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The Influence of Patient Choice of First Provider on Costs and Outcomes: Analysis From a Physical Therapy Patient Registry

STUDY DESIGN: Retrospective study.

BACKGROUND: Alternative models of care that allow patients to choose direct access to physical therapy have shown promise in terms of cost reduction for neck and back pain. However, real-world exploration within the US health care system is notably limited.

OBJECTIVES: To compare total claims paid and patient outcomes for patients with neck and back pain who received physical therapy intervention via direct access versus medical referral.

METHODS: Data were accessed for patients seeking care for neck or back pain (n = 603) between 2012 and 2014, who chose to begin care either through traditional medical referral or direct access to a physical therapy–led spine management program. All patients received a standardized, pragmatic physical therapy approach, with patient-reported measures of pain and disability assessed before and after treatment. Patient demographics and outcomes data were obtained from the medical center patient registry and combined with total claims paid calculated for the year after the index claim. Linear mixed-effects modeling was used to analyze group differences in pain and disability, visits/time, and annualized costs.

RESULTS: Patients who chose to enter care via the direct-access physical therapy–led spine management program displayed significantly lower total costs (mean difference, $1543; 95% confidence interval: $51, $3028; $P = .04$) than those who chose traditional medical referral. Patients in both groups showed clinically important improvements in pain and disability, which were similar between groups ($P>.05$).

CONCLUSION: The initial patient choice to begin care with a physical therapist for back or neck pain resulted in lower cost of care over the next year, while resulting in similar improvements in patient outcomes at discharge from physical therapy. These findings add to the emerging literature suggesting that patients' choice to access physical therapy through direct access may be associated with lower health care expenditures for patients with neck and back pain.

LEVEL OF EVIDENCE: Economic and decision analyses, level 4. *J Orthop Sports Phys Ther 2018;48(2):63-71. Epub 26 Oct 2017. doi:10.2519/jospt.2018.7423*

KEY WORDS: *alternative payment model, direct access, low back pain, neck pain*

Neck and back pain conditions are common in general medical practice, are associated with notable morbidity, and are the first and fourth conditions, respectively, leading to the greatest number of years lived with disability.[16,23,35] Approximately $85 billion are spent annually on spine-oriented conditions,[32] and an additional $10 to $20 billion are attributed to economic losses in productivity each year.[13] Per-patient costs have increased by 49% from 1997 to 2006, with outpatient expenditures showing the greatest increases.[33] From 1997 to 2005, the total estimated expenditures among respondents with spine problems increased by 65%, a higher rate than other non–spine-related health expenditures. Despite the rising costs, there has been no real improvement in terms of disability or reduction in the proportions of individuals who report back or neck pain.[2] The estimated proportion of persons with back or neck problems who self-report physical functioning limitations increased from 20.7% to 24.7% from 1997 to 2005, suggesting that current care models may be insufficient.[32]

This lack of notable improvement in patient outcomes and health expenditures may be due to the type and timing of care provided. First, practitioners commonly use treatment methods that provide nominal to no effect toward recovery and approaches that have been shown to be ineffective or, at best, marginally effective in recovery from spine-related pain.[24,47] Second, poor or delayed access to appropriate care may adversely impact resolution of spine conditions.[25] Traditional health care processes associated with treatment

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of spine conditions in the United States often involve screening by a primary care medical physician. Clinical practice guidelines for primary care management of spinal conditions generally suggest initial management strategies of self-care and nonsteroidal anti-inflammatory medications. Referral to specialists, including physical therapists, or for diagnostic imaging is only encouraged for those who fail to respond after a period of watchful waiting.[9,10] Recommended best practices based on such clinical practice guidelines are to avoid bed rest, to use opioid medications for a limited time, and to obtain magnetic resonance imaging only for specific presentation of radicular symptoms.[11,39,42] However, the delivery of inappropriate treatments remains a common occurrence in traditional medical care models.[3,18] In contrast, alternative care models offering direct access (the ability to seek and receive the examination, evaluation, and intervention by a physical therapist without requiring physician referral for legal or insurance coverage) to physical therapy have suggested fewer days of care and lower costs.[4,7,22] These savings are thought to be due to quicker initiation of physical therapy and matching of active treatment strategies to patient presentation.[3,9,10,18,25]

