Reducing Musculoskeletal Cost of Care

AN ANALYSIS OF UPSWING HEALTH'S PILOT WITH THE STATE OF CONNECTICUT HEALTH PLAN

Summary

Upswing Health is a start-up founded by two orthopedic surgeons. Our mission is to address the systemic inefficiency, waste, and patient mismanagement, which results from the current inability to properly assess both acute and chronic MSK injuries and pain presentation in the moment, and at scale.

To address that need, Upswing has developed a platform that integrates a symptom assessment tool with virtual care and is testing it with design partners.

In early 2021, the State of CT Health Plan (SOCHP) instituted a no-cost, no-risk pilot to assess the impact of implementing Upswing on MSK cost - and the utilization of MSK care - over a one-year time period. Out of the total enrolled population of 225,000, during this pilot program, Upswing was only actively marketed to a subset of 25,000 members. This study compared the SOCHP plan members who used Upswing Health against a comparison cohort from the same plan over the same timeframe. The analysis was performed by an independent health benefits and consulting company retained by the SOCHP.

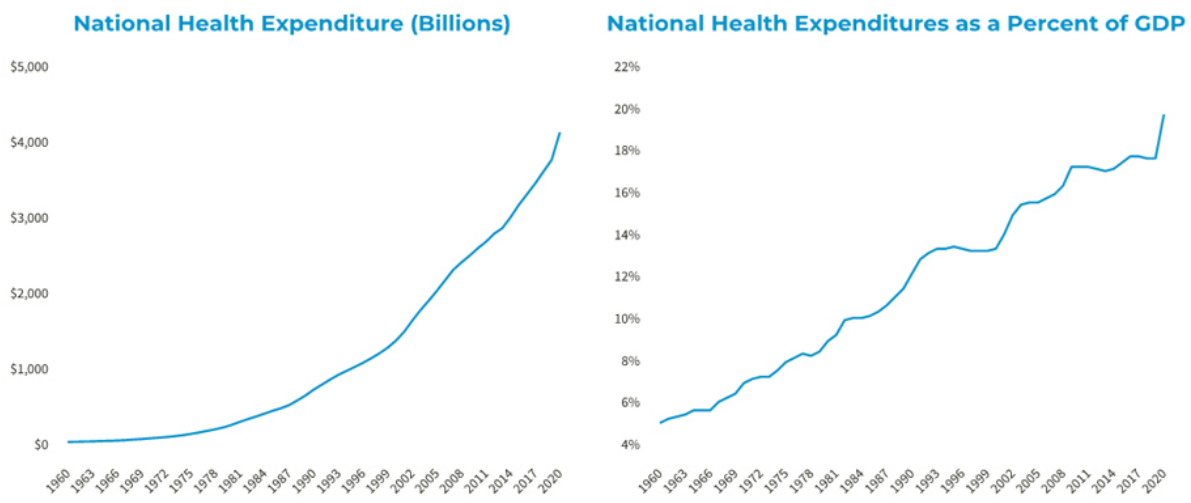
Their analysis found that the Upswing group had a rate of utilization of MSK-related services that was 38% less than the comparison cohort, and that the MSK-related costs of Upswing members were $1,089 less per episode, resulting in a net savings, for this sub-population of the SOCHP, of $467,126.

Furthermore, survey data collected from the Upswing cohort indicated a high level of patient satisfaction, with 74% of Upswing users indicating they would be comfortable using Upswing's virtual providers for their future orthopedic needs. In addition, 59% used Upswing to avoid a visit to an urgent care center or the emergency room, while 46% percent stated they used Upswing to avoid an in-person visit with their primary care physician or orthopedic doctor.

Introduction

Health care spending in the United States has risen significantly over the last two decades, with total spending reaching $4.1 trillion or $12,530 dollars per capita in 2020. These costs now consume an astonishing 19.7% of the National Gross Domestic Product.[1] One of the top three categories of spend is the management of MSK conditions. These costs have doubled over the last decade. For the fourth year in a row, MSK claims remain the fourth leading cause of high-cost claims triggering $90 million dollars of stop-loss claims.[2] The annual direct cost to treat MSK issues is now estimated to approach $300 billion per year and is therefore a major economic burden on the system.[3] These figures do not include the indirect costs related to lost productivity and working days, which are thought to be even greater than the direct costs of care.

