



Access to outpatient care for adult rotator cuff patients with private insurance versus Medicaid in North Carolina

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Background: Access to orthopaedic care for pediatric patients has been shown in previous studies to be decreased for patients with Medicaid compared with those with private insurance. The relationship between type of insurance and access to care for adult patients with acute rotator cuff tears has not yet been examined. This study aimed to determine if type of health insurance would have an impact on access to care for an adult patient with an acute rotator cuff tear.

Methods: Seventy-one orthopaedic surgery practices within the state of North Carolina were randomly selected and contacted on 2 different occasions separated by 3 weeks. The practices were presented with an appointment request for a fictitious 42-year-old man with an acute rotator cuff tear. Insurance status was reported as Medicaid for the first call and as private insurance during the second call.

Results: Of the 71 practices contacted, 51 (72%) offered the patient with Medicaid an appointment, whereas 68 (96%) offered the patient with private insurance an appointment. The difference in these rates was statistically significant ($P < .001$). The likelihood of patients with private insurance obtaining an appointment was 8.8 times higher than that of patients with Medicaid (95% CI: 2.5, 31.5).

Conclusion: For patients with acute rotator cuff tears, access to care is decreased for those with Medicaid compared with those with private insurance. Patients with private insurance are 8.8 times more likely than those with Medicaid to obtain an appointment.

Level of evidence: Basic Science, Survey Study.

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Keywords: Rotator cuff tear; Medicaid; health care access; Affordable Care Act

With the recent passage of the Patient Protection and Affordable Care Act of 2010 (PPACA), a large number of newly insured patients may increase the demand for orthopaedic care. It is projected that the number of patients insured by Medicaid will increase dramatically as a result

of the PPACA.⁷ The expansion of Medicaid has the potential to increase coverage to an additional 15.1 million new Medicaid recipients throughout the United States.^{12,13} This number may turn out to be lower than expected as 13 states, including North Carolina, are expected to decline the option to expand their Medicaid coverage.¹¹

Disparities in access to orthopaedic care based on patient insurance status have been illustrated in both pediatric and adult populations. Skaggs et al¹⁸ found that a fictitious 10-year-old patient with California-issued Medicaid (MediCal) was significantly less likely to obtain an

The University of North Carolina Institutional Review Board granted this study exempt status. Study number: 12-1513.

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outpatient orthopaedic appointment for treatment of a forearm fracture compared with a patient with private insurance. In their study, a 10-year-old patient with a forearm fracture with private insurance was able to obtain an appointment 100% of the time, whereas the patient with MediCal was able to obtain an appointment only 2% of the time. Pierce et al.¹⁶ showed a similar trend among adolescents with anterior cruciate ligament tears. In their study, a fictitious 14-year-old Medicaid patient with an anterior cruciate ligament tear was offered an appointment 14% of the time, whereas those with private insurance were offered an appointment 90% of the time. Alosch et al.¹ retrospectively reviewed a national database of hospital discharge records and found that patients with Medicaid were significantly less likely to undergo anterior cervical spine surgery than patients with private insurance or Medicare.

Access to outpatient orthopaedic care for the adult patient with an acute rotator cuff tear has yet to be determined. Although the data on the optimal timing of acute rotator cuff repairs are limited, the majority of the literature on this subject supports early repair for acute large rotator cuff tears. Early literature by Bassett et al.² found that functional outcomes were improved when acute rotator cuff tears were repaired within 3 weeks after shoulder injury. More recently, excellent results have been reported in 77% of patients undergoing repair of acute rotator cuff tears within 3 weeks of injury.¹⁴ Whereas there is no clear consensus for the time frame that constitutes "early repair," previous literature shows improved outcomes for patients with acute rotator cuff tears undergoing repair within 4 months of injury.¹⁵ The literature continues to support operative fixation of full-thickness rotator cuff tears. Multiple studies have shown that patients undergoing arthroscopic rotator cuff repair have improvements in pain, function, and range of motion compared with preoperative status.⁴⁻⁶ The current study was designed to investigate access to care within the state of North Carolina for an adult patient with an operative and time-sensitive orthopaedic injury.

The purpose of this study was to determine if type of health insurance would have an impact on access to outpatient orthopaedic care for an adult patient with an acute rotator cuff tear. We hypothesized that a hypothetical patient with Medicaid would be less likely to receive an outpatient orthopaedic appointment for an acute rotator cuff tear than an identical hypothetical patient with private insurance.

Materials and methods

Within the state of North Carolina, 225 orthopaedic offices were identified by use of yellowpages.com.¹⁰ Searches were performed with the terms "orthopaedic," "orthopaedic surgeon," "orthopedic," and "orthopedic surgeon." This search technique, previously described by Pierce et al.,¹⁶ allowed us to identify every publically listed private and academic orthopaedic practice within

the state of North Carolina. From this list, a random sample of 75 practices was selected by a random number generator. Four of these practices were excluded because, when contacted, they reported that they no longer had an active orthopaedic surgeon on staff or they did not perform shoulder surgery. This left a total of 71 practices for our study sample.

