

A hand holding a pen is positioned over a futuristic digital interface. The interface features several concentric circular patterns with data points and lines, suggesting a high-tech or medical theme. The background is a soft, warm glow, possibly representing a light source or a digital environment. The overall aesthetic is clean, modern, and professional.

Digital Therapeutics: Addressing Employee Musculoskeletal Issues

by | **Nigel Ohrenstein**

Offering workers access to digital therapeutic programs for musculoskeletal issues has the potential to reduce health care costs and improve patient outcomes. What factors should employers and health plan sponsors consider when selecting a vendor?



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An estimated 126.6 million people in the U.S.¹ are affected by a musculoskeletal (MSK) condition—categorized by persistent pain and limitations in mobility, dexterity and overall level of functioning.

For workers, this can make performing even the most minor tasks cumbersome and often insurmountable, which leads to loss of productivity in the workplace. This loss in productivity, paired with an overall decrease in the quality of life for impacted employees, has led to a reported 364 million lost workdays in the last 12 months alone.² It is reported that \$297 billion, or \$2,397 per American adult, is lost in productivity annually due to pain.³

MSK-related costs account for 10% of all health care spending in the U.S.,⁴ and projected employer spending on MSK pain was \$300 billion in 2021.⁵ Treating MSK conditions exceeds the cost of treating every type of cancer combined, according to the Kaiser Family Foundation.⁶

As a result of these ever-spiraling numbers, there is heightened interest in adopting new treatment solutions that can keep costs down while delivering positive clinical outcomes. Digital therapeutics are one such option and have become more attractive as employees become increasingly comfortable with virtual health programs.

Limitations of Standard Approaches to MSK Pain

While MSK pain, especially back pain, is one of the leading causes of physician visits,⁷ it is difficult to receive adequate treatment (pharmaceutical, physical, mental or other) from a single visit.

For those with more acute conditions—such as ruptured/herniated discs, fractures, and injuries to muscles and ligaments—traditional physical therapy (PT), exercise programs, nonsteroidal anti-inflammatory drugs (NSAIDs) and even surgery are all common treatment options. Each has its own limitations that may include a demanding time commitment, high associated costs and no guarantee of a positive clinical outcome.

PT is one of the most common approaches to addressing MSK pain, but it may be challenging for employees to commit to weeks or months of in-person sessions and at-home maintenance between sessions and travel. In addition to lost time for treatment and associated travel, employees often must take additional personal time for pain. Seventy percent of persons reporting lost workdays reported having MSK conditions, according to the United States Bone and Joint Initiative.

Surgeries and medication also have limitations and sometimes should be avoided. Besides the high costs of inpatient surgeries, patients often cannot return to work for four to six weeks or longer if their job is physically strenuous, and it may take months to as long as a year for them to return to full mobility. Patients also may experience lengthy wait lists to receive surgical treatment.

Shifting Consumer Behavior

The onset of the COVID-19 pandemic sped up consumers' desire for increased access to digital health care. Limited availability of in-person provider visits and PT appointments made standard MSK treatment options difficult or nonexistent, and many common

surgeries for MSK conditions were put on hold during the pandemic.

The Department of Health and Human Services reported a 63-fold increase in telehealth utilization during the pandemic.⁸ Parks Associates research found that as of April 2021, 64% of U.S. broadband households had used a telehealth service in the prior 12 months.⁹ And according to Accenture, at least 60% of patients who used virtual care tools during the pandemic want to use technology more for communicating with health care providers and managing their conditions in the future.¹⁰

The pandemic also contributed to a new population of employees dealing with MSK issues (back pain, neck pain, etc.) due to suboptimal working conditions at home—a development that is expected to have an impact on treatment demand and, subsequently, rising employer costs in the years to come. At the same time, people are taking a more active role in engaging in their own health and advocating for more personalized treatment options that align with their unique lifestyle needs, according to McKinsey & Co.¹¹

Using Digital Therapeutics

Nearly 68% of employers are planning to invest in digital health solutions in the next five years, according to a Mercer study.¹² *Digital therapeutics* are evidence-based interventions driven by software programs to prevent and treat medical conditions.

Digital solutions can be leveraged independently or in tandem with medications or devices, like fitness trackers and smartwatches, to improve health outcomes. They can also be used to complement treatment that is concurrently being delivered by a clinician.

For MSK issues, digital therapy can bring physical therapy to users at home and on their own schedule. Through computer vision technology, for example, people can track their prescribed exercises through a smartphone.

In the case of MSK issues specifically, an app alone can't always be relied on to address complexities related to MSK pain, and a complete dependence on physical therapists for the delivery of treatment has its own limitations. By using both methods, clinicians can often deliver better care to more patients, aided by the ability to tap into data and insights to provide more personalized recommendations.