Direct access to physical therapy has been proposed as a potential care model that would favorably impact the outcomes and costs associated with back and neck pain.[4,30,34,38,45] While all 50 states allow some form of direct access to physical therapy, barriers remain, including hospital and care organization policies, insurance coverage, and patient education.[4,36] However, value-based payment initiatives designed to provide patients the right care at the right time, while avoiding unnecessary duplication of services and preventing medical errors, are gaining ground.[40,41]

At present, there is little evidence on the influence that direct access to physical therapy may have on the cost-effectiveness and clinical outcomes in a real-world medical model for back or neck pain. Thus, the objective of this study was to compare patient outcomes and annualized total cost for patients with back and neck pain who had the option to choose either (1) direct access or (2) traditional medical referral to a physical therapy–led spine management program. We hypothesized that we would observe differences in cost but similar outcomes across patients seeking care for spine-related pain and disability.

METHODS

Reporting Guidelines

This study followed the REporting of studies Conducted using Observational Routinely collected Data (RECORD) initiative.[1] Key elements of the RECORD initiative include an explanation of merging of databases, appropriate description of codes used in the study, information on data cleaning and methods of data removal, and eligibility of data, including how data were retained and analyzed for applicability.[29]

Study Design

The study was a retrospective, nonrandomized, comparative analysis between consecutive patients who began and completed their physical therapy episode of care between January 1, 2012 and December 31, 2013, and between those who chose direct access to physical therapy and those who chose traditional medical care and then were referred to a physical therapy–led spine management program. Baseline patient and clinical data were extracted from the ATI Patient Outcomes Registry, which is registered with ClinicalTrials.gov (NCT02285868) and the US Department of Health and Human Services Agency for Healthcare Research and Quality in the Registry of Patient Registries (2608). Total claims paid were provided by a third-party aggregator from BlueCross BlueShield of South Carolina. The study was approved by the Institutional Review Board of Greenville Health System (GHS), Greenville, SC.

Clinical Program

Beginning in 2012, a private physical therapy organization partnered with GHS and Steadman Hawkins Clinic of the Carolinas to create a back and neck care delivery program designed to offer alternative opportunities to access treatment for back and neck pain. The program offered adult beneficiaries (those 18 years of age and older) with low back– or neck-related complaints the alternative option to choose physical therapy as their first line of treatment, in contrast to the traditional model of first being seen by a primary care physician. The plan encouraged patients to access physical therapy services earlier than traditional options in their episode of care via health plan communications. Under this program, plan benefits for physical therapy, whether received through direct access or medical referral, were the same. Access to this program was through 1 of 8 clinics colocated within GHS-Steadman Hawkins clinics throughout a 3-county region in the greater Greenville metropolitan area.

Patient Choice to Access Care

All GHS employees and adult dependents (aged 18 years and older) were eligible for the program. All patients who chose to participate in the back and neck program accessed care in the physical therapy–first model or via traditional medical referral at 1 of 8 physical therapy clinics. Participation in the back and neck program required utilization of physical therapy from 1 of these 8 clinics. The pilot back and neck program provided no limitation for severity, duration of symptoms, or type of symptoms. The program was highlighted in the benefit materials as well as marketed via the employer's internal website, e-mails, flyers, internal newsletters, and department meetings.

