



CASE STUDY

How Sword Uses AI to Cut Health Costs for Frontline Workers



Client Profile:

Industry:

Global engineering, construction and project management firm



Number of employees:

50,000+



Annual revenue:

\$15+ billion

Engineering and construction work is physically demanding, putting employees at high risk for musculoskeletal (MSK) disorders such as low back and shoulder pain. In fact, U.S. construction workers may face a higher average risk of incurring an MSK injury **than all other industries combined**.¹

Beyond the physical and mental toll, these injuries are hugely expensive to treat. Annual healthcare spending in the U.S. on MSK disorders has reached at least \$380 billion.² According to the Business Group on Health, the majority of large employers say MSK is consistently among their costliest conditions.

However, there is one highly effective way to cut MSK spend—get employees the help they need early on, before injuries lead to chronic pain and before they resort to expensive interventions such as surgery.

This is exactly how one Fortune 100 company is reducing its expenditures on MSK care. The global engineering, construction and project management firm is deploying Sword Health and the suite of programs in our digital pain care platform to get its employees the care that they need anytime and anywhere. Sword's Thrive program offers first-in-class digital physical therapy. Bloom gives women access to pelvic health therapy and Move helps address low pain and keeps employees moving right to maintain good health.

¹ [Work-related musculoskeletal disorders among construction workers in the United States from 1992 to 2014](#)

² [Health and Economic Outcomes Associated With Musculoskeletal Disorders Attributable to High Body Mass Index in 192 Countries and Territories in 2019](#)

However, it's Sword's Predict program that is driving much of the early savings for this client. Predict is the first AI engine designed to detect and engage the highest risk members to avoid MSK-related procedures and high cost surgeries. Our data reveals that just 4% of the highest cost members account for as much as 80% of MSK spend. Predict identifies these members and takes a high-touch approach to engage them early before they resort to surgery—6 to 8 months before their potential procedure—and before they become high-cost MSK claimants.

This is the power of AI and predictive analysis to disrupt the usual escalation of medical interventions and expenditures that we see in members with MSK pain, especially among those who have chronic pain.

Engineering Results:

\$355,000
saved in future MSK spend

\$4,128
saved per enrolled member



A closer look at the cost savings and engagement strategy

In just the first month of implementation, Predict has been able to **identify 3.7% of this client's population as high risk**. These are people who are most likely to utilize high cost procedures and interventions as a way to address their MSK pain.

Sword's Predict team has been able to enroll 13% of these high-risk members. **On average, these enrollees each accounted for \$4,128 in future healthcare MSK spending.**

By encouraging this cohort to sign up for our digital physical therapy program and steering them away from high cost surgery, **Predict stands to save the client approximately \$355,000 in future MSK spending—a big savings number relative to the small number of members identified.**

About 56% of these members enrolled by phone through outreach from a team of dedicated concierges focused on engaging and supporting members in an empathic way, reinforcing the effectiveness of our high-touch engagement strategy that doesn't rely solely on traditional digital marketing but with human centered engagement. This is especially important for frontline populations who aren't often sitting in front of computers during the work day.

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About a quarter of the members currently enrolled in the Thrive PT program came through as a result of being identified and engaged by the Predict team. What we're seeing in our data is the ability of Predict to supercharge Thrive's results, allowing Sword to identify even more of the highest risk members and historically underserved populations:

For individuals aged 65 and older, Predict shows

260%

higher rate than Thrive

For the obese population, Predict demonstrates

30%

higher rate than Thrive.