The benefits of incorporating digital therapeutics include the following.

- **Increased access to treatment.** According to Pew Research, 85% of Americans owned a smartphone in 2021. By providing equal opportunity to all smart device users, digital therapeutics can ensure that every patient—regardless of geography, race, gender or age—has the same access to MSK treatments. Further, the 24/7 accessibility of digital programs eliminates the need for users to travel long distances to in-person appointments or to miss work to fit treatment into standard office schedules. This flexibility may better position patients for long-term program adherence and, ultimately, clinical success.
- **Consistent delivery of care, at scale.** Digital therapeutics were never intended to eliminate in-person care—particularly for higher need patients—but rather to complement a physical therapist's or other provider's work by leveraging a combination of technology and artificial intelligence (AI). For example, one app on the market tracks motion points on the patient's body using a smartphone camera. The AI evaluates the patient's movement and further tailors the exercise program. Such apps help generate deeper clinical insights for clinicians and offer additional data points to inform a patient's care plan moving forward. From a patient engagement perspective, digital solutions offer detailed analytics and feedback to empower patients and boost adherence to treatment. For example, another app provides feedback to patients in real time as they perform their exercises to help improve performance. Providers can engage with more patients in less time, with more data available to better inform future care decisions.

takeaways

- Costs related to musculoskeletal (MSK) issues account for 10% of all health care spending in the United States, and employer spending on MSK pain was \$300 billion in 2021.
 - Common treatment methods including physical therapy, exercise programs, nonsteroidal anti-inflammatory drugs (NSAIDs) and surgery have some limitations that present barriers to success.
 - Employer interest in providing digital health solutions is growing. Digital therapeutics are evidence-based interventions driven by software programs to prevent and treat medical conditions.
 - For MSK issues, digital therapy can bring physical therapy to users at home and on their own schedule. Through computer vision technology, for example, people can track their prescribed exercises through a smartphone.
 - Benefits of digital therapeutics for MSK issues include increased access to treatment, more consistent care delivery and the potential for improved clinical outcomes.
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- **Improved clinical outcomes.** To date, a number of randomized clinical trials conducted by independent research organizations and published in peer-reviewed journals have validated the clinical efficacy of digital therapeutics to treat MSK issues when compared with more traditional approaches to care.
 - **Mental health treatment.** According to Mental Health America, mental health conditions are more prominent among patients with back and neck pain than they are for those without.¹³ The stress associated with physical pain can impact productivity at work and keep employees from performing to the best of their ability. Providing digital therapeutics that incorporate stress reduction and mindfulness exercises can positively impact overall clinical outcomes.
 - **More cost-effective.** For employers, corporate-paid MSK treatment spending in 2021 was projected to be at least 31%-45% greater than in 2019,¹⁴ a cost that is expected to grow in the future as issues related to MSK pain continue to play a significant role in workplace performance. MSK digital therapeutics have the potential to deliver results that are at least on par with more traditional treatment offerings and at a lower cost for employees and employers. Employers may also avoid the costs of unnecessary surgeries, associated postoperative recovery, medications and more.

Incorporating a Digital MSK Benefit

Employers in the market for a digital MSK solution must keep several factors in mind during their consideration process.

- **Is the program provided by a standalone vendor or traditional health care provider?** Organizations may prefer a standalone vendor for digital therapeutics that can integrate with traditional health care providers in a health plan network. The program may act as a digital front door, navigating members to the most appropriate point for MSK treatment, whether it is a specific vendor-provided service or referring them to an in-network provider for an in-person PT session.
- **How easy is the product to use?** Requiring additional materials can be a barrier to treatment success. For example, straps, sensors and other equipment can often create barriers that make it difficult for users to access the technology.
- **Is the program multimodal?** Does the offering not only tackle the physical elements of pain but also address the mental elements and provide education to users on why this dual approach is important for lasting pain management?
- **Is the offering clinically validated?** Employers should look for solutions that are based on clinical evidence, which offers an additional level of validation and ensures that patients are receiving care that has proved to have a positive impact.
- **What is the fee structure?** Most programs charge a per employee per month (PMPM) or per active member per month fee. They may also charge enrollment, performance and annual licensing fees.
- **What is the return on investment (ROI)?** Employers should ask providers for guarantees on ROI and find out how they validate these claims.

When Implementing a Digital MSK Benefit, Education Should Be a Priority

Once the vendor selection process is complete, employers will need to educate employees about the benefits of digital

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therapeutics for helping with muscle and joint pain. While digital MSK benefits enhance access to treatment due to their on-demand nature, making certain that every employee is aware of the benefit in the first place is fundamental to the success of the initiative. Companies should ensure employees take advantage of both the digital aspect of the offering as well as the human interactions with coaches or physical therapists who could assist in the care journey. 6

Endnotes

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