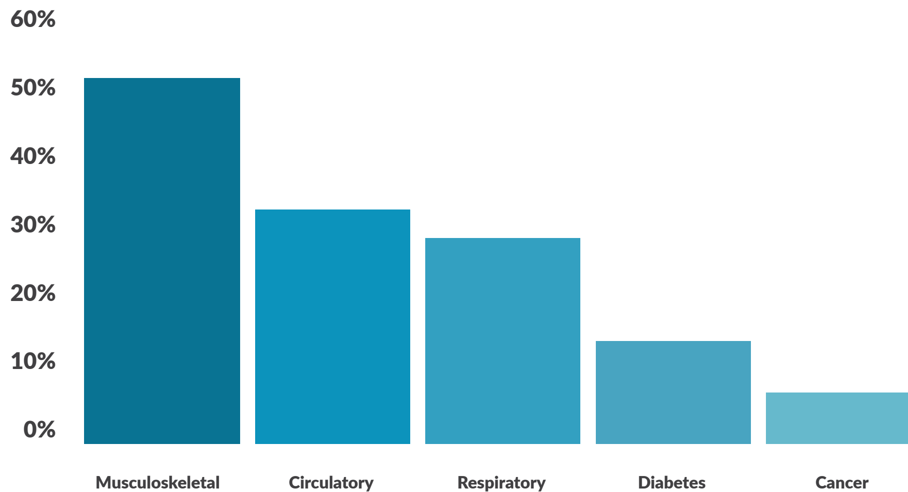
Aggregate National Health Expenditure



SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Bureau of the Census.

1 https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-
2 https://sunlife.showpad.com/share/PLcOKngFE0mMV21fGAPli
3 Reports/NationalHealthExpendData/NationalHealthAccountsHistorical

Proportion of United States Adult Population Reporting Chronic Medical Conditions, 2012



Source: Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2012

Managing MSK conditions, to no surprise, has become a major focus of healthcare purchasers. It is estimated that as much as 30% of the spending on MSK is related to waste, inefficiency, and low value services.[4] The legacy system that has evolved over time is built around an expensive framework, with patients often being placed on a misdirected, costly and low-value pathway from the start. It also places a high priority on specialty care, rather than offering a medically correct decision engine to determine when that care may be necessary.

This has been driven in large part by economics, as the dominant reimbursement model, fee-for-service, promotes over-utilization of services without due accountability. As a result, outcomes are often sub-optimal, and many patients continue to complain of the same issues even after treatment - acute conditions become chronic. This low patient satisfaction leads to further expenditure from frustrated patients that continue to search for solutions.

The Covid-19 pandemic has dramatically accelerated the digital health transformation and in particular, the adoption of virtual care. The opportunity exists, therefore, to innovate the identification and treatment of MSK conditions in a way that addresses the underlying structural issues in the current healthcare delivery system while taking advantage of newfound patient readiness and acceptance of virtual alternatives.

Together, these opportunities brought Upswing to the attention of the SOCHP and were the catalyst for this pilot program.

The purpose of this pilot was to confirm our proposition that introducing Upswing Health to plan beneficiaries would decrease total MSK cost of care, while providing members with a satisfying virtual care experience.

[4] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5384941/

About SOCHP

The State of Connecticut health plan (SOCHP) provides benefits for approximately 225,000 members and beneficiaries. SOCHP's total cost of care in 2019, the last year prior to the onset of the pandemic, was $1.2 Billion, where total claims paid specifically on MSK care, exceeded $225 million dollars*.

Under the guidance of the State of Connecticut Comptroller's office, the SOCHP recently instituted several initiatives to reduce costs while improving outcomes. Upswing Health, a virtual MSK management company that reinvents orthopedic care delivery, was one such program.

About Upswing Health

Founded by two orthopedic surgeons dedicated to healthcare value transformation, Upswing is a new paradigm and therefore, a better way to deliver MSK care. As a virtual triage platform, care begins with a web-based symptom assessment tool that replicates a provider interviewing a patient in the office setting. This tool was created with input from twelve clinicians with substantial sub-specialty expertise, using best practices and clinical care guidelines. Based upon the findings of the initial assessment, Upswing then directs patients to the right level of attention starting with a condition-specific self-care program and then engaging with a team of specially trained health coaches and primary care sports medicine physicians.

This creates a new pathway to deliver MSK care with a user-friendly, convenient and personalized approach that puts the patient on the right path from the very moment they have an MSK complaint, and then follows the principles of value-based health care, achieving lower cost and a higher value MSK experience.

In early 2021, SOCHP agreed to launch a no-cost, no-risk pilot with Upswing Health. Upswing Health was given access to a representative cohort of State of Connecticut beneficiaries via webinars, e-mail campaigns, and other outreach efforts to pilot the Upswing platform.

* Note: The per episode savings of $1,089 only includes patients with MSK issues. We point this out because this figure is greater than the $1,000 per member per year that the plan spends on MSK across the entire population (which includes the majority of people who do not have MSK claims in a given year) and we want to avoid confusion.

