



# Access and Quality of Care by Insurance Type for Low-Income Adults Before the Affordable Care Act

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**Comparing Access to Care and Perceived Health Care Quality By Insurance Type Among  
Low-Income Adults**

1 **Comparing Access to Care and Perceived Health Care Quality By Insurance Type Among**  
2 **Low-Income Adults**

3 **Abstract** (Word Count: 180)

4 **Objectives:** Nineteen states – disproportionately in the South – have not expanded Medicaid  
5 under the Affordable Care Act (ACA). Some are considering expanding private coverage. We  
6 compared access to care and perceived health care quality by insurance type among low-income  
7 adults in three Southern states, prior to the ACA.

8 **Methods:** We conducted a telephone survey in 2013 of 2,765 low-income U.S. citizens, ages 19-  
9 64, in Arkansas, Kentucky, and Texas. Using logistic regression to adjust for sociodemographics  
10 and health status, we compared eleven measures of access and quality of care for respondents  
11 with Medicaid, private insurance, Medicare, and no insurance.

12 **Results:** Low-income adults with Medicaid, private insurance, and Medicare reported  
13 significantly better health care access and quality than uninsured individuals. Medicaid  
14 beneficiaries reported greater difficulty accessing specialists but less risk of high out-of-pocket  
15 spending than those with private insurance. For other outcomes, Medicaid and private coverage  
16 performed similarly.

17 **Conclusions:** Low-income adults with insurance report significantly greater access and quality  
18 of care than uninsured adults, regardless of whether they have private or public insurance.  
19 Access to specialty care in Medicaid may require policy attention.

## 20 INTRODUCTION

21           Though the Affordable Care Act (ACA) aimed to increase the availability of health  
22 insurance for low-income Americans through expansion of Medicaid eligibility up to 138% of  
23 the federal poverty level (FPL),<sup>1</sup> the United States Supreme Court ruled that Medicaid expansion  
24 was optional for states.<sup>2</sup> This left many states debating whether and how to expand insurance  
25 coverage for low-income residents. As of January 2016, 31 states have expanded Medicaid,  
26 while the remaining 19 states have not adopted Medicaid expansion.<sup>1</sup> The implications of these  
27 decisions are particularly dramatic in the South, where only six of the 17 states (plus the District  
28 of Columbia) in the Southern census region have expanded. Combined with high poverty and  
29 uninsured rates in the region, 80% of the more than 4 million uninsured adults excluded from the  
30 Medicaid expansion reside in the South.<sup>3</sup>

31           While previous research indicates that Medicaid expansion can improve access to care,  
32 self-reported health, and survival,<sup>4</sup> some contend that the program is substantially inferior to  
33 private insurance.<sup>5</sup> In part due to this concern, several states – Arkansas, Iowa, and New  
34 Hampshire – have received approval for the so-called “private option” using federal funds to  
35 purchase private health insurance for low-income adults,<sup>6-8</sup> and other states are considering this  
36 approach in lieu of Medicaid expansion. In this context, a key question is how Medicaid and  
37 private coverage compare in their ability to provide access to care for low-income beneficiaries.  
38 Previous research using national survey data offers some insights,<sup>9</sup> but less attention has been  
39 paid to these issues within Southern states, where the public health implications of the Medicaid  
40 expansion debate are largest.

41 Our study objective was to compare access to care and perceived health care quality for  
42 low-income adults with Medicaid versus other types of insurance coverage prior to the ACA's  
43 coverage expansion in three Southern states.

44

## 45 **METHODS**

### 46 **Data**

47 Our study data come from a random digit dial telephone survey of U.S. citizens ages 19-  
48 64 living in Arkansas, Kentucky, and Texas, with family incomes below 138% of the FPL,  
49 corresponding to the ACA's Medicaid eligibility guidelines. Interviews were completed in  
50 November and December 2013, before the ACA's coverage expansions took effect.