Each of the 71 practices was contacted on 2 occasions separated by 3 weeks. For each call, the practices were read the following script: "My 42-year-old brother fell from a ladder 2 days ago while painting his house, injuring his shoulder. He was seen at an emergency room, an MRI was obtained, and he was diagnosed with a rotator cuff tear. The treating emergency room physician recommended that he see an orthopaedic surgeon within 2 weeks as he will likely require surgery." During the first call, the practice was informed that the patient had North Carolina state-issued Medicaid. For the second call, 3 weeks later, the same script was followed and the practice was told that the patient had private insurance. For each call, the practice responses were recorded as offering an appointment or not offering an appointment. If an appointment was offered, the time until appointment was recorded. Practices offering appointments were categorized as offering an appointment within 2 weeks or offering an appointment at any time point. For practices that did not offer an appointment at any time point, the reason for appointment refusal was recorded, an alternative practice was requested, and the name of that practice was recorded.

Routine descriptive statistics including means and 95% confidence intervals were calculated for the appointment offering data for both the Medicaid and private insurance groups. Appointment offerings between Medicaid and private insurance groups were compared by use of a χ^2 test. Average times to appointments between groups were compared by Student *t* test. An α value of .05 was considered significant.

Results

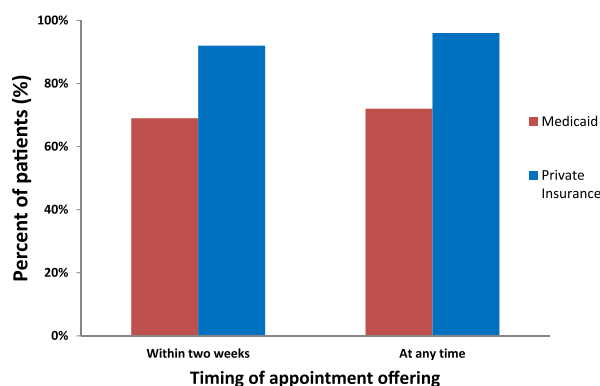
The orthopaedic practices included in this study were contacted on 2 occasions separated by 3 weeks. The hypothetical Medicaid patient was offered an appointment within the following 2 weeks 49 of 71 times (69%). The patient with private insurance was offered an appointment 65 of 71 times (92%) within the requested time frame. The difference in these rates was found to be statistically significant ($P = .001$). The hypothetical patient with Medicaid was offered an appointment outside of this 2-week time frame by 2 additional practices. The patient with private insurance was offered an appointment outside of the requested time frame at 3 additional practices. Of the 71 practices contacted, 51 practices offered a patient with Medicaid an appointment at any time point; 68 practices offered a patient with private insurance an appointment at any time point. Practice responses, for patients offered an appointment within 2 weeks or at any time point, are illustrated in Table I and Figure 1.

Of the 20 practices that did not offer the patient with Medicaid an appointment at any time point, 38% stated that they did not take Medicaid, 33% requested a formal referral from the patient's primary care physician, and 29% would not make an appointment without first reviewing the

Table I Practice responses

	Medicaid	Private insurance	<i>P</i>
Number of offices contacted	N = 71	N = 71	
Number of offices offering appointment at any time point	51 (72%)	68 (96%)	<.001
Appointments offered within 2-week time frame	49 (69%)	65 (92%)	.001

Number and percentages of patients offered an orthopaedic appointment for an acute rotator cuff tear based on insurance status.

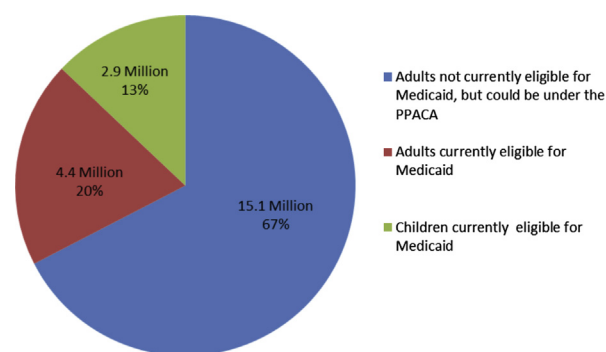
**Figure 1** Percentage of patients receiving appointments.

patient's records from the emergency department. Of the 3 practices that would not offer the patient with private insurance an appointment at any time point, each stated that they needed to review the patient's records from the emergency department before making an appointment. The odds of obtaining an appointment within 2 weeks was higher for patients with private insurance compared with those with Medicaid (odds ratio = 4.9; 95% CI, 1.8, 12.9). Although patients with Medicaid were less likely to obtain an appointment, the average time until appointment was not significantly different between groups, 6.9 days for Medicaid versus 6.2 days for private insurance ($P > .05$).

