

Chronic Pain

What it is, why it's hard to manage, and what employers can do about it.

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Chronic Pain – The Invisible Epidemic

Chronic pain is everywhere. The problem is it's often hidden in plain sight.

Some 50 million American adults live with chronic pain. That means one in five people experience pain on most days or every day.

With this pain comes tremendous costs.

According to an Institute of Medicine Study, **chronic pain costs the U.S. economy \$635 billion annually, more than the costs of heart disease, diabetes, and cancer combined.** This amount is made of both the costs to diagnose and treat chronic pain and the productivity and wages that are lost when people cannot work due to pain.

Beyond the financial impact, chronic pain takes a tremendous toll on quality of life. People who live with chronic pain often miss out important moments with family and friends and have difficulties with everyday tasks.

If chronic pain is such a problem, why isn't more being done to address it? The short answer – pain is a complex problem which requires comprehensive approach to address it multiple layers of impact. Sadly, our healthcare system is currently not equipped to do so.

The burgeoning field of pain research constantly uncovers new insights on how pain works and has laid out the evidence of best practices for treatment and management. However, these discoveries and insights have not yet become common practice within our health care system. The result is too many people still living with pain.

Keep reading to learn more about how pain works, why the way we currently address pain fails patients, and what can be done to address all the various costs of this invisible epidemic.



20% of U.S. adults experience chronic pain ²



Pain costs U.S. economy **\$635** billion annually ³



40% of visits to a physician are driven by pain ⁴

¹ Yong RJ, Mullins PM, Bhattacharyya N. Prevalence of chronic pain among adults in the United States. *Pain*. 2022;163(2):e328-e332. doi:10.1097/j.pain.0000000000002291

² Dahlhamer J, Lucas J, Zelaya, C, et al. Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016. *MMWR Morb Mortal Wkly Rep* 2018;67:1001–1006. doi:10.15585/mmwr.mm6736a2

³ Gaskin DJ, Richard P. The Economic Costs of Pain in the United States. In: Institute of Medicine (US) Committee on Advancing Pain Research, Care, and Education. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. Washington (DC): National Academies Press (US); 2011. Appendix C. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK92521/>

⁴ www.ncbi.nlm.nih.gov/books/NBK92521/
Mäntyselkä P, Kumpusalo E, Ahonen R, et al. Pain as a reason to visit the doctor: a study in Finnish primary health care. *Pain*. 2001;89(2-3):175-180. doi:10.1016/s0304-3959(00)00361-4

What We Know About Chronic Pain

The basics

The human body is comprised of ten different systems that work together so the body can function. One of these systems is then nervous system which is made up of nerve cells, the spinal cord, and the brain. Pain is a function of this system – nerve cells send signals to the brain from the injury to avoid further harm. The brain processes that signal and assigns it meaning so that in the future those signals quickly become associated with danger, hurt, and fear.

Feeling pain is critically important to survival. And when the nervous system works correctly, pain alerts our brain to the threat of injury or illness – a broken bone, burned hand, or heart attack.

But when pain exists when injury or illness doesn't, where does it come from?

Pain isn't just physical

Pain is part of a self-protective system, and central to that system is the brain. When we feel acute pain – sudden, sharp, and short-lived – the brain makes important associations and connections. It learns to associate that activity or object with bad emotions or experiences so that we don't injure ourselves again.

Sometimes this system malfunctions – that's the root of chronic pain. The brain repeats the signal too often and the feeling pain becomes a behavioral response, like a bad habit or an alarm system that just won't stop beeping.

This is when pain moves from a physical problem to something more complex, tied to the mood center of our brains and triggered by things other than a physical injury or illness – stress, anxiety, lack of sleep, among others.

Chronic pain becomes a vicious cycle in which a person feels pain, becomes anxious or depressed because of that pain, and as a result, his or her pain experience is amplified.