51 Respondents were contacted on landlines and cellular phones. Interviews were available in  
52 English or Spanish. The overall response rate was 26%, and all responses were weighted to state  
53 estimates for citizens ages 19-64 with household incomes below 138% of FPL, from the 2012  
54 American Community Survey. Further details on the survey methods have been published  
55 previously.<sup>10</sup>

56 We developed a 38-item survey that included questions about health care coverage,  
57 utilization, economic circumstances, health status, preventive care indicators, and perceptions of  
58 quality of care. The wording of our survey items was drawn from previously validated surveys:  
59 the National Health Interview Survey, the American Community Survey, the Behavioral Risk  
60 Factor Surveillance System, and the Oregon Health Insurance Experiment. We also collected  
61 data on demographic and health characteristics. Health insurance coverage was assessed using  
62 state-specific names for Medicaid programs to assist respondents in recognizing their coverage:

63 Medicaid in Arkansas; Kentucky Health or KenPac in Kentucky; and STAR, STAR+PLUS, or  
64 STAR Health in Texas.

65 To create mutually exclusive coverage categories, we assigned each respondent a primary  
66 type of coverage using the following hierarchy: private insurance, Medicare, Medicaid, and  
67 uninsured. In our primary model, dual eligible respondents – who receive coverage from both  
68 Medicare and Medicaid – were categorized as having Medicare since this is the primary payer  
69 for outpatient services; we also conducted a sensitivity analysis in which these respondents were  
70 treated as having Medicaid as their primary coverage (presented in Appendix Table A).

71 Individuals who reported only having a type of coverage besides private insurance, Medicaid, or  
72 Medicare were excluded from the sample given the small number of respondents in that category  
73 (3%).

74

## 75 **Outcomes & Statistical Analysis**

76 Our study outcomes were not having a personal doctor; difficulty accessing primary care  
77 appointments; difficulty accessing specialist appointments; using the ER as a usual source of  
78 care; using the ER due to difficulty in getting a doctor’s appointment when needed; cost-related  
79 delays in seeking care; spending more than \$500 out-of-pocket for medical care in the past year;  
80 spending more than \$1,000 out-of-pocket for medical care in the past year; having to borrow  
81 money or skip paying bills due to medical costs; and perceived overall health care quality.

82 We compared sample demographic and health characteristics across insurance coverage  
83 types using chi-square tests. Then, we used logistic regression to compare outcomes for  
84 respondents with private insurance to those with Medicaid, Medicare, and no health insurance.

85 We present both unadjusted and adjusted regression results. The multivariate model adjusted for

86 sociodemographic and health status covariates that previous literature have suggested influence  
87 access to care, health service utilization, and perceptions of health care quality: age, gender, race,  
88 ethnicity, marital status, education, income, political affiliation, self-reported health status  
89 (fair/poor vs. good/very good/excellent), cell phone use, having any of the nine chronic  
90 conditions assessed in the survey (see Table 1), and state of residence. Using the “margins”  
91 command in Stata, we then converted these adjusted odds ratios into predicted probabilities for  
92 each outcome, using the observed values for all covariates, in order to better convey the  
93 magnitude of differences across these coverage types after accounting for other covariates.

94 The investigators only had access to deidentified data processed by the survey vendor  
95 after survey administration was complete, and the study protocol was exempted as non-human  
96 subjects research by the investigators’ Institutional Review Board. Analysis was conducted in  
97 Stata 12.0.

## 98 **RESULTS**

99 Our sample size was 2,765, divided evenly across the three states. Table 1 summarizes  
100 the demographic and health characteristics of respondents, stratified by primary coverage type.  
101 13% of our weighted sample reported Medicaid coverage, 30% private coverage, 16% Medicare,  
102 and 41% were uninsured. Women represented just over half of the sample overall, but made up  
103 77% of those with Medicaid. 16% of the overall sample was Latino and 19% was black. Health  
104 status characteristics differed significantly across different insurance types. 25% of privately  
105 insured respondents reported fair or poor health status, compared to 50% of Medicaid  
106 respondents and 54% of Medicare respondents. Over 80% of Medicaid and Medicare  
107 beneficiaries reported at least one chronic condition, compared to 54-57% among privately  
108 insured or uninsured respondents.

