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# Does Medicaid expansion improve access to care for the first-time shoulder dislocator?

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**Background:** The purpose of this study was to assess the effect of individual state Medicaid expansion status on access to care for shoulder instability.

**Methods:** Four pairs of Medicaid expanded (Louisiana, Kentucky, Iowa, and Nevada) and unexpanded (Alabama, Virginia, Wisconsin, and Utah) states in similar geographic locations were chosen for the study. Twelve practices from each state were randomly selected from the American Orthopedic Society for Sports Medicine directory, resulting in a sample size of 96 independent sports medicine offices. Each office was called twice to request an appointment for a fictitious 16-year-old first-time shoulder dislocator with either in-state Medicaid insurance or Blue Cross Blue Shield (BCBS) private insurance.

**Results:** A total of 91 physician offices in 8 states were contacted by telephone. An appointment was obtained at 36 (39.6%) offices when calling with Medicaid and at 74 (81.3%) offices when calling with BCBS ($P < .001$). Thirty-five (38.5%) offices were able to make appointments for both types of insurance, 39 (42.9%) for only BCBS, 1 (1.1%) for only Medicaid, and 16 (17.5%) for neither. For Medicaid patients, an appointment was booked in 13 (27.7%) clinics from Medicaid expanded states and in 23 (52.3%) clinics from unexpanded states ($P = .016$).

**Conclusion:** For a first-time shoulder dislocator, access to care is more difficult with Medicaid insurance compared with private insurance. Within Medicaid insurance, access to care is more difficult in Medicaid expanded states compared with unexpanded states. Medicaid patients in unexpanded states are twice as likely as those in expanded states to obtain an appointment.

**Level of evidence:** Survey Study



**Keywords:** Shoulder; Medicaid; health care; access; dislocate; appointment

Traumatic anterior shoulder instability is a common shoulder injury with a 1.7% occurrence rate in the general population and as high as 5% in contact sports.[1,3,4,5] For the first-time dislocator younger than 20 years, the recurrence rate can be as high as 90% without surgery.[1,3,4,5] Recurrence in these patients can lead to greater bone loss and higher rates of failure after surgery. Thus, it is important that these young patients obtain appropriate and timely access to care to discuss management options. Whereas there continues to remain debate about managing the first-time shoulder dislocator, multiple studies have shown that

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those who undergo arthroscopic or open repair have lower recurrence rates and that such treatment is cost-effective.[1,3,9] Unfortunately, previous studies have suggested that patients relying on Medicaid for access to care for rotator cuff tears, anterior cruciate ligament ruptures, and meniscus tears have poor access to care and increased wait times.[2,7,10,12,14]

Medicaid, an insurance program sponsored by the states and the federal government, is designed to provide health care coverage to individuals living under the poverty line. The passage of the Patient Protection and Affordable Care Act (also known as Obamacare) incentivized states to expand eligibility of coverage to all adults with incomes below 138% of the federally determined poverty level.[8] As of June 2018, 34 states (including the District of Columbia) have chosen to accept the expansion of Medicaid eligibility, contributing to a 38% increase in enrollment from September 2013 to March 2018.[8,13] However, it is unclear whether such an expansion has led to improved access to care for Medicaid patients.

Previous studies have demonstrated increased barriers for access to care for Medicaid patients, but there are limited data on access to care in Medicaid expanded vs. unexpanded states.[2,7,10,12,14] These studies were limited to the adult population and analyzed a limited number of states. The purpose of this paper was to evaluate the differences in access to care between Medicaid and private insurance for the first-time shoulder dislocator. In addition, we sought to determine whether access to care was improved for Medicaid patients residing in states that were Medicaid expanded. We hypothesized that Medicaid insurance patients in unexpanded states will have the greatest difficulty in obtaining appointments.

## Methods

The study population included orthopedic surgeons who are members of the American Orthopedic Society for Sports Medicine (AOSSM). Surgeons were chosen from 4 pairs of Medicaid expanded (Louisiana, Kentucky, Iowa, and Nevada) and unexpanded (Alabama, Virginia, Wisconsin, and Utah) states in similar geographic locations. These states were chosen because they represent diverse geographic locations and health care markets and have not been surveyed in previous studies.[10,14] Twelve physicians from each state were randomly selected from the AOSSM directory. We selected 12 surgeons from each state because previous studies indicated that a sample size of >88 surgeons would be sufficient to detect an effect size of at least 0.2 in the acceptance rate of Medicaid vs. private insurance.[14] If a physician was no longer in business or was in practice with someone who was previously contacted, he or she was replaced on the list. This resulted in a list of 96 independent sports medicine offices from 8 different states.

Each office was contacted twice by telephone. During each call, a researcher attempted to make an appointment for a fictitious son with either in-state Medicaid insurance or Blue Cross Blue Shield (BCBS) private insurance. A script (Supplementary Appendix S1) was read describing a 16-year-old football player with a first-time shoulder dislocation. The researcher requested to make an appointment for the child to see a shoulder sports surgeon as soon as possible to discuss surgery. The standardized script was used to limit variation. Repeated calls were conducted 3 weeks after the initial call, by the same researcher, with the only difference being insurance policy type. Appointment with a physician, physician assistant, or nurse practitioner was considered a success.

