Research

Chiropractic Utilization and Medicaid Coverage for Individuals with Arthritis: Making the Case for More Accessible and Affordable Chiropractic Care

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Abstract

Purpose: Effective utilization of complementary and alternative medicine (CAM) for management of chronic conditions has been steadily increasing over the past decade. Access to provider-based CAM services such as chiropractic is determined, in part, by healthcare coverage. Chiropractic care is covered by Medicaid although the coverage may be limited based upon individual state regulations. The purpose of this study was to evaluate patterns of chiropractic and other healthcare use in the U.S by Medicaid recipients with arthritis, the number one chronic musculoskeletal condition and the leading cause of disability in the U.S.

Methods: Weighted proportions from a nationally representative longitudinal cohort from Panel 13 (n = 18,287) of the Medical Expenditure Panel Survey spanning 2008-2009 were selected for this study to represent healthcare coverage, health status, and healthcare utilization among individuals with arthritis. The population was stratified by self-report physician-diagnosed arthritis, and healthcare coverage status. Chi-square tests were used to compare differences among healthcare coverage and arthritis status to demographics, health status, and healthcare utilization.

Results: Medicaid recipients reported the least utilization of chiropractic services compared to the privately insured and the uninsured ($P < .01$). More Medicaid recipients utilized office-based physician visits, filled prescription drugs, and reported poorer perceived general and mental health than the privately insured ($P < .01$).

Conclusion: Chiropractors need to be aware of the demographics of individuals with chronic conditions receiving Medicaid who may potentially benefit from their services and continue efforts at increasing availability of their services to vulnerable groups through healthcare reform.

Introduction

Between 2009 and 2010, an increase in the poverty rate and a concurrent decrease in household income were observed in the U.S.[1] In addition, an increase in the number of uninsured and a decrease in the percentage of those covered by private insurance were documented.[1] This scenario has contributed to persistent healthcare disparities, especially for individuals with chronic conditions who are either underinsured or uninsured.[2,3]

Arthritis, the number one chronic musculoskeletal condition and the leading cause of disability in the U.S., affects 22% of the population, or 50 million individuals, and is expected to affect nearly 25%, or 67 million individuals, by 2030.[4-6] Management of arthritis for poor individuals without adequate healthcare coverage can lead to poor outcomes and increased disability from reduced access to care.[7] Medicaid, a federal healthcare coverage program available to the poor, has sought to reduce these healthcare disparities by offering mandatory coverage thru the states to groups such as children, parents of eligible children, pregnant women, adults with disabilities, and those who meet federal minimum income standards. [8]

However, many poor individuals remain without healthcare coverage, despite attempts to increase the pool of eligible individuals for Medicaid, by states widening eligibility criteria within the federal standards, creating optional coverage groups. [8,27] Regional variability of Medicaid services provided within the state may further limit access to care under Medicaid if there is inconsistent availability of covered services throughout all regions of the state.[28] Limits on healthcare services such as CAM therapies available to eligible individuals serve as an additional barrier to healthcare to the poor, although the benefits of CAM modalities in promoting healthy behaviors and managing chronic conditions in low-income groups have been observed.[9]

Chiropractic care has been identified as a potential low-cost, efficacious treatment in the management of musculoskeletal disorders.[10,11] However, chiropractic care, which is the most commonly reimbursed CAM service under Medicaid, is available in only 30 states, with varying levels of coverage determined by each state.[12] Barriers to chiropractic care under Medicaid, as shown in other groups with low socioeconomic status, exist for individuals who do not meet the established eligibility criteria for Medicaid or who reside in states that do not provide Medicaid coverage of chiropractic services.[13] In 2002, recommendations from the White House Commission on Complementary and Alternative Medicine Policy to improve access to beneficial CAM services for vulnerable populations stressed better healthcare coverage as a means of alleviating healthcare disparities[14]

Utilization studies of chiropractic by individuals with Medicaid are limited. The purpose of this study was to characterize utilization of chiropractic and other healthcare services by individuals with arthritis receiving Medicaid and to gain a better understanding of the patterns of use in this group. As more research emerges on the benefits of CAM services for low-income individuals with chronic musculoskeletal disorders, it is anticipated that the burden of these diseases may be lessened.