109 Table 2 shows unadjusted analyses assessing the association between coverage type and  
110 access to outpatient care, ER use, affordability of care, and perceived quality of care. Uninsured  
111 respondents consistently reported worse outcomes. In the unadjusted models, Medicaid  
112 beneficiaries had more difficulty accessing primary and specialty care, and were more likely to  
113 use the ER because a doctor was unavailable, compared to their privately insured peers.  
114 Medicaid beneficiaries were significantly less likely to have high out-of-pocket medical costs  
115 than privately insured adults. This was consistent at both levels of spending we assessed:  
116 spending greater than \$500 per year (16.6% vs. 37.7%; OR=0.33; 95% CI=0.21, 0.51; p<0.01)  
117 and spending greater than \$1,000 per year (9.7% vs. 24.5%; OR=0.33; 95% CI=0.19, 0.57;  
118 p<0.01). A slightly larger share of respondents with Medicaid rated care as “Fair/Poor” than did  
119 those with private insurance (OR=1.43; 95% CI=0.99, 2.05; p<0.10).

120 Table 3 shows the results of multivariate analyses. We have summarize the adjusted  
121 results in Figure 1, which illustrates odds ratios and confidence intervals when specifically  
122 comparing our outcomes of interest for Medicaid beneficiaries and the privately insured. After  
123 adjustment for sociodemographics and health status, uninsured individuals were at significantly  
124 higher risk of not having a personal doctor and to report difficulty accessing primary care and  
125 specialty care. In comparing predicted probabilities from the adjusted model, similar rates of  
126 those covered by private insurance (35.5%), Medicaid (31.8%), and Medicare (31.7%) reported  
127 not having a personal doctor; this was markedly higher for uninsured respondents (59.0%), a  
128 difference of more than twenty percentage points (AOR=3.07; 95% CI= 2.24, 4.19; p<0.01).  
129 Overall, Medicaid and private insurance performed similarly for most measures of access to  
130 outpatient care, though individuals with Medicaid had higher rates of difficulty accessing



131 specialist appointments relative to their privately insured peers – 17.3% versus 11.1% after  
132 adjustment (AOR=1.78; 95% CI=1.00, 3.17; p<0.05).

133 For measures of ER use, uninsured respondents were significantly more likely than  
134 insured respondents to use the ER as a usual location of care or visit the ER due to an inability to  
135 see a doctor for an office visit to address needed care. There were no significant differences  
136 between Medicaid and private insurance for these measures.

137 In assessing affordability and cost of care, uninsured individuals were significantly more  
138 likely to report delaying care due to cost in the past 12 months; skipping medication doses  
139 because of cost; and borrowing money or skipping paying bills as a result of high medical costs  
140 compared to those with insurance. Meanwhile, there were no significant differences for any of  
141 these outcomes between Medicaid beneficiaries and privately-insured. Medicaid beneficiaries  
142 were significantly less likely to have spent more than \$1,000 in out-of-pocket costs for medical  
143 care in the past year than individuals with private insurance – 9.2% versus 24.7%, respectively  
144 (AOR=0.28; 95% CI=0.16, 0.52; p<0.01). Results were similar when comparing out-of-pocket  
145 costs greater than \$500 for Medicaid beneficiaries and privately-insured (15.7% vs. 38.3%;  
146 AOR=0.26; 95% CI=0.16, 0.43; p<0.01). Medicare recipients also were less likely to report high  
147 out-of-pocket costs compared to private insurance (14.3% vs. 24.7%; AOR=0.48; 95% CI=0.32,  
148 0.73; p<0.01).

149 In terms of overall quality of care, uninsured adults were the most likely to rate their care  
150 as “fair” or “poor.” Meanwhile, there was no significant difference in the proportion reporting  
151 “fair” or “poor” quality of care among individuals with private coverage and Medicaid  
152 (AOR=1.18; 95% CI=0.79, 1.76; p=0.41). Those with Medicare reported the highest quality of  
153 care, with only 34.5% reporting “fair” or “poor” quality of care.