Methodology

All Upswing Health patient data is stored in a secure, HIPAA-compliant care management platform. For this study, Upswing pulled patient data for the SOCHP patients who had MSK episodes of care that occurred over a 12-month period, beginning shortly after the launch of the pilot in March of 2021 and ending one year later in March of 2022.

Approximately 4,500 new users from the SOCHP came to the Upswing platform seeking advice during this period. Four hundred and sixty-seven then actively engaged with our technology platform and/or health coaches. Of these, 95 were identified by their specific MSK condition and ICD-10 diagnosis code in the plan's claims database. In those cases where an Upswing patient did not have a claim in the database after engagement with Upswing (an additional 64 patients), an ICD-10 diagnosis had to be projected based on our health coach's assessment and the symptom assessment tool's decision-tree logic.

For example, where the health coach assessment indicated a lumbar strain, and the symptom assessment tool provided a differential diagnosis of mechanical or postural low back pain, the ICD-10 diagnosis was estimated as S39.012A, strain of muscle, fascia, and tendon of lower back. Cost data was then extracted related to utilization of MSK healthcare services. Total cost of MSK care (on a claims-paid basis) for these patients during the 12-month study period was compared with that of a cohort of non-Upswing patients matched for the same ICD-10 diagnoses and a similar blend of age and gender demographics. Similarly, the claims data was used to compare utilization of specific services—including doctor visits, imaging, emergency room visits, and surgical procedures—between the Upswing patients and a non-Upswing comparison cohort. The analysis applied the Clinical Classifications Software Refined (CCSR) methodology to map ICD-10 diagnoses into clinically meaningful categories.

The analysis of claims data was performed in two ways, by an independent third-party health benefits and consulting company retained by the SOCHP, and then provided to Upswing. The first analysis only involved the 95 participants who were matched based on known diagnoses (members with a known ICD-10 diagnosis), whereas the second analysis involved the 159 participants with either known or projected ICD-10 diagnoses (members with known plus projected diagnoses). The results shown below are of the total population of 159 participants, including those with known and projected diagnoses.

MSK-related claims were included in the cost analysis only for services received after a patients' first encounter with Upswing. Claims for the comparison cohort were adjusted, so the exposure period per claim was the same. For example, if a non-Upswing matched participant had 12 months of experience for a given claim but the Upswing participant only had four months after their initial encounter with Upswing, the non-participant's claim was adjusted to reflect four months of care.

Lastly, in an effort to understand our impact from both, a qualitative and quantitative perspective, we surveyed the Upswing cohort to gather information that we were unable to collect during the course of the patients' care episodes. This survey asked four simple questions related to avoidance of unnecessary office, urgent care or emergency room visits, and the patient experience.

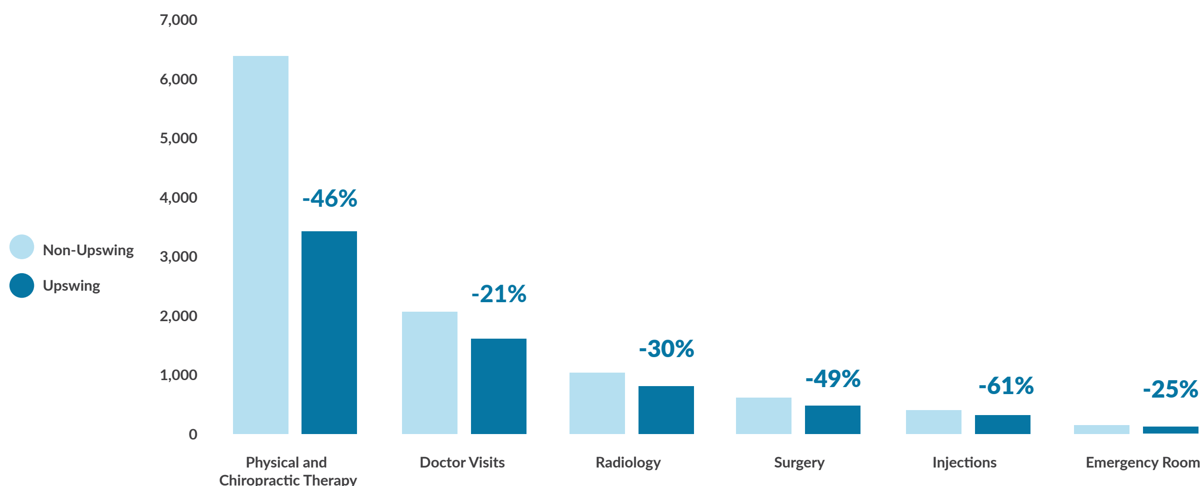
Results

In this pilot study, 467 members were actively engaged with our technology platform and/or health coaches, and of those, 159 members were available for follow-up. This group of Upswing users was matched with a cohort of non-Upswing users matched for similar demographic factors and ICD-10 codes.