Treatment Procedures

Physical therapy for this program was provided across the 8 select clinics in Greenville, SC by a team of trained physical therapists. Prior to the initiation of the program, a 1-day training session was

conducted with all participating physical therapists. Training emphasized medical screening, treatment-based classification, clinical practice guidelines for neck and back pain, and clinical progression of the program (**FIGURE**).[5,6,14,20]

Patients were screened for appropriateness of physical therapy intervention by a standardized intake questionnaire. If patients presented with unexplained red flag findings, an on-site physician was consulted for clearance or determination of further medical management. Once deemed appropriate, patients were treated with active procedures, including spinal manipulation, therapeutic exercise, and patient education, based on recently advocated guidelines.[5,14] Training included criteria for progression in an effort to identify nonresponders, using a benchmark of 50% improvement (change from baseline to follow-up) within 6 treatment sessions on the primary disability measures (Oswestry Disability Index [ODI] and/or Neck Disability Index [NDI]). Patients who continued to demonstrate the benchmark improvement (50% reduction) could be approved for 6 more treatment sessions, up to a total of 18. If patients failed to meet a 50% improvement benchmark after 12 treatment sessions or were not satisfied with their progression, a consultation with a senior physical therapist and fellowship-trained spine surgeon or physical medicine and rehabilitation physician was scheduled to determine the need for further medical treatment. Based on this consultation, a medical plan was recommended that may have included further imaging, injections, surgery, or referral to pain management. On rare occasions, patients were seen for physical therapy and pain management beyond the 18th visit (less than 2% of cases).

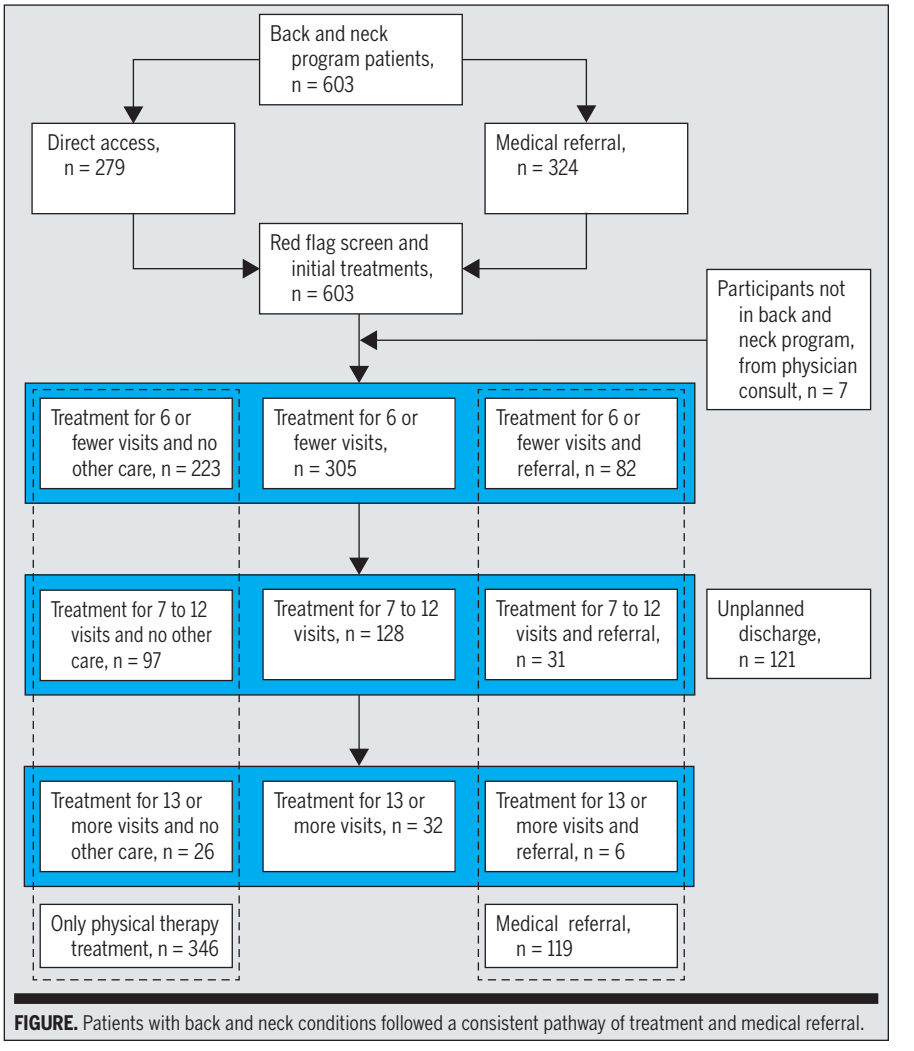

FIGURE. Patients with back and neck conditions followed a consistent pathway of treatment and medical referral.