The time until appointment (if given), information requested, and reason for appointment denial were recorded. The waiting period for an appointment was determined by calculating the number of days between the date of the call and the appointment, excluding weekends and holidays. Once the appointment date was offered, it was considered a success and an actual appointment was not confirmed to avoid disrupting access to care for real patients.

Paired statistical techniques were used to compare data overall and by state Medicaid expansion status. McNemar exact test was used to compare paired categorical data, whereas a nonparametric Wilcoxon signed rank test was used to compare paired wait times to appointment. An $\alpha < .05$ was used to determine statistical significance. Among offices that accepted Medicaid patients, differences were examined in the frequency of barriers using $\chi^2$ tests and Fisher exact tests when sample size was small.

## Results

Between February 2018 and June 2018, a total of 91 offices were called across 8 states (4 states with expanded Medicaid eligibility [Louisiana, Kentucky, Iowa, and Nevada] and 4 states without expanded Medicaid eligibility [Alabama, Virginia, Wisconsin, and Utah]) for a total of 182 calls (91 for Medicaid and 91 for BCBS insurance). Five of the 96 planned calls were not included in the study because of deviation of the conversation from the planned script due to variation in office operations.

The rate of successfully obtaining an appointment across all states was significantly higher for BCBS patients compared with Medicaid patients ($P < .001$). Furthermore, Medicaid patients in expanded states achieved lower rates of appointment success compared with those in unexpanded states ($P = .01$; Table I). These data are further broken down by state in Table II.

Of the expanded states, Kentucky alone had an appointment success rate ≥50% (58%) in the Medicaid category, more than twice that of the next highest, Iowa (25%). On the other hand, Alabama was the only one of the unexpanded states to have a <50% (25%) appointment success rate in the Medicaid category.

Medicaid patients experienced most of the barriers to obtaining an appointment. Insurance status was the most common reason for the inability to schedule an appointment (29.7% not accepted, compared with 1% for BCBS; $P < .001$). In addition, denial due to Medicaid insurance status was more common in states with Medicaid expansion programs (40.4% in expanded states and 18.2% in states without expanded Medicaid eligibility). Other barriers to

**Table I** Appointment success by insurance type and state expansion status

| | Appointment granted | | *P* value |
|---|---|---|---|
| | Medicaid | BCBS | |
| All states | 36 (39.6) | 74 (81.3) | <.001 |
| Expanded | 13 (27.7) | 35 (74.5) | <.001 |
| Unexpanded | 23 (52.3) | 39 (88.6) | <.001 |
| *P* value | .01 | .08 | |

*BCBS*, Blue Cross Blue Shield.
Values are reported as number (%).

**Table II** Percentage of successful appointments by state

| State | Successful Medicaid appointments (%) | Successful BCBS appointments (%) | Offices contacted |
|---|---|---|---|
| Alabama | 25.0 | 75.0 | 12 |
| Virginia | 50.0 | 91.7 | 12 |
| Wisconsin | 50.0 | 90.0 | 10 |
| Utah | 81.8 | 90.9 | 11 |
| Louisiana (expanded) | 8.3 | 75.0 | 12 |
| Kentucky (expanded) | 58.3 | 91.7 | 12 |
| Iowa (expanded) | 25.0 | 50.0 | 12 |
| Nevada (expanded) | 18.2 | 81.8 | 11 |

*BCBS*, Blue Cross Blue Shield.

obtaining an appointment were not having an insurance identification (ICID) number, not having emergency department medical records, and lack of a referral from a primary care physician (PCP). Such barriers are summarized in Table III.

States with Medicaid expansion programs showed a higher rate of appointment denial than those without expansion ($P = .02$). Nineteen offices stated that they did not accept Medicaid in expanded states, whereas 8 offices denied Medicaid in unexpanded states.

For those patients who were able to successfully schedule an appointment, the waiting periods differed by insurance type but not by state expansion status. Overall, Medicaid patients had a median wait time of 3 days for an appointment, whereas BCBS patients waited 2 days ($P = .007$; Table IV).

Physician practice characteristics, such as physician affiliation (private vs. academic) or practice size (solo vs. group), did not demonstrate a significant effect on Medicaid acceptance.

## Discussion

Our study shows that patients with Medicaid insurance face greater difficulty in access to care for shoulder instability compared with those with private insurance. In addition, Medicaid patients are less likely to obtain an appointment in states with Medicaid expansion compared with states without expansion.

