
DIGITAL ACCESS TO SCHOLARSHIP AT HARVARD
DASH.HARVARD.EDU

HARVARD LIBRARY


Both The 'Private Option And Traditional Medicaid Expansions Improved Access To Care For Low-Income Adults

Citation
Sommers, B. D., R. J. Blendon, and E. J. Orav. 2016. “Both The ’Private Option And Traditional Medicaid Expansions Improved Access To Care For Low-Income Adults.” Health Affairs 35 (1) (January 1): 96–105. doi:10.1377/hlthaff.2015.0917.

Published version
https://doi.org/10.1377/hlthaff.2015.0917

Link
http://nrs.harvard.edu/urn-3:HUL.InstRepos:25156227

Terms of use
This article was downloaded from Harvard University’s DASH repository, and is made available under the terms and conditions applicable to Open Access Policy Articles (OAP), as set forth at
https://harvardwiki.atlassian.net/wiki/external/NGY5NDE4ZjgzNTc5NDQzMGIzZWZhMGFlOWI2M2EwYTg

Accessibility
https://accessibility.huit.harvard.edu/digital-accessibility-policy

Share Your Story
The Harvard community has made this article openly available.
Please share how this access benefits you. Submit a story

The 'Private Option' and Traditional Medicaid Expansions

Both Improved Access to Care For Low-Income Adults

Benjamin D. Sommers, MD, PhD
Robert J. Blendon, ScD
E. John Orav, PhD

ABSTRACT: Under the Affordable Care Act, 30 states have expanded Medicaid, with several states using private insurance to expand ("private option"). Despite vigorous debate about whether to extend public or private insurance to low-income populations, there is little evidence on the relative merits of these approaches. We compared the preliminary impacts of a traditional Medicaid expansion and the private option versus non-expansion, using a telephone survey of adults in Kentucky, Arkansas, and Texas. We employed a differences-in-differences analysis of repeated cross-sectional data (November-December 2013 versus November-December 2014) examining U.S. citizens ages 19-64 with incomes below 138% of the Federal Poverty Level (n=5,665). Compared to Texas, the uninsured rate declined significantly in the two expansion states (-14.0%, $p<0.001$). Coverage gains were primarily via Medicaid in Kentucky and private insurance in Arkansas. Compared to Texas, skipping medications due to cost and trouble paying medical bills declined significantly in expansion states, and the share of individuals with chronic conditions obtaining regular care increased. There were no significant changes in utilization or health. Other than coverage type and trouble with medical bills, there were no significant differences between Kentucky's traditional Medicaid expansion and Arkansas' private option, suggesting both states' approaches improved access among low-income adults.

DISCLOSURES/ FUNDING: This project was supported by a research grant from the Commonwealth Fund. Benjamin Sommers's work on this project was also supported in part by the Agency for Healthcare Research and Quality (AHRQ; Grant No. K02HS021291). The authors are grateful for research assistance from Kevin Nguyen, Adrian García Mosquiera, and Juliana Stone; project management from Bethany Maylone; helpful feedback from Lisa Lee and Joseph Thompson; and contributions by Arnie M. Epstein to help initiate this project while he was working at Harvard. Sommers now serves part time in the Office of the Assistant Secretary for Planning and Evaluation at the Department of Health and Human Services (HHS), but the views presented here are those of the authors and do not represent those of HHS, AHRQ, or the Commonwealth Fund.

INTRODUCTION

The Affordable Care Act (ACA) represents the largest insurance expansion since the creation of Medicare and Medicaid 50 years ago. But the 2012 Supreme Court decision gave states the option of whether to expand Medicaid, and 30 states and the District of Columbia have chosen to expand coverage thus far.(1) ACA advocates cite improvements in access to care, self-reported health, and mortality.(2-5) Expansion opponents have voiced concerns about budgetary impacts,(6) low provider participation,(7) and the quality of care in Medicaid.(4)

In addition to debating *whether* to expand coverage, several states are also exploring *how* to expand, and in particular, whether to follow Arkansas' approach that uses Medicaid funds to purchase private insurance ("the private option").(8) Proponents of the private option contend that enrollment in competitive plans overseen by insurance regulators can improve access to high-quality care due to higher provider payment rates.(9) However, this approach may lead to higher costs,(10) confusion about coverage among beneficiaries, and less access to safety net providers.(11) In 2014, two states – Arkansas and Iowa – implemented versions of the private option, and New Hampshire plans to do so in 2016; Pennsylvania received federal approval for a private coverage expansion, but subsequently reversed course.(12) Furthermore, other states that have yet to expand may consider private coverage expansions in the future, as Utah is currently doing.(13)

Research shows that the ACA's Medicaid expansion has already improved access to care and increased coverage rates.(14-16) Much less is known about impacts on health care utilization, chronic disease management, and health. Moreover, despite the vigorous debate about whether to expand public or private insurance to low-income populations, there is scant evidence on the

relative merits of these approaches.