Patient Measures

Patients completed baseline descriptive information and self-reported outcome measures for pain (numeric pain-rating scale [NPRS]), disability (ODI or NDI), psychosocial features (Patient Health Questionnaire [PHQ-4]), and overall health status (European Quality of Life-5 Dimensions [EQ-5D]) as part of their standard course of care. The descriptive information included primary and secondary diagnosis (categorized as neck, neck and arm, back, back and leg, or widespread), sex, age, duration of symptoms, and pain characteristics (eg, multiregional and/or referred pain), as well as duration of this episode of spine pain.

The NPRS An 11-point (0-10) NPRS was used in the study. The NPRS has demonstrated good reliability and validity, with a minimal clinically important difference (MCID) of 2 points for patients with low back pain[8] and 1.3 points for those with neck pain.[12]

The EQ-5D The EQ-5D is a generic measure of health status that has demonstrated acceptable levels of content validity. It also has moderate to good correlation with the Pain Disability Index, Roland-Morris Disability Questionnaire, and NPRS in patients with chronic low back pain.[27] Additionally, the EQ-5D is recommended for use in cost-effectiveness analyses.[46]

The PHQ-4 The PHQ-4 is a measure of anxiety/depressive symptoms that has demonstrated good association with functional impairment, disability days, and health care use.[28] Scores range from 0 to 12, with higher values representing higher levels of anxiety and depression.

The NDI Raw score values, which range from 0 (no disability) to 50 (totally dis-

abled), for the NDI were captured. The NDI has demonstrated good to excellent reliability and has published MCIDs ranging from 5 to 9.5 points (out of 50) or 10% to 19% from baseline.[12,49]

The ODI Raw score values, which range from 0 (no disability) to 50 (totally disabled), for the ODI were captured. The ODI has demonstrated good reliability and validity and has a reported MCID of 5 points (out of 50) or 10% from baseline.[37]

Follow-up visits allowed systematic capture of outcome measures every 6 treatment sessions and at discharge. Patients were considered off protocol if they did not return for a follow-up treatment session to physical therapy, resulting in an unplanned discharge (n = 83). Patients attending fewer than 6 treatment sessions without a second set of self-reported measures were also considered off protocol and were not included in the analysis (n = 38). These 2 groups of patients represented 121 of 156 patients missing data and were not included in the analyses.

Cost Measures

Total adjudicated claims from BlueCross BlueShield of South Carolina were acquired from Milliman (Seattle, WA), a third-party aggregator, using its health cost guidelines for all patients who participated in the pilot back and neck program from 2012 to 2014. Total costs were calculated for all claims, including medications, imaging, surgery, physical therapy, and any other service approved by BlueCross BlueShield of South Carolina with an associated primary back or neck ICD-9 code. Total costs were annualized for all patients from the index back or neck claim, then summed for the next 365 days. Patients without 1 year of follow-up claims data were not included in the study. Total costs were then summarized and categorized from the provided health cost guidelines into physical therapy, surgical (spine injections, anesthesia, and surgery), radiology, and all other costs.

Data Preparation and Reduction

Patient demographics, self-reported outcomes, and clinical data were merged from the ATI Physical Therapy Patient Outcomes Registry with total claims paid by health economists who were not involved in the data-collection or patient treatment processes. The patients' common medical record number, date of birth, and full name were used to merge the patient outcomes, clinical data, and claims files into a single analytical file. In total, 603 patients participated in the pilot program over the 2-year period, and, of those, 447 had unique total claims and patient outcomes data that allowed for retrospective comparison.

