Medicaid Health Insurance Status Limits Patient Accessibility to Rehabilitation Services Following ACL Reconstruction Surgery

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Background: In the senior author's (X.L.) orthopaedic sports medicine clinic in the United States (US), patients appear to have difficulty finding physical therapy (PT) practices that accept Medicaid insurance for postoperative rehabilitation.

Purpose: To determine access to PT services for privately insured patients versus those with Medicaid who underwent anterior cruciate ligament (ACL) reconstruction in the largest metropolitan area in the state of Massachusetts, which underwent Medicaid expansion as part of the Affordable Care Act.

Study Design: Cross-sectional study.

Methods: Locations offering PT services were identified through Google, Yelp, and Yellow Pages internet searches. Each practice was contacted and queried about health insurance type accepted (Medicaid [public] vs Blue Cross Blue Shield [private]) for postoperative ACL reconstruction rehabilitation. Additional data collection points included time to first appointment, reason for not accepting insurance, and ability to refer to a location accepting insurance type. Median income and percentage of households living in poverty were also noted through US Census data for the town in which the practice was located.

Results: Of the 157 PT locations identified, contact was made with 139 to achieve a response rate of 88.5%. Overall, 96.4% of practices took private insurance, while 51.8% accepted Medicaid. Among those locations that did not accept Medicaid, only 29% were able to refer to a clinic that would accept it. "No contract" was the most common reason why Medicaid was not accepted (39.4%). Average time to first appointment was 5.8 days for privately insured patients versus 8.4 days for Medicaid patients ($P = .0001$). There was no significant difference between clinic location (town median income or poverty level) and insurance type accepted.

Conclusion: The study results reveal that 43% fewer PT clinics accept Medicaid as compared with private insurance for postoperative ACL reconstruction rehabilitation in a large metropolitan area. Furthermore, Medicaid patients must wait significantly longer for an initial appointment. Access to PT care is still limited despite the expansion of Medicaid insurance coverage to all patients in the state.

Keywords: physical therapy; ACL reconstruction; Medicaid expansion; access to care

The Affordable Care Act (ACA) was formally passed on March 23, 2010, and called for the expansion of Medicaid in all 50 states in the United States (US).[16] In 2012, the expansion of Medicaid was delegated from the government to individual states. In total, 32 states (including the District of Columbia) have adopted the expansion, and 19 have not.[7] The expansion of Medicaid aims to provide health insurance to millions of Americans who previously were uninsured. Access to health insurance, however, does not necessarily ensure access to health care. Previous studies showed that disparities in access to care still exist between Medicaid and privately insured patients.[2,9,12]

In our orthopaedic sports medicine clinic, we have found that it is increasingly difficult for patients with Medicaid insurance to find physical therapy (PT) practices that accept their insurance. As a result, many Medicaid recipients return for follow-up or postoperative visits without having completed any of the prescribed PT protocols and so experience delayed functional improvement as compared with privately insured patients. Pierce et al[10] found that

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TABLE 1
Insurance Type and Access to Physical Therapy Services

	Insurance Type		
	Public	Private	*P* Value
Practices accepting insurance type, n (%)	72 (51.8)	134 (96.4)	.018
Days to be seen, mean (range)	8.4 (0-39)	5.8 (0-21)	.0001
Towns in which the practices were located			
Income level, US$, median (range)	74,772.89 (47,195-159,615)	77,481.31 (47,195-159,615)	.23
Poverty level, % (range)	8.5 (2.4-20.9)	8.9 (2.2-22.6)	.31

privately insured adolescents were 6.43 times more likely to obtain orthopaedic access to care for anterior cruciate ligament (ACL) ruptures as compared with Medicaid patients. This is concerning, as more than 175,000 ACL reconstructions are performed annually,[13] and setting up formal PT sessions right after surgery is important to ensure that proper and quality postoperative rehabilitative care is performed so as to improve functional outcome while minimizing complications.