154

## 155 **DISCUSSION**

156           In this survey of nearly 3,000 low-income U.S citizens in three Southern states, we find  
157 that prior to the ACA's coverage expansions, measures of access to care, affordability, and self-  
158 rated health care quality were generally similar for Medicaid, Medicare, and private insurance,  
159 after adjusting for demographic characteristics and health status. Consistent with previous  
160 research, all three coverage types performed far better than being uninsured for all outcomes we  
161 analyzed.<sup>11,12</sup> In contrast, there were few significant differences among the three types of  
162 insurance covered. These results build off a prior study in these states, which focused on  
163 perceptions of Medicaid coverage compared to the private option among low-income adults in  
164 general (including among those with neither type of insurance). That study showed that low-  
165 income adults generally perceive private coverage and Medicaid as similar in overall quality.<sup>10</sup>  
166 Our study, in contrast, assesses the actual experiences obtaining care among low-income adults  
167 with different types of coverage, and we find that in these states both public and private  
168 insurance perform similarly.

169           In unadjusted analyses, there were notable differences in health care-related outcomes for  
170 Medicaid beneficiaries versus privately insurance individuals. However, these results in  
171 isolation can lead to the spurious conclusion that Medicaid provides inferior access to care than  
172 private coverage, when our multivariate analysis demonstrates that most of these differences are  
173 due to underlying demographic and health status differences. More specifically, the typical  
174 Medicaid beneficiary (or non-elderly Medicare beneficiary) is often in much worse health on  
175 average than those with private insurance or no insurance, which is not surprising given that

176 disability and poverty are two of the primary pathways for non-elderly adults to become eligible  
177 for public insurance in the first place.

178         However, we did find two areas with significant differences between Medicaid and  
179 private coverage, even after multivariate adjustment. 1) Access to specialty care for individuals  
180 in Medicaid was worse than for those with private insurance. 2) Medicaid provided better  
181 financial protection to low-income adults than private insurance.

182         The finding regarding specialty care access mirrors the results of a recent national  
183 analysis of Medicaid, which indicated similar access to primary care services for low-income  
184 adults with private insurance and Medicaid, but worse specialty-care access for Medicaid.<sup>13</sup>  
185 The ACA prioritized improving access to primary care, mandating that states increase Medicaid  
186 primary care payments to Medicare levels in 2013 and 2014 to increase provider ability and  
187 willingness to accept new Medicaid patients.<sup>14-16</sup> However, we did not find that Medicaid  
188 beneficiaries in these states had more difficulty obtaining primary care appointments or a usual  
189 source of care. Instead, we found worse access to specialty care for Medicaid beneficiaries  
190 compared to the privately insured. This could be attributable to a low number of specialists  
191 participating in Medicaid, specialist shortages in certain regions, or primary care physicians  
192 having limited referral networks for specialists.<sup>17</sup> Surveys of providers indicate that the  
193 predominant deterrent for specialist participation in Medicaid is low payment rates, though  
194 patient complexity also plays a role.<sup>17-19</sup> While many Medicaid patients rely on safety net  
195 providers like community health centers for primary care, there is often no comparable option for  
196 specialty care, particularly for specialty mental health or substance abuse services.<sup>20</sup> This is an  
197 area worthy of ongoing evaluation and monitoring by policymakers. While there were significant  
198 differences in specialty access between private and Medicaid recipients in our study, it is worth

199 noting that the vast majority of Medicaid recipients did not experience any difficulties in this  
200 area, with only 17% reporting this barrier in adjusted models.

201         Meanwhile, we found that Medicaid provided better financial protection to low-income  
202 adults than private insurance, consistent with previous research on the topic of underinsurance  
203 among poor adults.<sup>21</sup> Medicaid beneficiaries were far less likely to spend more than \$1,000 out of  
204 pocket for medical costs than those with private coverage – and alternative analyses using  
205 different cutoff points for spending showed a similar pattern. More states, particularly those with  
206 Section 1115 waivers, are beginning to require higher levels of cost sharing for Medicaid  
207 beneficiaries, which may impact the affordability of care for these low-income Americans.<sup>22, 23</sup>  
208 Previous studies have indicated that low-income Americans enrolled in public insurance tend to  
209 fare significantly better on affordability-related measures than those with private coverage as a  
210 result of higher premiums, deductibles, and cost sharing in private insurance plans – and recent  
211 trends suggest this divergence in coverage generosity is continuing to grow over time.<sup>24</sup>

212         For the remaining outcomes we examined, we found no significant differences between  
213 Medicaid and private insurance. Although previous studies, including the randomized Oregon  
214 Health Insurance Experiment, indicate that gaining Medicaid coverage can increase ER use,<sup>25, 26</sup>  
215 our survey results indicate that Medicaid beneficiaries are utilizing ER services in patterns fairly  
216 similar to low-income adults with private insurance.