Missing values were analyzed and Little's missing-completely-at-random tests were run for variables with missing values. Complete data were present in 95.4% of all outcome variables. All claims data were 100% complete. The ODI/NDI data presented with 17.7% missing values, and pain data presented with 19% missing values. Little's missing-completely-at-random test resulted in a *P* value of .64, suggesting that the data were missing at random. As such, we elected not to impute data.

Adverse events were tabulated by evaluation of all patients' medical charts and confirmed by claims review, including

TABLE 1 Patients Removed From the Data Set and Those Included in the Final Analysis*

Variable	Removed (n = 156)	Included (n = 447)	*P* Value
Mechanism of referral, n			<.01
Direct access	108	171	
Medical referral	48	276	
Age, y	45.4 ± 11.9	45.9 ± 11.8	.69
Sex, n			.47
Female	117	322	
Male	39	125	
Primary diagnosis, n			<.01
Neck	47	149	
Low back	83	288	
Both	26	10	
Secondary diagnosis, n			<.01
Neck	33	102	
Neck and arm	14	49	
Back	51	186	
Back and leg	31	75	
Widespread	27	33	
Missing	0	2	
Duration of symptoms, n†			<.01
Acute	32	115	
Subacute	13	74	
Chronic	111	258	
Raw baseline ODI/NDI (0-50)	13.4 ± 7.4	13.9 ± 8.3	.51
Baseline EQ-5D (−0.109-1.00)	0.7 ± 0.2	0.7 ± 0.2	.25
Baseline PHQ-4 (depression) (0-6)	1.5 ± 2.1	1.5 ± 2.1	.99
Baseline NPRS (0-10)	5.1 ± 2.4	6.0 ± 2.2	<.01

Abbreviations: EQ-5D, European Quality of Life-5 Dimensions; NDI, Neck Disability Index; NPRS, numeric pain-rating scale; ODI, Oswestry Disability Index; PHQ-4, Patient Health Questionnaire-4.
**Values are mean ± SD unless otherwise indicated.*
†Acute is defined as onset of symptoms within 30 days, subacute is defined as 31 to 180 days since onset of symptoms, and chronic is defined as greater than 180 days since onset of symptoms.

emergency department visits and ICD-9 codes indicating fracture or traumatic injury. We adopted the World Health Organization's definition of an adverse event as "an injury from the medical management, in contrast to complications of the disease."[50] Assessment of adverse events was tallied by the primary author based on postdischarge retrospective chart review.

Data Analysis

All analyses were performed using SPSS Version 23.0 (IBM Corporation, Armonk, NY). Baseline characteristics between the 156 patients removed from the analysis and the 447 who were included were evaluated using *t* tests for continuous measures and chi-square tests for nominal variables (**TABLE 1**). A chi-square test was used to compare proportions of direct access to medical referral across the 8 clinics.

Comparative analysis for self-report, visits, days in care, and claims-related data was performed with linear, mixed-effects models. We used a linear mixed-effects model because it is flexible in analyzing data assumed to be missing at random, it is robust to all forms of covariates, and it can accommodate multiple measures per patient.[48] Group assignment was the fixed-effect variable of interest. For all linear mixed-effects analyses, we included the covariates of age, primary and secondary diagnoses (categorized as neck, neck and arm, back, back and leg, or widespread), and duration of symptoms. Results were reported as estimated marginal means, 95% confidence intervals (CIs), and mean differences.

TABLE 2 Baseline Characteristics of Patients Enrolled in the Pilot Back and Neck Program (n = 447)*