Methods

Data for this study were obtained from the Medical Expenditure Panel Survey (MEPS), a nationally representative annual survey of the U.S. civilian non-institutionalized population. The MEPS is co-sponsored by the Agency for Healthcare Research and Quality and the National Center for Health Statistics and contains detailed data on estimates of health insurance coverage, payment source, healthcare use and expenditures, access to care and quality, health status, and social and demographic characteristics. A single household respondent reports all data for a sampled household, and the survey panel design includes 5 rounds of interviews over 2 full calendar years.

Panel 13 (n = 18,287) of the MEPS spanning 2008-2009 was selected for this study as a nationally representative sample representing healthcare coverage, health status, and healthcare utilization among individuals with arthritis (n = 2653). The population was stratified by self-report physician-diagnosed arthritis and healthcare coverage status. Weighted proportions with standard errors on person-level estimates for demographics, health status, and healthcare utilizations were obtained from the MEPS Panel 13 household component file using STATA 12 software (StataCorp, College Station, TX). To compare differences among healthcare coverage and self-report physician-diagnosed arthritis to demographics, health status, and healthcare utilization, Chi-square tests corrected for complex sampling design were used. P-values and the Rao-Scott F-statistic are reported for comparisons determined to be statistically significant, and a significance level of $P < 0.05$ was used to assess statistical significance. This study met the requirements for exemption from review by the University of Virginia Institutional Review Board-Health Sciences Research.

Results

Demographics

Demographic information is shown in **Table 1**. In this study, females were represented more than males among arthritis sufferers, and more females reported receiving Medicaid than having private insurance or being uninsured. The majority of arthritis sufferers reporting to be uninsured were in the 25-44 and 45-64 age groups, while the majority of sufferers in the 65-85 age group reported receiving Medicaid. Among Blacks, the majority reported receiving Medicaid, while among Whites the majority reported having private insurance. The majority of Hispanics reported being uninsured.

The majority of arthritis sufferers with private insurance reported being married, having obtained higher education levels beyond high school, and having higher incomes. The majority of arthritis sufferers receiving Medicaid reported being divorced, having no educational degree, and being poor, while the majority of the uninsured were married, had a high school diploma, and were middle income. The majority of individuals who resided in a rural area were uninsured, while the majority of non-rural sufferers received Medicaid.

Table 1. Unweighted sample size and weighted proportions with standard errors for *demographic information and health coverage status* for individuals with self-report physician-diagnosed arthritis in 2008-2009. Total unweighted sample size is *N* = 2653.

		Medicaid %(SE)	Private insurance %(SE)	Uninsured %(SE)
Sample size		*n* = 332	*n* = 1174	*n* = 224
Gender	M	28.8(.029)	41.4(.016)	42.0(.043)
	F	71.2(.029)	58.6(.016)	58.0(.043)
Age	0-17	-	-	-
	18-24	1.6(1.3)	.6(.3)	4.2(1.9)
	25-44	16.9(2.5)	15.1(1.5)	26.2(3.5)
	45-64	42.8(3.8)	53.0(1.8)	67.1(4.0)
	65-85	38.8(3.6)	31.2(1.8)	1.1(.8)
Race	White	64.8(3.3)	88.4(1.0)	77.0(4.0)
	Black	23.8(2.8)	7.5(2.3)	13.7(2.9)
	American Indian	1.4(.7)	.6(.3)	5.0(3.0)
	Asian	4.5(1.6)	2.3(.5)	3.1(1.3)
	Native Hawaiian	1.1(.9)	.1(.1)	-
	Multiple	4.4(1.6)	1.0(.3)	1.3(.8)
Ethnicity	Hispanic	16.4(2.8)	4.8(.6)	16.9(2.7)
	Black-non Hispanic	21.5(2.7)	7.5(.8)	13.7(2.9)
	Asian-non Hispanic	4.5(1.6)	2.3(.5)	3.1(1.3)
	Other	57.5(3.9)	85.4(1.1)	66.4(3.7)
Residence*	Rural	15.9(2.5)	18.3(2.1)	22.5(4.1)
	Non-rural	84.1(2.5)	81.8(2.1)	76.9(4.1)
Marital status*	Married	24.8(3.9)	67.2(1.7)	51.2(4.4)
	Widowed	14.7(2.4)	10.3(1.1)	3.6(.4)
	Divorced	34.9(3.7)	12.4(1.2)	17.2(3.4)
	Separated	8.1(1.9)	1.3(.4)	6.3(2.3)
	Never married	17.6(2.6)	8.8(1.0)	21.8(3.5)

