR	95% CI	p
Pain intensity, score/10[a]	5.3 (1.9)	3.8 (2.4)	5.1 (1.4)	4.0 (3.4)	-0.14	-1.34-1.06	0.815
Disability, score/24[b]	8.9 (5.4)	5.7 (5.3)	9.0 (6.1)	6.0 (5.7)	-0.47	-3.13-2.18	0.722
Self-reported walking, min/week[c]	340.3 (688.9)	453.0 (942.5)	250.8 (221.2)	254.5 (390.8)	183.1	48.53-317.68	0.009
Self-reported moderate PA, min/week[c]	109.7 (379.1)	60.9 (96.1)	93.5 (273.0)	159.7 (343.5)	61.0	-46.05-168.12	0.256
Goal attainmentg, number (%)[β]	-	20 (65)	-	5 (22)	6.54	1.90-22.48	0.003

Source: Amorim AB, Pappas E, Simic M, Ferreira ML, Jennings M, Tiedemann A, Carvalho-E-Silva AP, Caputo E, Kongsted A, Ferreira PH. Integrating Mobile-health, health coaching, and physical activity to reduce the burden of chronic low back pain trial (IMPACT): a pilot randomised controlled trial. BMC Musculoskelet Disord. 2019 Feb 11;20(1):71.

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Managing Low Back Pain and Hip and Knee Osteoarthritis

A 2023 systematic review with meta-analysis, published in the *Pain Medicine* journal, set out to determine if working with a health coach could help people who suffer from chronic pain. Scientists searched databases for trials that fit the criteria they were looking for, which included health coaching programs or motivational programs that were used to support adults with chronic hip, knee, and low back pain.

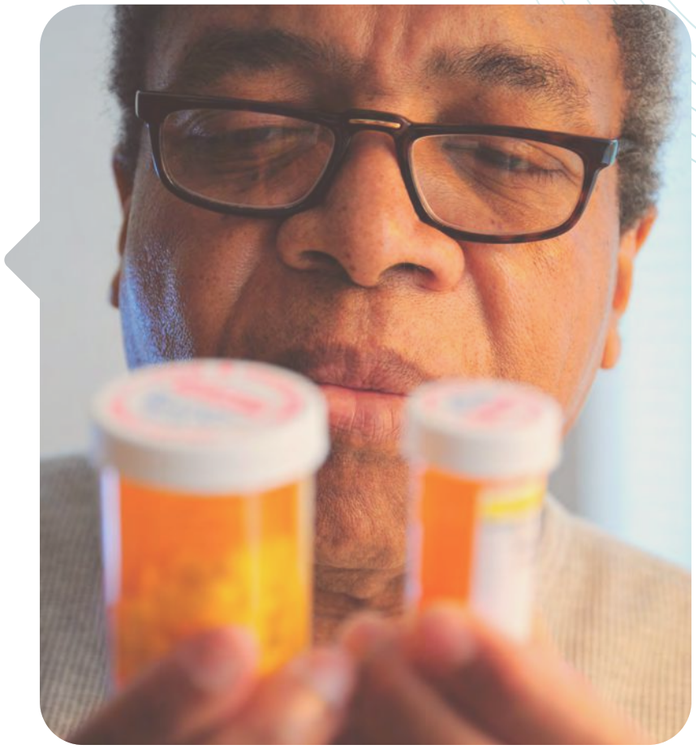
The research included 17 published studies that met the criteria to be included. They found **a significant decrease in mid-term pain, short-term disability, mid-term disability, and low back pain.** They also found a substantial **improvement in chronic pain** due to knee osteoarthritis and long-term functional disability.

Overall, studies showed that by working with a health coach, individuals are able to reduce disability and pain from chronic low back pain, as well as reduce disability in knee osteoarthritis.

Improving Medication Adherence

According to a study published in the *Journal of the American Board of Family Medicine*, health coaching helps increase medication adherence rates among patients with chronic diseases such as type 2 diabetes, high blood pressure or high cholesterol.

Patients who participated in the health coaching group reported a 23% increase in the number of patients who reported taking their medications exactly as prescribed. The group that had continued with their usual care reported a 5% decrease.



Outcomes	Health Coaching			Health Coaching			Difference in Change	P Value
	Base-line	12 Months	Change	Base-line	12 Months	Change		
Days (of the past 7) that patient reported having taken medications as prescribed, mean (SD)	4.29 (2.31)	5.23 (2.02)	0.94	4.40 (2.34)	4.28 (2.44)	-0.14	1.08	<001
Patients who reported taking all medications as prescribed in the past 7 days (%)	21	35	14	25	27	2	12	.09
Patients who report taking medications as prescribed for a mean of at least 5 of the past 7 days (%)	46	69	23	50	45	-5	28	<001

Source: Thom DH, Willard-Grace R, Hessler D, et al. The Impact of Health Coaching on Medication Adherence in Patients With Poorly Controlled Diabetes, Hypertension, and/or Hyperlipidemia: A Randomized Controlled Trial. The Journal of the American Board of Family Medicine 2015, 28 (1) 38-45

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