The purpose of our study was to determine access to PT services for privately insured patients as compared with patients with Medicaid in the largest metropolitan area in the state of Massachusetts, which underwent Medicaid expansion as part of the ACA. We hypothesized that significantly fewer PT locations will accept Medicaid insurance as compared with private insurance carriers and, furthermore, practices that do accept Medicaid insurance will offer appointments with longer wait times after ACL reconstruction surgery.

METHODS

A list of PT locations from Boston, Massachusetts, and towns within the surrounding metropolitan area were identified through Google, Yelp, Yellow Pages, and the American Physical Therapy Association to identify as many clinics as possible while including the same search methods that an actual patient might utilize to find a PT location.[17] A telephone script (see the Appendix) was generated by creating a mock scenario of a patient looking for postoperative rehabilitation after ACL reconstruction with public (Medicaid) or private (Blue Cross Blue Shield) health insurance. Each PT clinic was called twice, once inquiring about rehabilitation with public insurance and the other with private insurance. Two people conducted the mock phone calls, and no clinic was called twice by the same person. Data points were collected and recorded for whether the clinic accepted or denied the aforementioned insurance. The caller then recorded additional information if the insurance type was accepted, including the date of next available appointment and additional fees required with the visit. If the insurance was not accepted, the caller inquired about the reason for not accepting the insurance type and whether the clinic was able to refer the patient to another PT practice. Median household income and percentage of all households living in poverty were collected and noted for each town in which the PT practice was located, based on the 2015 US Census data.[14] All data points were then statistically analyzed.

The primary independent variable analyzed was health insurance type (public [Medicaid] vs private [Blue Cross Blue Shield]). Statistical analysis included comparison of insurance acceptance by PT location. Additional analyses examined differences between insurance types based on additional fees, time to appointment, and median income. Summary statistics were provided for each variable. Continuous variables were analyzed with a Student *t* test. The Mann-Whitney test was used for comparison of medians. Categorical variables were analyzed with a chi-square test. A *P* value of .05 was used to define significance.

RESULTS

Of the 157 PT locations identified, contact was made at 139, thus achieving a response rate of 88.5%. Overall, 96.4% (n = 134) took private insurance, while 51.8% (n = 72) accepted Medicaid ($P = .018$) (Table 1). No PT clinics accepted public insurance only; 62 accepted only private insurance (44.6%), and 5 accepted cash only (3.6%).

Of the clinics accepting both types of insurance, there was a significant difference in mean number of days to first appointment offered between public and private insurance (8.4 vs 5.8, respectively; $P = .0001$). Of the PT clinics that did not accept public insurance, 29% were able to refer the patient to another clinic that would accept it. "No contract" was the most common reason why Medicaid was not accepted (39.4%), followed by inability to provide a reason

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TABLE 2
Reasons Why Medicaid Was Not Accepted at Physical Therapy Practice

	Practices	
	n	%
No contract	26	39.4
Reason unknown	24	34.9
Low reimbursement	9	13.6
Cash only	5	7.6
No computer access	3	4.6
Total	67	100

(34.9%); "low reimbursement" was cited by 13.6% of clinics (Table 2). No significant differences were found between clinics accepting public and private insurance in terms of the median income or poverty level among the clinic locations ($P > .05$).

DISCUSSION

A critical component of the ACA was the expansion of the Medicaid coverage to include individuals with incomes at or below 133% of the poverty level. The percentage of uninsured adults in the US was 18% in 2013. In November 2015, the RAND Corporation reported that since 2013, the number of individuals with insurance coverage had increased by 16.6 million.[1] In early 2016, after the third open enrollment period, roughly 20 million had acquired insurance through the insurance marketplace, Medicaid expansion, or other coverage provisions or by remaining on a parent's plan (ie, young adults). As a result, the uninsured rate has dropped to a low of 9.1% in states that underwent Medicaid expansion.[15] Awareness of coverage limitations is important, as 31 states have accepted the expansion to date. The Commonwealth of Massachusetts passed a health care reform law in 2006 to mandate that every resident in the state have a minimal level of health care insurance coverage. Free health care was also provided to residents with incomes less than 150% the federal poverty level. Additionally, Massachusetts opted in to the federal Medicaid expansion, with the number of uninsured patients decreasing from 9.8% in 2004 to 2.5% in 2016, which is an appropriate representation of what access to care currently looks like under Medicaid expansion.