Variable	Full Cohort (n = 447)	Physician Referral (n = 276)	Direct Access to Physical Therapy (n = 171)	*P* Value
Age, y	45.9 ± 11.8	44.9 ± 12.3	47.5 ± 10.8	.02
Sex, n				.67
Female	322	201	121	
Male	125	75	50	
Primary diagnosis, n				.05
Neck	149	99	50	
Low back	288	174	114	
Both	10	3	7	
Secondary diagnosis, n				.04
Neck	102	61	41	
Neck and arm	49	40	9	
Back	186	112	74	
Back and leg	75	46	29	
Widespread	33	16	17	
Missing	2	1	1	
Duration of symptoms, n†				<.01
Acute	115	87	28	
Subacute	74	39	35	
Chronic	258	150	108	
Baseline ODI/NDI (0-50)	13.9 ± 8.3	13.6 ± 8.1	14.3 ± 8.8	.37
Baseline EQ-5D (−0.109-1.00)	0.7 ± 0.2	0.7 ± 0.2	0.7 ± 0.2	.28
Baseline PHQ-4 (depression) (0-6)	1.5 ± 2.1	1.4 ± 2.2	1.5 ± 1.7	.72
Baseline NPRS (0-10)	6.0 ± 2.2	6.0 ± 2.2	5.9 ± 2.2	.42

Abbreviations: EQ-5D, European Quality of Life-5 Dimensions; NDI, Neck Disability Index; NPRS, numeric pain-rating scale; ODI, Oswestry Disability Index; PHQ-4, Patient Health Questionnaire-4.
**Values are mean ± SD unless otherwise indicated.*
†Acute is defined as onset of symptoms within 30 days, subacute is defined as 31 to 180 days since onset of symptoms, and chronic is defined as greater than 180 days since onset of symptoms.

RESULTS

Descriptive Findings

A total of 603 individuals were analyzed for differences between those removed because of unavailable cost (n = 35) or discharge outcomes data (n = 121) and those kept in the data set with outcomes and cost data (n = 447) (**FIGURE**). Patients without complete data were more likely to be seen through direct access (physical therapy first), were more likely to have concurrent neck and low back pain, had a more chronic condition, and reported a lower level of pain (**TABLE 1**).

The majority of the 447 patients included in the analysis chose traditional medical referral (61.7%). Patients who chose traditional medical referral were younger (P = .02), more likely to have acute onset of symptoms (P<.01), and more likely to have widespread pain (P = .04) compared to those who chose direct access to physical therapy (**TABLE 2**). Regardless of how patients accessed the structured physical therapy program, 79% completed the program without further medical referral (**FIGURE**). Overall, patients displayed good clinical improvement in disability (mean improvement from baseline, 54%; 95% CI: 46%, 62%) and pain (mean difference, 4 points; 95% CI: 1, 7 points), with no differences between groups (P>.05). There was no difference in proportion of direct access to medical referral patients across clinics (P>.05) (**TABLE 3**).

Self-Report Health Outcomes, Visits/Care Time, and Cost Analyses

When controlling for baseline factors, patients who chose to access care via direct access to physical therapy, compared to those who chose to access care via medi-

cal referral, did not display any significant differences in self-report outcomes for disability or pain (P>.05). Patients accessing care via physical therapy direct access had significantly fewer physical therapy treatment sessions (P = .04) and days in care (P = .03), and lower physical therapy costs (P<.01), radiology costs (P = .01), other costs (P<.01), and total costs (P = .04). On average, each patient seen through physical therapy direct access cost the third-party payer $1543 less than a patient who accessed care via traditional medical referral (**TABLE 3**).

Adverse Events and Referral to Orthopaedics

Of patients seeking care via direct access, there were 3 patients with signs and symptoms of upper extremity nerve entrapment who were referred to orthopaedics. There were 4 patients with non–spine-related signs and symptoms who were referred to orthopaedics (3 with hip osteoarthritis), and 1 to primary care (ultimate oncology diagnosis). There were no adverse events noted in patients' charts or via claims review that would suggest a missed condition following the initial physical therapy evaluation. Of the 119 patients who received physical therapy and were sent for medical referral, 36 patients did not return to the program: 13 after 6 sessions, 15 after 12 sessions, and 8 after 13 sessions or more. The proportions of patients referred for further orthopaedic consult were similar between those seen through physical therapy direct access and patients seen through medical referral.