Our results are in line with previous studies that demonstrate poor access to care for Medicaid patients compared with patients with private insurance.[6,11] A previous study by Skaggs et al[11] evaluated 50 pediatric offices in California and demonstrated that pediatric fracture patients insured by Medi-Cal were nearly 17 times less likely to receive an appointment within 1 week than a child with private insurance. Iobst et al[6] redid this study in Florida and achieved a similar result, with only 8% of Medicaid patients (compared with 36% of patients insured privately) receiving a timely appointment. A study conducted by Baraga et al[2] showed that anterior cruciate ligament injury was diagnosed at a mean of 14 days after injury for patients with private insurance as opposed to 56 days after injury in those with Medicaid. A study by Patterson et al[10] involving 71 practices within the state of North Carolina stated that private insurance patients were 8.8 times more likely to obtain an appointment for rotator cuff repair. Multiple factors may be associated with such discrepancies, with differences in reimbursement rates between Medicaid and private insurance likely playing the largest role.

In addition to assessing differences between private and Medicaid insurance, we also sought to identify differences for Medicaid patients in states with and without expansion. Two previous studies have investigated the effect of Medicaid expansion on other populations of patients. Wiznia et al[14] evaluated the effect of Medicaid expansion status on ability to obtain an appointment for a 25-year-old with a bucket-handle meniscus tear using 180 offices in 6 states. Their results showed no difference between expanded and unexpanded states in difficulty of obtaining an appointment. In contrast, in a similar study, Kim et al[7] showed increased success in making an appointment in states with expanded Medicaid eligibility for knee arthroscopy. The results of our study contradict the previous studies, demonstrating a decrease in access to care for Medicaid patients in expanded states. Potential reasons for difficulty in obtaining appointments in expanded states could be a reflection of an increased demand on the provider by the increased number of Medicaid patients. Additional regulations and policies requiring PCP referrals and ICIDs also serve as barriers to access to care. Thus, it is important for policy makers to realize that although lowering the threshold for obtaining Medicaid may allow a greater portion of the population to become insured, it may not necessarily lead to improved access to all specialties. Because Medicaid expansion is focused on primary care, it is possible that access to specialty surgical care has suffered. Ultimately, policy makers may need to focus on Medicaid reimbursement rates if they wish to improve access to all types of care.

**Table III** Barriers to care by insurance and expansion status

| Barrier | PCP referral required | | ED record required | | ICID required | |
|---|---|---|---|---|---|---|
| | Medicaid | BCBS | Medicaid | BCBS | Medicaid | Private |
| All states | 8 (8.8) | 0 | 9 (9.9) | 9 (9.9) | 10 (11.0) | 7 (7.7) |
| Expanded | 1 (2.1) | 0 | 7 (14.9) | 6 (12.8) | 7 (14.9) | 5 (10.6) |
| Unexpanded | 7 (15.9) | 0 | 2 (4.5) | 3 (6.8) | 3 (6.8) | 2 (4.5%) |
| | $P = .07$ | | $P = .03$ | | $P = .09$ | |

*PCP*, primary care provider; *ED*, emergency department; *ICID*, insurance identification; *BCBS*, Blue Cross Blue Shield.
Values are reported as number (%).

**Table IV** Waiting period until appointment

| | Median days to appointment | | Wilcoxon signed rank test | N |
|---|---|---|---|---|
| | Medicaid | BCBS | *P* value | |
| All states | 3 | 2 | .01 | 35 |
| Expanded | 3 | 2 | .13 | 12 |
| Not expanded | 3 | 2 | .03 | 23 |

*BCBS*, Blue Cross Blue Shield.

All of the PCP referral requirements occurred in the Medicaid category, and this can largely be explained by Alabama's (an unexpanded state) stipulation that all Medicaid patients be referred to a specialist by their PCP. Six of the 8 PCP referral barrier events occurred in Alabama. These results are in line with previous studies demonstrating increased referral barriers for Medicaid patients. Wiznia et al[14] found that Medicaid patients were more likely to be denied an appointment because of lack of referral compared with patients using private insurance (40.2% vs. 3.7%; $P < .0001$), and Patterson et al[10] had similar results, reporting 33% of their barriers as referral barriers.

## Limitations

This study is not without limitations. Our sample size was limited. Offices were located in 8 states, and only about 12 offices were surveyed from each state. Furthermore, half of these states were located in the southern United States because the majority of unexpanded states are geographically clustered in this area. Another limitation is the lack of documentation regarding an appointment with a medical doctor vs. a nurse practitioner or a physician's assistant. Nonetheless, we defined appointment success as access to care regardless of the type of practitioner. Finally, it can be debated whether lack of an ICID number or PCP referral is a barrier. Nonetheless, we thought that these were realistic barriers that patients do face, which is in line with the definition used by previous studies.[2,7,10,12,14]

## Conclusion

For the young athlete who is a first-time shoulder dislocator, access to care is more difficult with Medicaid insurance compared with BCBS private insurance. Within Medicaid insurance, access to care is more difficult in Medicaid expanded states compared with unexpanded states. Medicaid patients in unexpanded states are twice as likely to obtain an appointment than those in expanded states.

## Disclaimer

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## Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jse.2019.07.008.

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