The Upswing group had fewer surgical procedures (49% less), utilized fewer physician visits (21% less), physical therapy visits (46% less), injections (61% less), emergency room visits (25% less), and radiologic procedures (30% less), than the non-Upswing group. Overall, the rate of utilization of MSK services was reduced by 38%.

Upswing Participants vs. Comparison Cohort

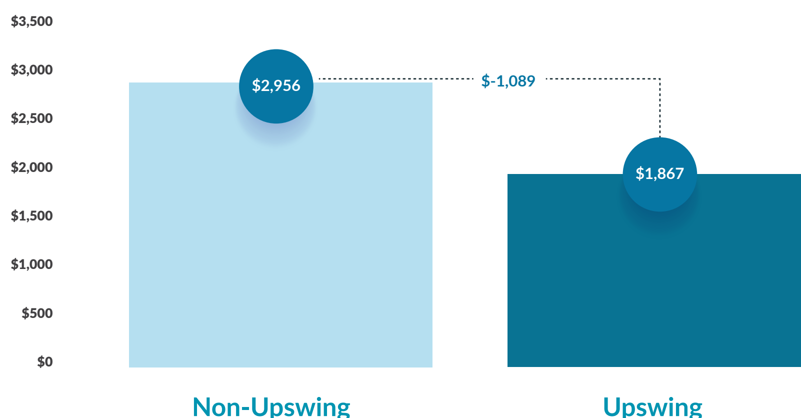
Total visit count per 1,000



In this analysis, when comparing the Upswing group to the non-Upswing group, the net results of this reduced utilization was a 37% reduction in average cost of care, or $1,089 savings per MSK episode. By implementing this program, the State of Connecticut saved $467,126.

Upswing Participants vs. Comparison Cohort

Total Claims Paid Per Participant



Our user surveys also yielded important and insightful information; 46% used Upswing to avoid an in-person visit with their primary care physician or orthopedic doctor, while 59% used Upswing to avoid a visit to an urgent care center or the emergency room.

Discussion

Upswing's pilot with the State of Connecticut Health Plan demonstrated the economic value of Upswing's virtual MSK platform, as well as the related reduction in patient time spent seeking unnecessary care and related productivity losses.

Data shows that approximately one third of any population will have an MSK issue during any given year. The State of Connecticut Health plan covers approximately 225,000 members and beneficiaries, therefore an estimated 67,500 per year would be expected to have an MSK issue. This pilot suggests that if Upswing were available to the entire population covered by the State of Connecticut Health Plan, and even if only 10% of employees used the platform, the State would still realize a savings of over $6 million per year.

Another way to predict potential savings would be to utilize a total cost of care analysis. The State of Connecticut Health Plan spends $225 million per year on MSK conditions. If each traditional MSK interaction was replaced by Upswing, the projected cost savings would be $92.5 million. If only 10% of the members used Upswing, the savings would then be in excess of $9 million.

Based on the results of this pilot, the economic value to the SOCHP is irrefutable with the ultimate opportunity dependent upon member utilization. As such, the SOCHP might consider utilizing the well-established principles of behavioral psychology and other aspects of "nudge theory" to incentivize employees to choose Upswing. For example, it could offer one

additional paid sick day to move that theoretical utilization number up. The economics would still be strongly favorable; other innovations could be tested along these lines.

In this pilot study, Upswing's patients indicated they were highly satisfied with the technology platform and services with 74% of Upswing users reporting they would be comfortable using Upswing's virtual providers for their future orthopedic needs.

This pilot study has the expected limitations from a test with this scale. First, this was a small sample of the total number of SOCHP members; the number of cases analyzed is below the standard threshold typically used for credibility in similar studies. Second, not all of the Upswing patients had a defined ICD-10 code and therefore one had to be selected based on their reported condition from our symptom assessment tool. Third, to fully understand the clinical outcomes related to the Upswing platform, condition specific patient-reported outcomes measures would need to be captured. Finally, the results are subject to the general restrictions of a retrospective evaluation.

Nonetheless, the data was analyzed and presented to Upswing by an unbiased independent third party under contract by the SOCHP. Prospective studies with larger samples are needed to confirm these preliminary conclusions. Further studies will also place a larger emphasis on longer-term clinical outcomes – beyond the more immediate treatment implications - which were not included in this study.

In summary, Upswing Health unambiguously creates patient-centered sustainable healthcare value by launching patients on the optimal care path to recovery from the start - and by filtering out unnecessary and low-value MSK services. By introducing Upswing, the State of Connecticut Health Plan realized significant cost savings while providing its members with a convenient and highly effective virtual healthcare experience.