DISCUSSION

Our results suggest that patients' initial choice of direct access to physical therapy services through a physical therapy–led spine management program results in less total cost of care with comparable outcomes at discharge. Patients in our study who chose direct access to physical therapy for back or neck pain, compared to traditional medical referral, incurred $1543 less in health care expenses in the year following the start of care. Our results appear to indicate that patients who chose to seek care beginning with physical therapy showed similar improvements in pain and disability, without increased risk, while incurring significantly less annual cost than those who received similar physical therapy treatment but through traditional medical referral. These findings are pragmatic and reflect the impact of patient choice to access care for neck and back pain in a real clinical environment, using total claims paid as provided by a third-party provider who was blinded to the self-report outcomes.

The contrast in cost with comparable outcomes appears to be impacted by the patients' choice of how to access care. Total claims paid were an average of $1543 less per patient for those seen through physical therapy direct access compared to those referred from a physician. This equated to a total claims cost savings of greater than $250 000 in our sample of 171 patients in the direct-access group. It has been estimated that between 1.5% and 36% of individuals in the United States alone experience low back pain on a yearly basis, thus any cost reductions, even small amounts, are considered potentially important.[26] Because both groups received a similar, evidence-based physical therapy model and were treated by the same group of physical therapists, the cost savings likely reflect the change in the health "process" as an independent variable, a finding that deserves further exploration. Our results suggest that the first provider a patient with neck and back pain sees may influence costs over the subsequent year.

Patients in both groups had similar improvement in pain and disability:

TABLE 3 Adjusted Outcomes Data, Visits/Care Time, and Claims Data for the Patients Enrolled in the Pilot Back and Neck Program*

Variable	Mean Referral From Physician (n = 276)†	Mean Direct Access (PT First) (n = 171)†	Mean Difference†	*P* Value
Pain at discharge (NPRS, 0-10)	2.0 (1.7, 2.3)	2.0 (1.6, 2.4)	0.0 (−0.4, 0.5)	.92
Disability at discharge (ODI/NDI, 0-50)	6.1 (5.2, 6.9)	5.6 (4.5, 6.7)	0.5 (−0.6, 1.6)	.40
Total visits, n	7.6 (6.8, 8.3)	6.6 (5.7, 7.5)	0.9 (0.01, 1.9)	.04
Total time in care, d	46.9 (39.7, 54.1)	36.4 (27.4, 45.5)	10.5 (1.0, 20.0)	.03
Physical therapy costs	915 (790, 1040)	655 (499, 812)	260 (97, 422)	<.01
Radiology costs	375 (277, 473)	206 (83, 330)	169 (41, 297)	.01
Surgical and injection costs	1634 (508, 2760)	600 (−813, 2013)	1034 (−434, 2501)	.17
Other costs	96 (74, 118)	43 (15, 71)	53 (24, 82)	<.01
Emergency room costs	61 (20, 102)	37 (−15, 89)	24 (−30, 78)	.38
Total costs	3085 (1939, 4224)	1542 (108, 2976)	1543 (51, 3028)	.04

Abbreviations: NDI, Neck Disability Index; NPRS, numeric pain-rating scale; ODI, Oswestry Disability Index; PT, physical therapist.
**Covariates include age, primary and secondary diagnoses, and duration of symptoms (n = 447).*
†Values in parentheses are 95% confidence interval. All costs are in US dollars.

an average improvement of more than 50% over the course of care. These results were achieved in an average of 7.2 ± 6.7 treatment sessions, which is similar to previously reported values.[21,31] This is interesting, considering the inclusion of patients with chronic pain (61%) and multiregional pain locations (60%) in this study, in contrast to other studies that excluded these patients.[8,21]

Patients undergoing physical therapy via direct access had on average 1 less visit per episode of care and lower physical therapy costs. Additionally, the larger standard deviations for the number of visits, outcomes, and duration of care suggest that patients who entered through medical referral displayed a more varied response to treatment. This may be due to the slight increase in widespread/multiregional pain, as evidenced by greater proportion of secondary diagnoses in the medical referral group (**TABLE 2**). However, these patients' average visits were similar (11) to other patients in the medical referral group.[4,7,22] This suggests that time to care and other unmeasured factors might have impacted the response to treatment.