Poverty*	Poor	43.8(4.0)	4.2(.8)	22.2(3.2)
	Near poor	14.6(2.5)	2.1(.5)	8.8(2.3)
	Low income	21.0(.1)	9.4(1.1)	24.5(3.9)
	Middle income	16.5(3.1)	30.7(1.7)	30.2(3.8)
	Higher income	4.2(2.0)	54.1(1.9)	14.4(3.1)
Education	No degree	40.6(3.5)	8.0(.8)	25.2(3.5)
	GED	7.8(1.8)	3.5(.6)	9.8(2.8)
	High school	38.6(3.4)	48.5(1.9)	49.6(4.3)
	Bachelors	4.0(1.5)	16.6(1.4)	5.8(1.9)
	Masters	3.2(1.8)	10.2(1.0)	1.7(.9)
	Doctorate	-	2.7(.6)	-
	Other	4.7(1.6)	10.4(.9)	7.9(2.1)

*Data listed are the equivalent of the annual value averaged over 2 years.

Health status

More Medicaid recipients reported comorbidities of diabetes, coronary heart disease, high blood pressure, and cholesterol than individuals receiving private insurance or who were uninsured **(Table 2)**. The majority of Medicaid recipients also reported their perceived general and mental health status as fair or poor compared to individuals with private insurance, the majority of which reported their perceived general health and perceived mental health status as excellent, very good, or good (F=18.5, $P < .01$ and F=18.2, $P < .01$ respectively*)* **(Table 2)**.

Table 2. Unweighted sample size and weighted proportions with standard errors for *health status and healthcare coverage type* for individuals with self-report physician-diagnosed arthritis in 2008-2009. Total unweighted sample size is *N* = 2653.

		Medicaid %(SE)	Private insurance %(SE)	Uninsured %(SE)
Sample size		*n* = 332	*n* = 1174	*n* = 224
Arthritis type*	Rheumatoid arthritis	26.8(3.2)	15.0(1.4)	17.6(3.3)
	Osteoarthritis	29.1(3.4)	38.4(1.7)	23.3(3.9)
	Not specified	44.1(3.4)	46.6(1.9)	59.1(4.5)
Diabetes*	Yes	30.6(2.8)	16.0(1.3)	9.1(2.4)
	No	69.4(2.8)	84.0(1.3)	90.9(2.4)
Coronary heart disease*	Yes	26.7(4.2)	10.2(1.2)	4.9(1.5)
	No	73.4(4.2)	89.9(1.2)	95.2(1.5)
High blood pressure*	Yes	71.5(3.3)	49.8(1.7)	47.6(4.2)
	No	28.1(3.3)	50.3(1.7)	52.3(4.2)
Cholesterol*	Yes	57.1(3.8)	51.5(1.8)	34.7(4.2)
	No	42.9(3.8)	48.5(1.8)	65.4(4.2)
Perceived general health†	Excellent	4.8(1.8)	13.9(1.5)	7.9(2.4)
	Very good	8.9(2.1)	31.4(1.7)	19.1(3.5)
	Good	27.1(3.1)	35.2(1.8)	28.9(3.7)
	Fair	35.6(3.3)	14.6(1.3)	29.3(3.8)
	Poor	23.2(2.9)	4.9(.82)	14.0(3.0)
Perceived mental health†	Excellent	14.3(2.5)	31.4(1.9)	19.8(3.2)
	Very good	16.4(2.7)	32.1(1.7)	24.1(3.5)
	Good	35.9(3.4)	28.3(1.5)	36.5(4.0)
	Fair	23.7(2.9)	6.7(.9)	12.3(2.6)
	Poor	9.3(2.2)	1.4(.4)	6.4(2.2)

All data listed are the equivalent of the annual value average over 2 years for data reported annually* or for 5 rounds for data listed per round†.

Healthcare utilization

More arthritis sufferers with private insurance utilized chiropractors compared to Medicaid recipients or the uninsured. Medicaid recipients reported the least utilization of chiropractic services (F=5.1, *P* <.01) **(Figure 1)**. Medicaid recipients utilized physical or occupational therapy services more than chiropractic services, while the uninsured utilized chiropractic services more than physical or occupational therapy services **(Figures 1, 2)**. Individuals receiving Medicaid utilized office-based physicians and prescription drugs more than individuals on private insurance or the uninsured **(Figures 3, 4)**.