217         Overall self-reported quality of health care received was also comparable for those  
218 enrolled in Medicaid and private insurance. The research literature has had little evidence to date  
219 on how quality of care for Medicaid beneficiaries compares to the privately insured from the  
220 patient’s perspective. A recent Gallup poll indicated that 75% of Medicaid beneficiaries are  
221 satisfied with the U.S. health system, which was six percentage points higher than those with

222 employer-sponsored coverage (69%) and ten points higher than those with private coverage  
223 purchased directly from an insurer (65%), belying the argument from some critics of Medicaid  
224 that it is low-quality and undesirable coverage.<sup>27</sup>

225

## 226 **Limitations**

227 Our study contains several limitations in design, response rate, and generalizability.

228 To more closely parallel eligibility criteria for Medicaid and other public programs  
229 (including the ACA's 2014 Marketplaces), our sample excluded non-citizen immigrants, who are  
230 represent a sizable minority of low-income uninsured adults in several Southern states, including  
231 Texas. While non-citizens with permanent residency status can qualify for Medicaid after a 5-  
232 year waiting period, there are challenges to reliably assessing non-citizens' legal status in a  
233 telephone survey, so we did not attempt to include this group in our sample.

234 The majority of those reporting private coverage had employer-sponsored insurance.  
235 There is substantial heterogeneity in insurance plan design across employer-sponsored insurance  
236 plans and non-employer based plans, including benefits and cost-sharing. Nonetheless, it seems  
237 reasonable to assume that employer-sponsored coverage is generally closer in design to "private  
238 option" plans than Medicaid – and in some states, private option proposals are explicitly using  
239 premium support for employer-based coverage.<sup>28</sup>

240 Data for this study were self-reported, which can result in some degree of misreporting  
241 error, particularly for items related to health status or clinical conditions. Previous research  
242 indicates that some degree of misreporting error in self-reporting insurance coverage status is  
243 common, especially for Medicaid.<sup>29,30</sup> Our use of state-specific names may have reduced this  
244 problem to some degree.

245 In addition, though our response rates compare favorably to other random digit dial  
246 surveys, like the Gallup Healthways Well-Being Index or the Health Reform Monitoring Survey,  
247 they were still much lower than federal government surveys.<sup>31,32</sup> To address this limitation, we  
248 weighted our results to Census demographic benchmarks, which has been shown to mitigate non-  
249 response bias, though this does not necessarily eliminate all potential bias.<sup>33</sup> It is unclear what  
250 impact – if any – non-response bias may have had on our results.

251 Our study also relies on multivariable regression to adjust for substantial differences  
252 across the populations in each type of coverage. This creates two potential concerns. The first is  
253 that the groups in different coverage categories may differ on unobservable features that we were  
254 unable to adjust for and thus may still confound our results. For instance, people with private  
255 insurance are more likely to be working, and we did not have data on employment status.  
256 Nonetheless, prior research indicates that most Medicaid beneficiaries have at least one working  
257 family member, suggesting that employment alone is not a primary distinguishing factor between  
258 these two coverage groups.<sup>34</sup> A second concern is that in adjusting for sociodemographic  
259 characteristics – including race/ethnicity, education, or socioeconomic status – overlooks  
260 underlying public health problems, and can render important differences in access to care and  
261 quality of care based on those characteristics as either acceptable or undetectable. In a  
262 sensitivity analysis, we adjusted only for clinical factors: age, sex, self-reported health status, and  
263 presence of chronic conditions. The patterns for Medicaid versus private insurance in this  
264 analysis (presented in Appendix Table B) were very similar as in our fully adjusted model. This  
265 suggests that the gaps between Medicaid beneficiaries and those with private insurance in our  
266 unadjusted analyses were primarily related to health status and disease burden, rather than  
267 sociodemographic features.