Defining Pain

In 2020, the International Association for the Study of Pain released a revised definition of pain due to advances in understanding of how pain works:

“An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage”

⁵ IASP announces revised definition of pain. International Association for the Study of Pain (IASP). <https://www.iasp-pain.org/publications/iasp-news/iasp-announces-revised-definition-of-pain/>. Published July 20, 2021..

DIFFERENT TYPES OF PAIN



Acute

- Injury/Illness related
- Lasts < 3 months and usually resolves on its own



Sub-acute

- Pain experienced for 1 to 3 months
- Opportunity to proactively prevent chronic pain



Chronic

- Independent of physical harm, rooted in the brain
- Lasts > 3 months

Why We Are Failing Pain Patients

When someone seeks medical help for pain, the assumption is that it is a symptom of damage to the body. The result is a barrage of tests and imaging, generally followed by recommendations for surgery or other ways to solely treat a physical issue.

But we know that pain can be disconnected from physical injury and is strengthened by learned behaviors resulting in chronic pain. When this happens, the interventions available for pain treatment and management often only solve the physical piece of the pain problem. Or worse, they create another one.

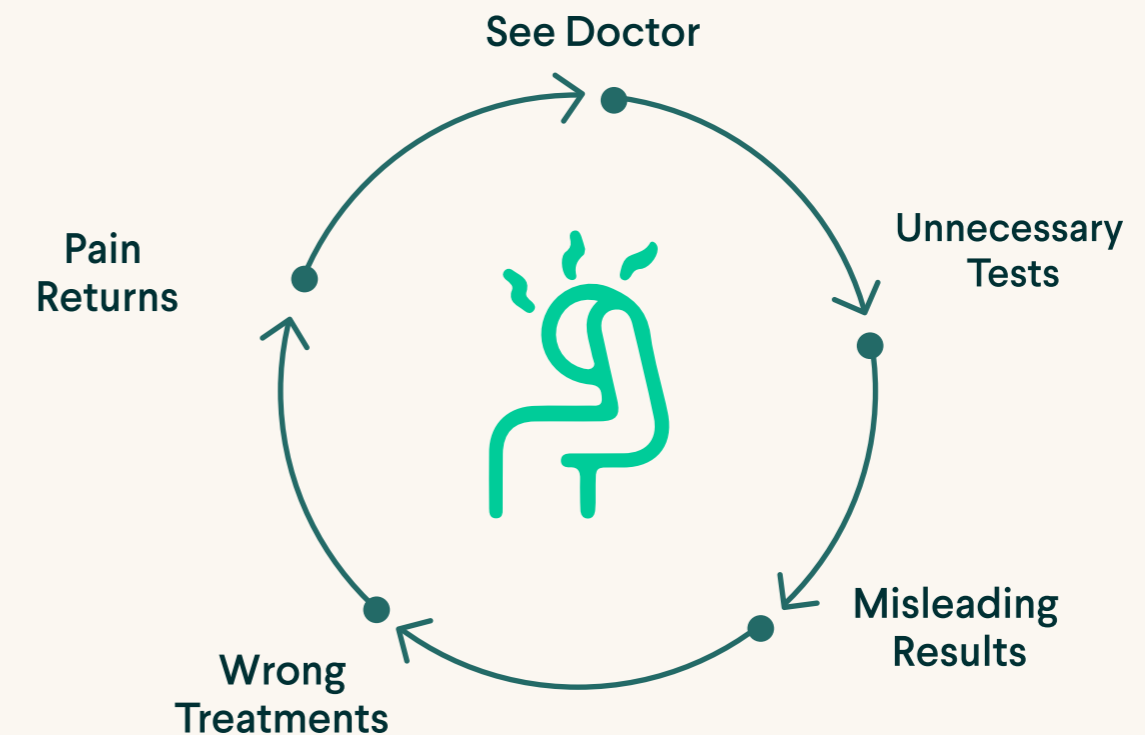
For instance, a study done by Cigna and published in the Journal of Spine Surgery found that 87% of people who have spinal fusion surgery for back pain still experience pain 2 years later. Of those people, 15% have additional surgery to try to address the persistent pain. In short, additional costs on a procedure that doesn't get to the chronic pain issue, just the physical one.