Figure 1: *Chiropractic utilization* and healthcare coverage type for individuals with self-report physician-diagnosed arthritis in 2008-2009.

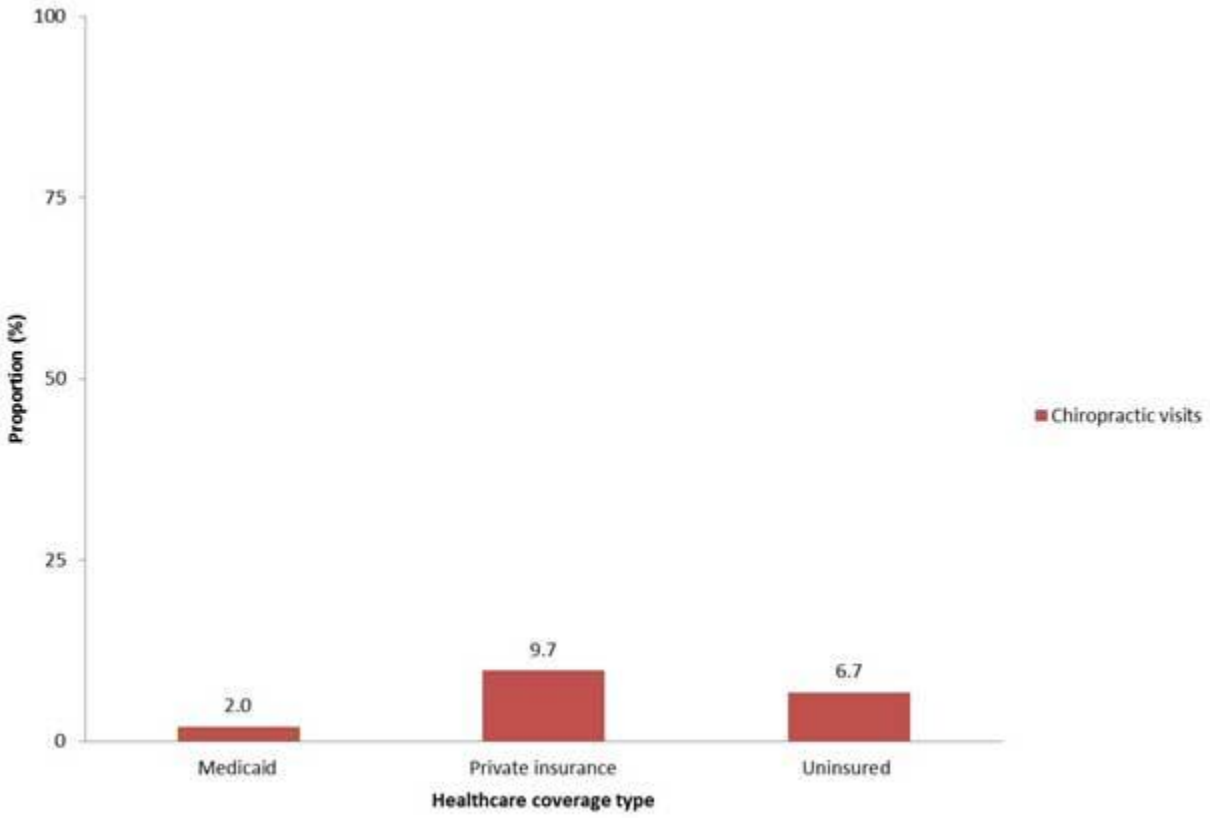

Figure 1: Weighted proportions represent average value over 2 years of annual data.

Figure 2: *Physical/Occupational Therapy utilization* and healthcare coverage type for individuals with self-report physician-diagnosed arthritis in 2008-2009.