We observed that patients who accessed care via direct access to physical therapy had fewer visits and days in care. Past studies have emphasized the value associated with early, timely care by a physical therapist.[19] Unfortunately, time to care after initial trigger event was not captured. It is interesting to note the total time in care difference of 10 days between modes of access to physical therapy, especially because the patients seen via the medical referral route had significantly more chronic pain and widespread pain as evidenced by a greater proportion of chronic pain in the medical referral group (**TABLE 2**). These may be important personal preference and expectation factors that influence patients' choice of how to access care as well as their response to treatment, and this should be examined in future studies.[2,17,43,44]

Regardless of the patients' choice of access to care, there were no adverse events, defined as "an injury from the medical management or absence thereof, in contrast to complications of the disease."[50] When patients chose to see a physical therapist first, there were no identified incidents of missed diagnosis or delays in care as a result of physical therapists' clinical decision making. This suggests that physical therapists utilizing a standardized, evidence-based screening questionnaire can adequately determine appropriateness of physical therapist intervention. This is an important finding, as patient safety is often noted as a counterargument to direct access to physical therapy.[15] In fact, 68% of patients with direct access to physical therapy (versus 74% for those accessing through medical referral) had a resolution of their symptoms without further medical referral, suggesting that direct access to physical therapy should be considered as a first-line intervention for acute or chronic onset of back and neck pain. Finally, the lower costs for the patients seen via direct access, who were treated using an evidence-based approach with progression criteria, allay the concerns for the overutilization of physical therapy services without a hard cap on utilization.

Limitations

Although there are many strengths to this study, some limitations remain. The findings are limited by the nature of the program and unmeasured factors related to patient choice of how to access care. Only patients with available outcomes and claims data were analyzed (74%), which might have biased the results to patients who completed their physical therapy care. The nature of the program allowed patients to select their entry point to care. Thus, patients in the direct-access group might have self-selected to the physical therapist–managed care due to unmeasured factors. The baseline factors that were different between groups might have biased health utilization outcomes (younger age, more acute onset, and more widespread pain). We also did not have prior claims data available for included patients, limiting our ability to control for prior health utilization. It is possible that prior utilization influenced the differences between groups and that the observed utilization following the initial care-seeking behavior was a result of the patients' choice in regard to first provider.

CONCLUSION

In this study, patients with back and neck pain who selected direct access to physical therapy incurred significantly less health care costs in the 1-year period following initiation of care. Regardless of point of access to care, on average, patients displayed a greater than 50% decrease in pain and disability, consistent with results of prior studies that a criterion-based and treatment-based classification approach is effective in a generalized cohort of patients with back and neck pain. These results contribute to a growing body of literature that physical therapists provide high-value care for patients with back and neck complaints. The differences observed, at a minimum, suggest that the availability of the choice to pursue direct access to physical therapy for back and neck pain is safe and provides similar outcomes, with cost savings, compared to those of traditional medical referral. These results warrant further research to explore the patient characteristics and factors associated with care-seeking behavior and the resulting costs incurred when seeking medical care for back and neck pain. ◉

KEY POINTS

FINDINGS: The initial choice of a physical therapist via direct access for patients with back and neck pain resulted in lower cost of care over the next year, while yielding similar improvement in patient outcomes.

IMPLICATIONS: Our results add to emerging literature suggesting that direct access to physical therapy may be a more cost-effective approach for neck and/or back pain. Future studies should evaluate patient and clinical factors that influence patients' choice of how to access care for neck and back pain.

CAUTION: This was a retrospective study of germane clinical and claims data from 1 employer and constrained health system, and only represents patients who participated in a standardized physical therapy program.

ACKNOWLEDGMENTS: *This study was funded by the MIT Research Endeavor (MITRE) Corporation. The authors acknowledge the work of Robert Reimer, James Bruder, Kirkland Jones, and Steven George for their contributions to data analysis and review.*

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