While the aforementioned numbers are superficially encouraging, access to government-sponsored or public insurance does not equate to access to timely and specialized care. This study provides an evaluation on the availability of rehabilitation services for patients recovering after orthopaedic procedures (ACL reconstruction)—an important aspect of many postoperative recovery plans—after Medicaid expansion took place in our state. The ability of patients to utilize PT services depends on multiple factors, starting with insurance status. Given the recent changes to the structure of the national insurance system, it is important to understand the obstacles encountered by patients beyond simply obtaining baseline coverage.

This study demonstrates that a patient in the Greater Boston area with Medicaid insurance has significantly fewer options to obtain postoperative PT after ACL reconstruction when compared with a similar patient with private insurance. It is clear from these results that there is a significant difference between private and public insurance status in terms of a patient's ability to utilize PT services in the Greater Boston area. Although Medicaid insurance status is typically indicative of patient socioeconomic status, we found that the percentage of practices accepting Medicaid versus private insurance did not vary according to household median income and percentage of residents living in poverty for the town in which the PT practice was located. This means that access to PT services was not more readily available in towns where a larger proportion of residents may depend on Medicaid insurance. Those with public or Medicaid insurance were unable to utilize 48.2% of surveyed clinics—a significant difference compared with those with private insurance, who could utilize almost all of the contacted clinics.

Furthermore, the public insurance used in this study was Massachusetts Medicaid Standard (ie, MassHealth Standard) insurance, which includes benefits for PT visits postsurgery. For patients who have Massachusetts Medicaid Limited (ie, MassHealth Limited) insurance, the senior author (X.L.) found that it is even more difficult for patients to find PT services after surgery as compared with MassHealth Standard. These study findings are supported by prior research, which cites as few as 14% of Medicaid-insured patients as having access to PT services after ACL reconstruction.[10] The overall proportion of practices accepting public insurance appears to have increased since the initiation of the ACA, although the disparity in the availability or access to care is clearly still present despite the expansion of Medicaid in Massachusetts in 2014.

When evaluating patient wait times for accessing PT services after ACL surgery by insurance type, we found that the time to initial appointment was significantly different between the groups, with privately insured patients engaging in rehabilitation services an average of 3 days earlier ($P = .0001$). Ultimately, patients with private insurance were able to access PT services more easily and faster than patients with public insurance. This may be due to the difference in reimbursement between the insurance types, or PT centers may have limited spots available for patients with Medicaid insurance. When preparing patients for ACL surgery, clinicians should consider counseling Medicaid recipients in particular on how to establish a rehabilitation plan—specifically, how to proceed postoperatively given this anticipated barrier to recovery. Perhaps these obstacles are surmountable with adequate preoperative planning by the surgeon or hospital in collaboration with the patient to help secure a postoperative appointment with a physical therapist who is willing to accept Medicaid insurance. Additionally, establishing a home-based exercise program with Medicaid patients who have poor access to PT services may help improve their postoperative outcomes.

The Safe Medicaid Assess and Resources Together (SMART) Act became effective in July 2012, and it allowed for changes, improvements, and efficiencies to enhance Medicaid program integrity. However, with the enactment

of the SMART Act, the number of total PT visits was limited to 20 per year for all outpatient physical, occupational, and speech services for adults aged 21 years or older. To secure more visits postsurgery, a prior approval request must be submitted, which can further delay care. Additionally, in the state of Illinois, the fee schedule used for a physical therapist in outpatient practice allowed only 2 Current Procedural Terminology codes, with the payment of $9.25 per unit of service minus the 3.5% reduction with the SMART Act. This equates to $35.70 for 1 hour of treatment for outpatient PT, which guarantees limited access in the private outpatient setting, as the therapists cannot afford to provide care and sustain their practice at this rate.[6] Although only 14% of the PT facilities listed low reimbursement as the reason for not accepting Medicaid insurance, we suspect that this is the primary reason why the majority of the PT facilities will not see these patients after surgery.