Among African Americans, Predict has

66.7%

higher rate than Thrive

In cases of chronic pain, Predict is

13.75%

higher than Thrive

For individuals with some college education (but no 4-year degree), Predict is

111.76%

higher than Thrive

For those experiencing moderate to high pain, Predict is

25.42%

higher than Thrive

Regarding overall work impairment (moderate to high), Predict is

77.27%

higher than Thrive

For individuals using prescription drugs for pain, Predict shows

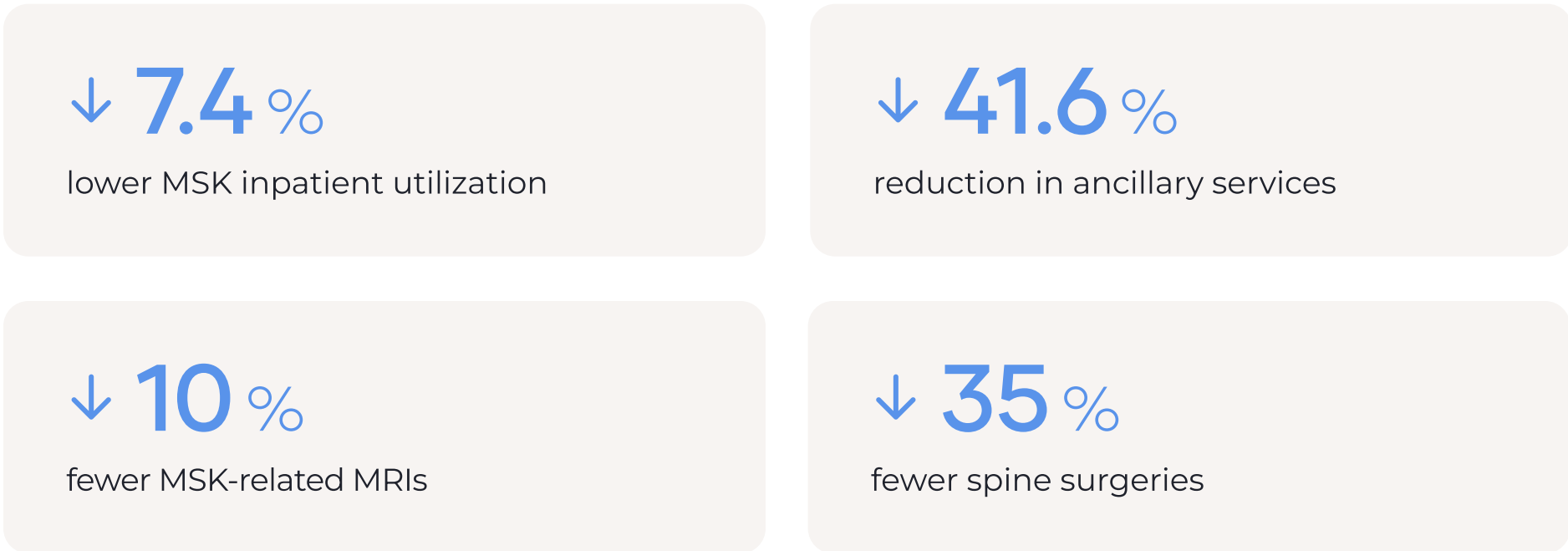
262.79%

higher rate than Thrive

By engaging these high-risk cohorts early and getting them the help they need before their MSK becomes too serious and costly, the client not only improves health equity, it will also see a significant return on investment on its MSK spend with Sword.

Clients that are enrolled in Predict can expect a 3.7x return on investment—making Sword the clear best value in digital MSK care available today.³ In a matched control study looking at members who were considered high risk at the time of enrollment, a Sword analysis found that Predict is able to generate **savings of \$4,402 per member per year.**

The cost savings from Predict is primarily driven by lower spend on expensive treatments like surgery and invasive procedures, with additional savings on office visits, imaging, injections, and other forms of therapy that are frequently overprescribed. The most notable reductions in healthcare utilization include:



³ Sword Predict matched control study

Sword has been shown that our programs can reduce surgery intent by as much as 70%. With the savings on this surgical care and other procedures, the resulting 3.7:1 ROI is unmatched by any digital MSK solution currently available.

Even with its tremendous growth in recent decades, this company's values have remained steadfast. One of these core values is the safety and wellbeing of its people. With Sword and Predict, this client is able to ensure that its people are getting the right treatment at the right time in a convenient way that fits with their lifestyle. At the same time, the company is seeing significant savings on its MSK investment and overall spend on healthcare.

Reach out today to learn how Predict can reduce your MSK spend while improving population's health and wellbeing.