Discussion

The results from this study confirm that an adult with Medicaid is less likely to obtain outpatient care for acute rotator cuff tears compared with a similar patient with private insurance. Furthermore, this study quantifies this disparity as it relates to patients with acute rotator cuff tears; 96% of patients with private insurance were offered an appointment, whereas only 72% of patients with Medicaid were offered an appointment at any time point. The proportion of practices that did not provide an appointment to a patient with Medicaid was less than previously reported in the literature for pediatric and adolescent patients. However, it is clear that barriers to outpatient orthopaedic care are still present for adult patients with Medicaid.

With the planned implementation of the PPACA, the number of patients covered by Medicaid is expected to increase dramatically. A key component of the PPACA is the

**Figure 2** Increased Medicaid coverage under the Patient Protection and Affordable Care Act. (Reprinted with permission of the Urban Institute.¹²)

potential expansion of Medicaid coverage to individuals with incomes at or below 133% of the poverty level.⁸ The Supreme Court's ruling on the subject declared that the decision to expand Medicaid coverage to this level would be determined by each state.⁹ It is estimated that approximately 22.4 million uninsured individuals would be eligible for Medicaid if all 50 states chose to expand Medicaid coverage to all adults younger than 65 years with incomes at or below 133% of the poverty level. This would be an increase of 15.1 million individuals not currently eligible for Medicaid (Fig. 2).¹² The total number of individuals covered by Medicaid will be somewhat lower than these original estimates as at least 13 states, including North Carolina, have elected not to pursue the Medicaid expansion under the PPACA.¹¹

This study has numerous strengths. The use of a hypothetical scenario to practices blinded to its hypothetical nature for data collection over an unblinded survey allowed the capture of each practice's actual approach to appointment scheduling based on insurance status, not simply the appointment scheduling policy of each practice. In addition, practices were randomly selected from a database generated from yellowpages.com, a likely source used by many patients to identify an orthopaedic practice after an injury.

Our study has some limitations. This study used a hypothetical situation for data collection. There were variations in each office's appointment-making protocol, which led to a variation in how the hypothetical scenario was presented to each office. However, the research team was careful to present all pertinent data, including the patient's insurance status, age, and injury, to each office contacted. More important, there is debate about optimal

treatment and surgical timing strategies in the treatment of rotator cuff tears.^{3,15} Previous literature has documented that full-thickness rotator cuff tears are uncommon in younger middle-aged patients.^{17,20} Early treatment in the surgical management of full-thickness rotator cuff tears is recommended by many authors to decrease the likelihood of cuff retraction and atrophy, which have been shown to have deleterious effects on the results of surgical repair.¹⁴ For these reasons, we selected our hypothetical patient to be relatively young, with a traumatic injury, thinking that this hypothetical patient would meet surgical criteria in the hands of most orthopaedic shoulder surgeons. Another weakness of this study is the relatively small sample size of 75 practices. With a larger sample size representing a more diverse patient population and a larger geographic area, it would be possible to include subgroup analyses investigating other variables that may contribute to the health care disparity for patients with Medicaid. Additional variables of interest that could be investigated in future research endeavors include urban versus rural geographic location, population size, and responses from private practices versus academic centers.

Previous studies have suggested that the discrepancy between Medicaid and private insurance reimbursement rates may play a large role in limiting access to care for patients with Medicaid.¹⁹ To evaluate the difference between Medicaid and private insurance reimbursement rates, we contacted our billing department and requested the reimbursement rates for arthroscopic rotator cuff repair for patients with private insurance and Medicaid. The *Current Procedural Terminology* (CPT) code 29287 was used, and reimbursement rates were average per patient for the fiscal year 2011. We found that on average, the reimbursement was \$2125 for private insurance and \$827 for Medicaid for arthroscopic rotator cuff repair. It is unknown whether this difference in reimbursement rates is the driving force behind the disparity in access to care for patients with rotator cuff tears; however, this disparity should not be ignored when future strategies are developed to increase access to health care for patients with Medicaid.

Overall, the likely increase in Medicaid patients due to the PPACA presents new opportunities and challenges for orthopaedists. Whereas this increased level of coverage for more individuals will likely improve public health efforts, our study indicates that there are barriers to access to orthopaedic care for adults with Medicaid that still need to be addressed. Further public health initiatives that work to increase not only coverage but also access to orthopaedic care will likely help decrease the disparities seen in outpatient orthopaedic care.

Conclusion

Our study indicates that adult patients in North Carolina with acute rotator cuff tears are less likely to obtain

outpatient orthopaedic care compared with similar patients with private insurance. The number of Medicaid recipients is expected to increase dramatically with the implementation of the PPACA. This study provides a baseline assessment of this disparity in access to health care that is likely to be affected as more patients become eligible for Medicaid.

Disclaimer

The authors, their immediate families, and any research foundations with which they are affiliated have not received any financial payments or other benefits from any commercial entity related to the subject of this article.

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