Many studies in the literature within different medical disciplines have shown that patients with Medicaid insurance have higher preoperative comorbidities and are predisposed to higher rates of complication, increased delay of care, and higher rates of mortality after trauma.[3-5,8,11] This study demonstrates that insurance status is important for access to outpatient PT services. Patients with Medicaid insurance are at a baseline disadvantage with their socioeconomic status, which may predispose them to higher complication rates after surgery, possibly because of the lack of resources to complete their routine follow-up care. In addition, owing to the low reimbursement rates, the majority of the patients with Medicaid insurance will have limited access for postoperative PT services, which will also compromise care and, thus, their ultimate postoperative outcome. We believe that having Medicaid insurance is a risk factor for poor outcome because of many factors, including the patient's socioeconomic status, available resources, and access to high-quality care. As such, it is important that future health care reform increase Medicaid reimbursements for both surgeon and PT services to help improve accessibility to care—especially for patients receiving Medicaid insurance, who are already a vulnerable population.

The strengths of this study include the fact that, to our knowledge, no prior research has focused on assessing the availability of PT services after ACL reconstruction in an entire metropolitan area based on insurance status. Additionally, the utilization of commonly trafficked internet resources allows this approach to simulate the manner in which the average patient would seek local PT services. Finally, the PT clinics were blinded to the data collection process by the use of a standardized hypothetical patient scenario, providing exposure to the scheduling process and logic utilized by each practice.

This study had several limitations. The use of a hypothetical patient scenario required improvisation in the face of unique reactions to accommodate the natural variations encountered among practices. In light of this, study coordinators ensured that all pertinent details (insurance status, nature of surgery, date of procedure) were delivered over the course of each contact. Many social factors also contribute to a patient's ability to access rehabilitation services, all of which could not be addressed here. The more nuanced aspects of these factors include the possibility that those who are publically insured may be limited in their ability to seek out alternative clinics that are amenable to their insurance plan if they are rejected initially. This study is also not likely applicable to states where Medicaid expansion has not taken place. Additionally, we used the 2015 US Census city/town data to evaluate for median household income and percentage of households living in poverty. However, using the zip codes of areas around the Greater Boston area would be another method of evaluating for patients' socioeconomic status. Future studies should address other states with and without Medicaid expansion to evaluate PT access based on insurance status. We also did not evaluate the distance of the available PT clinic to the patient's residence to see if the limitation of the Medicaid insurance for postoperative PT care resulted in the patients' going to PT clinics that are much farther from home. Finally, the clinical or functional impact of limited and/or delayed access to PT services could not be assessed within the scope of this study.

CONCLUSION

We found that patients' accessibility to rehabilitation services varied per type of health insurance in our large metropolitan area. We also discovered that publically insured patients (Medicaid) have access to 51.8% of PT services, whereas privately insured patients (Blue Cross Blue Shield) have access to 96.4%. Even when both insurance types (private and public) were accepted at a PT center, patients with public insurance had a longer wait time than those with private insurance. Finally, we found no association between the socioeconomic status of the PT location and the percentage of Medicaid insurance accepted there within the Greater Boston metropolitan area.

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APPENDIX

Telephone Script: Physical Therapy Resources and Insurance

Study coordinator (SC): Hello, my name is Xxx. I just had ACL reconstruction surgery 1 week ago, and I saw my orthopaedic surgeon today for my first postoperative visit. My surgeon would like me to start my therapy as soon as possible and I have a PT script with his protocol. I have [MassHealth Standard *or* Blue Cross Blue Shield PPO]; do you take my insurance?

Response: Yes or no [*record*]

If yes . . .
SC: Thank you for this information. When is your next available appointment?
[*Record*] (1) Day you called or (2) day of next available appointment.
SC: Do you charge any additional fees on top of my copay from my insurance?
[*Record*] Amount (in dollars)
SC: I'll have to check my schedule and let you know what date and time work for me to schedule an evaluation.

If no . . .
SC: Why do you not accept my insurance?
[*Record*] Reason (verbatim)
SC: Can you provide me with the contact information of another PT clinic that will take my Medicaid insurance?
[*Record*] Yes or no
SC: Thank you for your time.