The reverse is also true. Just because an anomaly exists – meaning an irregularity in a bone, joint, or muscle – doesn't mean that individual feels pain in that area. A study published in 2021 found that 87% of pain-free necks have a bulging disc, 72% of pain-free shoulders have tissue tears, and 97% of knees have a structural abnormality but are pain-free.

This evidence and ongoing research points to chronic pain as an independent chronic condition, separate from whatever acute injury or illness might have caused it.

When viewed as a physical problem, individuals experiencing pain get caught in a health care cycle that can leave them feeling hopeless while costs skyrocket.

50% of spending on chronic pain is wasted on ineffective and invasive procedures



⁶ Mino DE, Munterich JE, Castel LD. Lumbar fusion surgery for degenerative conditions is associated with significant resource and narcotic use 2 years postoperatively in the commercially insured: a medical and pharmacy claims study. J Spine Surg. 2017;3(2):141-148. doi:10.21037/jss.2017.04.02

⁷ Sajid IM, Parkunan A, Frost K Unintended consequences: quantifying the benefits, iatrogenic harms and downstream cascade costs of musculoskeletal MRI in UK primary care. BMJ Open Quality 2021;10:e001287. doi: 10.1136/bmjog-2020-001287

CHRONIC PAIN – What drives health care costs?



Diagnose

- Primary care visits
- Specialist visits
- Emergency department visits
- Imaging
- Blood Tests



Treat & Manage

- Surgery
- Physical Therapy
- Medications – over the counter and prescriptions
- Injections
- Chiropractor visits
- Alternative therapies (massage, acupuncture, etc.)

Improving Pain Management

When pain becomes the primary condition, rather than the symptom of a physical one, a different approach is needed.

Instead of solely focusing on the biomechanical underpinnings of pain, a more comprehensive approach is needed, one that includes addressing the psychological drivers, such as fear and anxiety, and the impact pain has on social connections such as increased isolation and loneliness. This approach – called biopsychosocial – has proven successful in both reducing pain intensity and improving physical function.

The biopsychosocial approach of supporting the whole person is regularly employed at multi-disciplinary pain clinics where a team of health care professionals is led by a pain physician. The primary goal of this team – often comprised of nurses, psychologists, physiotherapists, and social workers – is to understand the multilayered impact pain is having on a person's life. The team then can provide the person with both medical care AND the education, skills, and resources needed to build resiliency skills that help them better manage the physical and psychosocial elements of their pain.

So, if this approach works so well, why do we still have a pain problem?

The answer is... access. There just aren't enough pain physicians or multi-disciplinary pain clinics available to support the number of people experiencing chronic pain. For every one pain physician, there are four orthopedic specialists.

This means that currently the most accessible way to address pain is by focusing on a structural or physical problem rather than retraining the brain to break its bad habits. This leaves patients often undergoing multiple surgeries, receiving costly injections, or relying on prescription medications, without every receiving the type of comprehensive pain care that research suggests is far more effective.