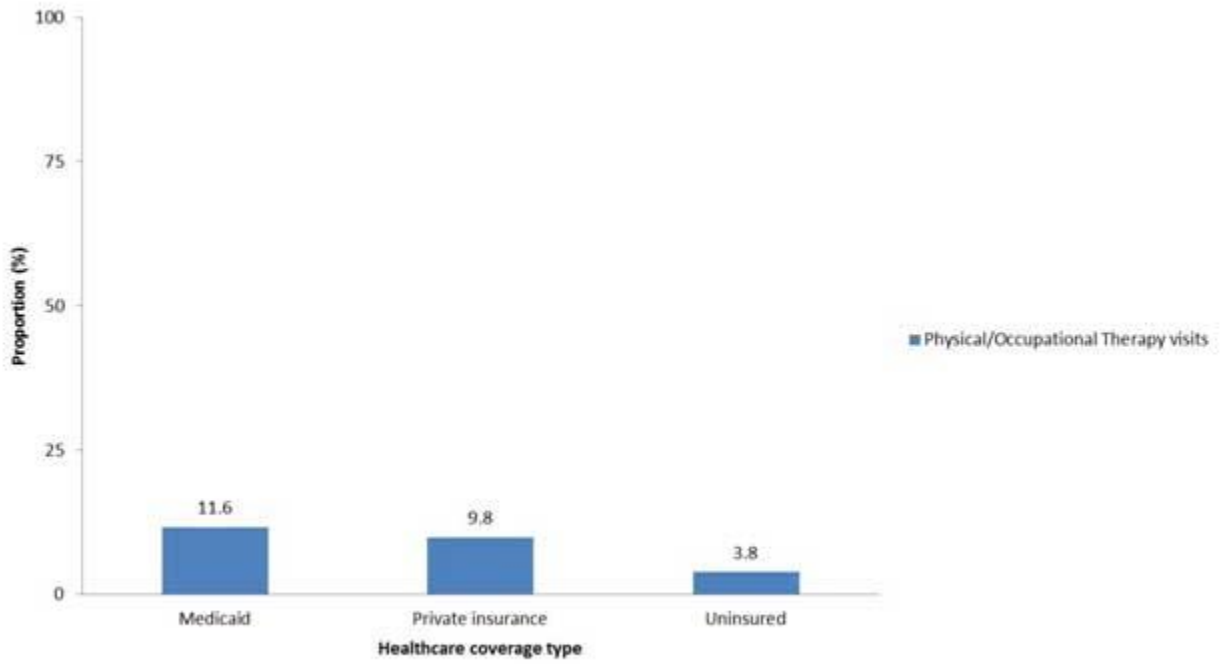

Figure 2: Weighted proportions represent average value over 2 years of annual data.

Figure 3: *Office-based physician utilization* and healthcare coverage type for individuals with self-report physician-diagnosed arthritis in 2008-2009.