268           Lastly, our study was limited to three states, potentially reducing generalizability at the  
269 national level. However, these three states contain a diverse population of low-income adults in  
270 the Southern census region, a region of significant policy relevance for the ACA. Given the  
271 disproportionate presence of millions of uninsured low-income adults in Southern states and the  
272 ongoing policy debate about whether and how to expand coverage under the ACA, we feel that  
273 these states provide valuable new information on the experiences of low-income adults with  
274 difference types of health insurance.

275

## 276 **PUBLIC HEALTH IMPLICATIONS**

277           For most measures of access, adults enrolled in Medicaid fared similarly to their privately  
278 insured peers, after accounting for differences in demographics and baseline health status. As  
279 many Southern states continue to evaluate if and how to provide health insurance for low-income  
280 adults, policymakers are considering increasing their states' reliance on private coverage.  
281 Meanwhile, officials in some states that have already expanded Medicaid are now proposing to  
282 repeal or significantly modify the expansion, further raising the stakes for understanding the  
283 impact of these different types of coverage for low-income adults.<sup>35</sup> Our results suggest that,  
284 while some tradeoffs in specialty access and affordability may exist between Medicaid and  
285 private insurance, coverage expansions to low-income adults will likely lead to substantial gains  
286 in overall access to quality health care, regardless whether that coverage is private or public  
287 insurance.

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389

390 **Table 1. Demographic and Health Status Characteristics of Survey Respondents (N=2,765)**  
 391

		Private Health Insurance	Medicaid	Medicare	Uninsured	P-Value
<b>Sample size (N), Weighted %</b>		792 (30%)	396 (13%)	594 (16%)	983 (41%)	
<b>Family Income</b>	Under 50% of Poverty	19%	48%	32%	35%	<0.001
	50% -100% of Poverty	33%	35%	41%	39%	
	100%-138% of Poverty	42%	11%	20%	19%	
	Don't know/Refused	6%	6%	7%	7%	
<b>Female</b>		54%	77%	57%	54%	<0.001
<b>Age</b>	19-34	2%	0%	0%	1%	<0.001
	35-44	64%	56%	39%	65%	
	45-54	17%	23%	13%	20%	
	55-64	17%	21%	48%	14%	
<b>Race/ethnicity</b>	White non-Latino	60%	62%	62%	63%	0.01
	Latino	16%	16%	10%	18%	
	Black non-Latino	18%	20%	25%	16%	
	Other non-Latino	6%	2%	3%	3%	
<b>Education</b>	Less than high school	11%	36%	31%	25%	<0.001
	High school graduate	41%	44%	47%	43%	
	Some college/College graduate	48%	20%	22%	32%	
<b>Marital Status</b>	Married/Living with a Partner	53%	31%	29%	39%	<0.001
	Single	34%	32%	38%	39%	
	Widowed/Divorced/Separated	13%	37%	33%	22%	
<b>State</b>	Arkansas	25%	14%	17%	44%	0.01
	Kentucky	28%	13%	17%	42%	
	Texas	36%	12%	12%	40%	
<b>Rural Status</b>		36%	44%	43%	42%	0.10
<b>Presence of 1+ diagnosed condition (out of 9)†</b>		54%	81%	84%	57%	<0.001
<b>Average number of diagnosed conditions</b>		0.96	2.02	2.34	1.09	<0.001
<b>Self-Reported Fair or Poor Health</b>		25%	50%	54%	36%	<0.001

392 **Notes:**  
 393 † Conditions assessed were: high blood pressure; a heart attack, coronary artery disease, or heart failure; a stroke; asthma, chronic  
 394 bronchitis, COPD, or emphysema; chronic kidney disease or dialysis; diabetes; depression or anxiety; cancer, except for skin  
 395 cancer; and alcoholism or drug addiction.  
 396 p-values reflect chi-square tests for differences in each characteristic, based on coverage type  
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