Democratizing Access to Chronic Pain Management, Digitally

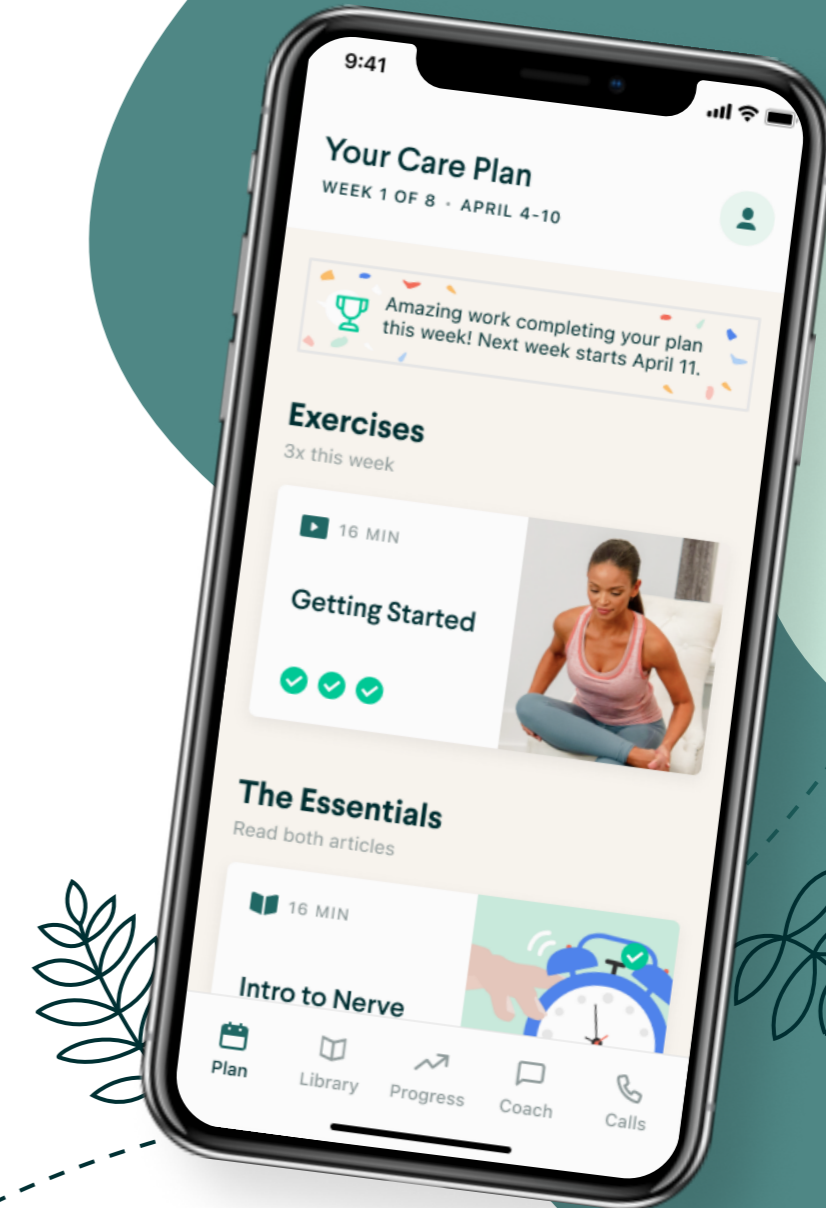
Biopsychosocial approaches for the successful treatment and management of chronic pain are the gold standard. Unfortunately, multi-disciplinary clinics and pain physicians who employ these approaches are not always easily accessible, nor affordable, for most people.

What is needed is a scalable solution that blends the best of interpersonal relationships and social support of coaching with the expertise of the world's leading chronic pain experts into a program that is deployed through a simple technology platform.

Enter Fern Health, a digital health company on a mission to democratize access to the world's leading chronic pain management practices. By combining Fern Health's expert pain coaches with proprietary technology, the evidence-based, multimodal, biopsychosocial program, Fern, can be delivered anywhere. Fern can become the first thought for an employer, a doctor, or an individual when it comes to getting help in fighting this invisible disability.

Chronic pain's damaging effect on individuals' lives and our healthcare system only compounds with time. With so many people living with chronic pain, it is a true public health crisis that urgently needs to be recognized, prioritized, and addressed.

As research, clinical understanding, and public awareness continues to grow, what's clear is that innovative solutions to chronic pain are needed more than ever. It may be that the best opportunity to address chronic pain for the millions who need it is by creating access to multidisciplinary pain care right at home.



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