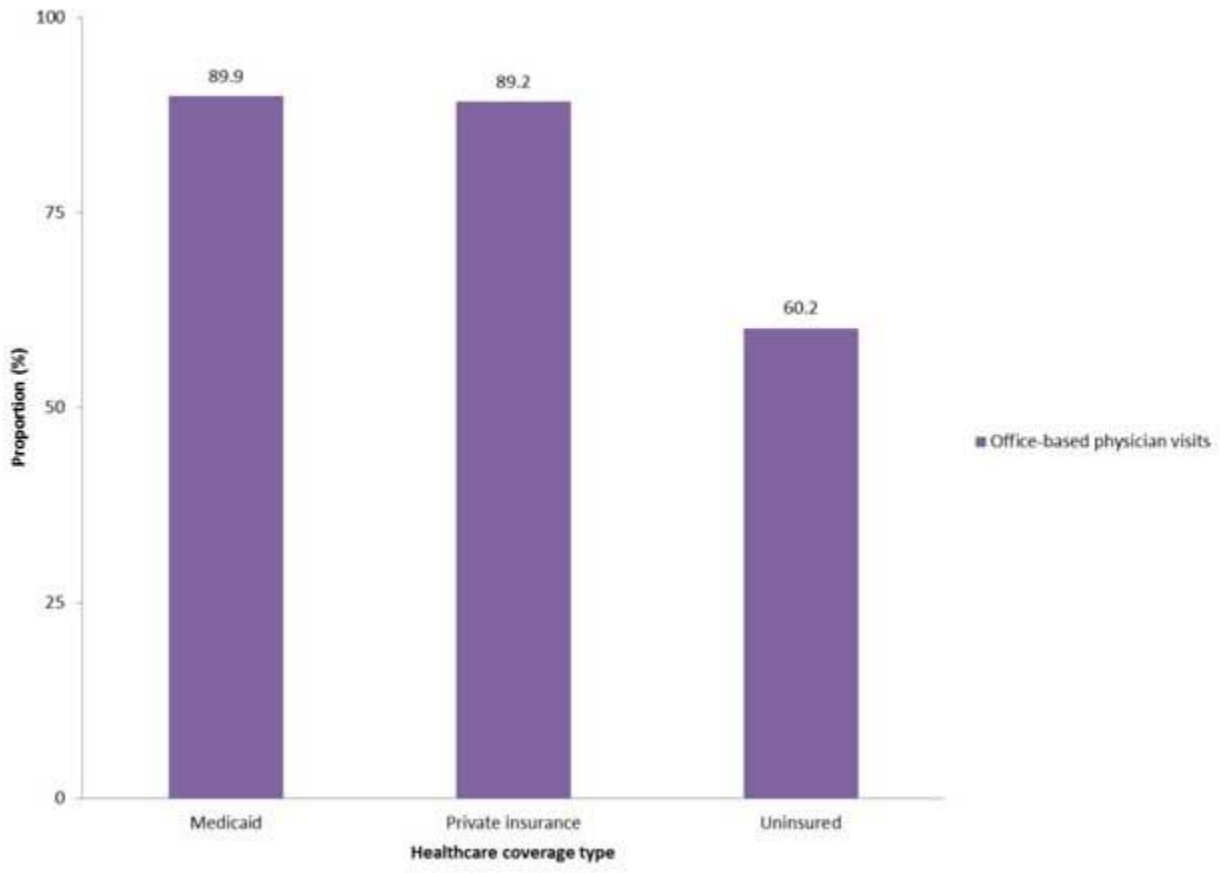

Figure 3: Weighted proportions represent average value over 2 years of annual data.

Figure 4: *Prescription drug utilization* and healthcare coverage type for individuals with self-report physician-diagnosed arthritis in 2008-2009.

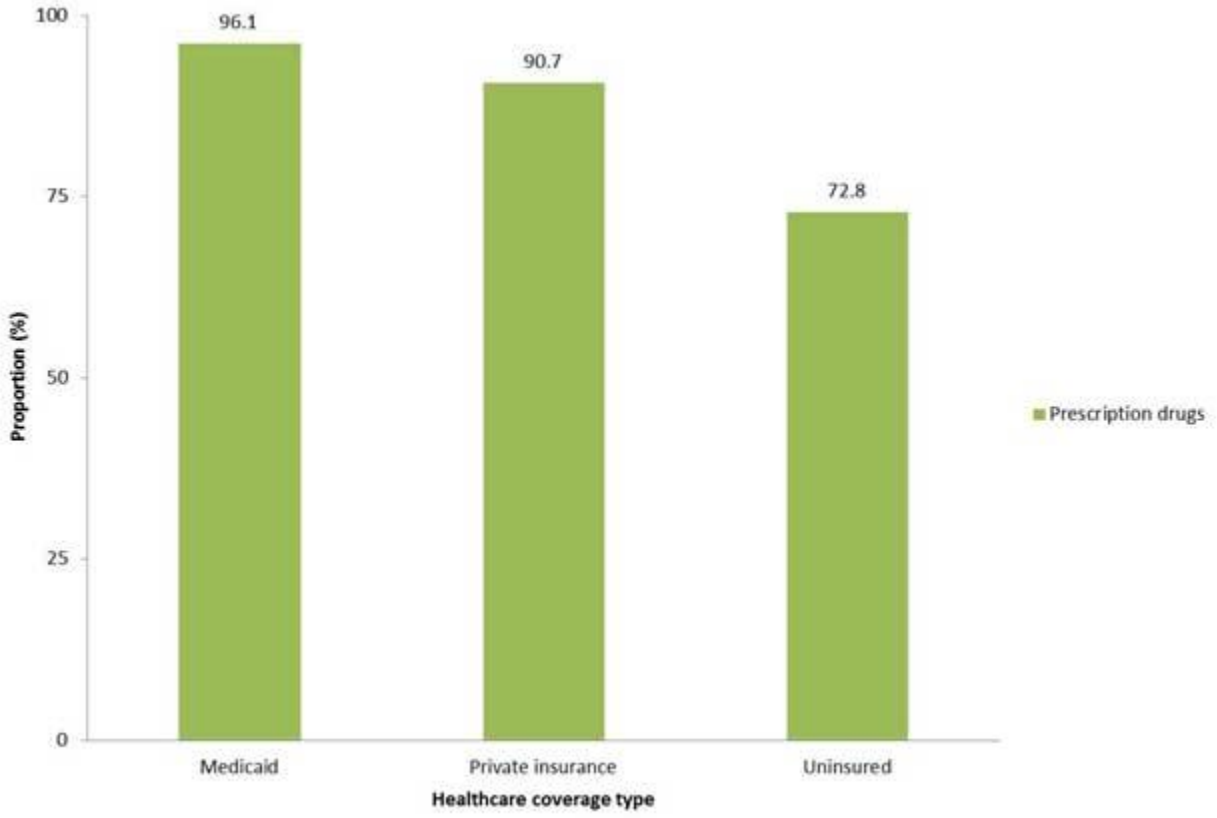

Figure 4: Weighted proportions represent average value over 2 years of annual data.

Discussion

Arthritis is a leading cause of disability in the U.S. and continues to be a growing public health challenge.[4] Proper management of arthritis, particularly in the early stages, is critical to minimizing disability and associated costs and is, in part, dependent on an individual's healthcare coverage, as this may determine access to care.[15, 16] Evidence shows that individuals with better coverage and healthcare access experience better healthcare outcomes.[17] In addition, positive treatment outcomes for individuals with chronic conditions who are also users of CAM have been observed.[11] Research on the demographics of users of CAM consistently demonstrates a cohort of individuals with higher incomes with better healthcare coverage.[11, 18, 19] Although the burden of chronic conditions disproportionately affects low-income individuals, these individuals are typically the lowest users of CAM.[20-22] In this study, the relationship of healthcare coverage and utilization of chiropractic care, the most widely available provider-based CAM service for individuals with arthritis, was examined. Medicaid recipients with arthritis, who were predominantly poorer, reported less higher education, and had more comorbidities than individuals with private insurance were the least users of chiropractic, while the opposite was true

for private insurance holders. Although access to provider-based CAM services for poorer individuals is made more reasonable through healthcare coverage such as Medicaid, current coverage of chiropractic under this program is considered an optional service and is covered at the discretion of individual states, which may explain, in part, the decreased utilization observed in this study.[8,13,23]

Several other reasons for decreased utilization of chiropractic services by Medicaid recipients could be attributed to lack of awareness, cost, cultural issues, or other barriers to care, which have been cited in studies examining decreased use of healthcare services in general.[24] Regarding cost, the uninsured, who utilized chiropractic more than Medicaid recipients, possibly were likely more able to pay out-of-pocket costs for chiropractic services than individuals on Medicaid, suggesting that this service was still more affordable than office-based physician visits. As for other barriers, including cultural issues, the importance of these has been brought to the forefront of the chiropractic profession and was the theme of the 2012 Association of Chiropractic Colleges Educational Conference, with renewed efforts to understand the cultural issues more fully and address this persisting problem.[25]

The Affordable Health Care Act, signed into law in 2010, aims to eliminate healthcare disparities for vulnerable groups by 2014 through expanding Medicaid coverage to include individuals who are currently ineligible.[26] These efforts may positively impact accessibility of CAM services for low-income groups in management of chronic musculoskeletal disorders if chiropractic services remain a covered modality with Medicaid and is approved for use in states where it is currently not covered. With future anticipation of Medicaid expansion, chiropractors will need to be aware of the demographics of the cohort of individuals with chronic conditions who may benefit from chiropractic services and implement strategies to meet the needs of individuals from various backgrounds while also continuing to advocate for expanding chiropractic coverage by Medicaid in all states.

Limitations

In this study, the higher predominance of females receiving Medicaid compared to those with private insurance or being uninsured may be because of the eligibility criteria for Medicaid. In addition, predominance of older age females is also likely related to the limitation of the study population to arthritis sufferers who are generally older age. Therefore, this study reflects the demographic and healthcare usage patterns of mostly middle-aged to older female arthritis sufferers.

Conclusion

Chiropractic care in the management of chronic musculoskeletal conditions has been shown to be beneficial. Chiropractors need to be aware of the demographics of the cohort of individuals with chronic conditions who may benefit from their services and define the role of chiropractic services in meeting the needs of vulnerable groups in general. Efforts toward improving chiropractic access to individuals with Medicaid should be encouraged and may contribute to lessening the burden of chronic musculoskeletal conditions.

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