In this study, we examined the experiences of low-income adults during the first year of ACA implementation in three Southern states with different policies: Kentucky, Arkansas, and Texas. Kentucky expanded traditional Medicaid coverage, relying heavily on Medicaid managed care plans.(17) Arkansas's private option used federal funds to direct newly-eligible adults (excluding 10% of applicants deemed "medically frail") into the health insurance Marketplace to obtain subsidized silver-level private coverage without any premium.(9) Texas did not expand Medicaid, which means that only adults who met the state's pre-ACA eligibility criteria (parents with incomes below 26% of FPL, or disabled adults with incomes below 74% of FPL) could obtain Medicaid coverage,(18, 19) while those with incomes between 100%-138% of FPL were able to purchase subsidized private coverage.

Using two years of survey data from over 5,600 adults, we examined three questions: First, what were the changes in insurance coverage for low-income adults associated with Medicaid expansion during the first year of the ACA? Second, were there any changes in access to care, affordability, utilization, care for chronic conditions, and self-reported health? Third, did outcomes differ when the expansion employed private coverage rather than Medicaid?

METHODS

Study Design

We conducted a repeated cross-sectional survey of low-income adults in the three states, collecting baseline data in November-December 2013 and post-expansion data on a second cohort 12 months later. We then conducted a difference-in-differences analysis, comparing changes in outcomes between 2013 and 2014 for the two expansion states (Arkansas and

Kentucky) versus the non-expansion state (Texas). Then, we separately estimated changes in outcomes in Kentucky and Arkansas to compare the traditional Medicaid expansion and private option.

Survey Instrument

We conducted a random-digit telephone survey of U.S. citizens between the ages of 19 and 64 who resided in the study states and reported family incomes below 138% of FPL (the ACA's Medicaid-eligibility cutoff).(20) The sample was limited to those reporting U.S. citizenship, since many immigrants are not eligible for ACA-related coverage and one of our study states (Texas) has a much higher proportion of immigrants than the other states. The survey included landlines and cell phones, and was offered in English and Spanish. The instrument assessed type of insurance, access to a usual source of care, cost-related barriers, utilization, out-of-pocket spending, preventive care, care for chronic conditions, and self-reported mental and physical health. We collected data on demographic factors and whether a person had previously been diagnosed with the following conditions: hypertension, heart attack/coronary artery disease (CAD), stroke, asthma/chronic obstructive pulmonary disease (COPD), kidney disease, diabetes, depression, cancer, and substance abuse.

Survey questions were adapted from the National Health Interview Survey,(21) the Behavioral Risk Factor Surveillance System,(22) the American Community Survey,(23) and the Oregon Health Insurance Experiment.(2, 4) The questionnaire was pilot-tested with eligible individuals and revised based on recorded interviews. The full text of the survey and additional methodological details have been published previously.(24) The response rate was 26% (see Appendix Methods).(25) To minimize non-response bias,(26) results were weighted using the American Community Survey and the National Health Interview Survey for the following

characteristics in each state's population of low-income adult citizens: age, gender, education, race/ethnicity, marital status, geographic region, population density, and cell-phone versus land-line use.

This study was deemed non-human subjects research by an Institutional Review Board, since the authors only had access to deidentified survey data.

Outcomes

Health insurance was categorized into four mutually-exclusive groups: uninsured, Medicaid, private insurance, and other (see Appendix for details).(25) Access to care was measured based on having a personal doctor, usual location of care, cost-related delays in seeking care and taking prescribed medications, difficulty obtaining primary and specialty care appointments, trouble paying medical bills, and annual out-of-pocket medical spending. Utilization over the prior year was measured for office visits, emergency department visits, and hospitalizations. Preventive care was assessed based on receipt of a checkup, glucose test, and cholesterol screening in the prior year. Quality measures were perceived overall health care quality, and among those with a chronic medical condition, whether they had "seen or communicated regularly" with a health care provider for that condition in the past year. Overall health was assessed using a five-point scale,(27) and mental health was assessed using the Patient-Health Questionnaire 2 (PHQ-2), a validated two-item screening test for depression.(28)

Statistical Methods

We used multivariate regression to estimate the difference-in-differences model, comparing pre- vs. post-expansion changes by state, with Texas serving as the control group. Each outcome was analyzed as a function of state of residence, year (2013 vs. 2014), and the

interaction between state and year.

We specified two series of analyses. First, we modeled the interaction between year and expansion status, pooling the results for Arkansas and Kentucky compared to Texas, to assess the impact of expansion versus non-expansion with greater power from the pooled sample. Second, we modeled the two expansion states separately (using variables for *Arkansas*2014* and *Kentucky*2014,* both relative to Texas as the control group), to determine whether any significant differences were evident between the traditional Medicaid expansion and the private option. Models adjusted for sex, age, race/ethnicity, marital status, family size, education, income, and urban vs. rural residence. See Appendix for regression equations, management of item non-response, and further analytical details.(25)

For most outcomes, we used linear probability models to provide straightforward estimates of absolute changes in the proportions of respondents with the outcomes of interest. For self-reported health and the depression score, we considered both categorical outcomes (excellent/very good health, and depression score ≥ 2, respectively) and the full numeric scores. Medical out-of-pocket spending was converted from six discrete categories into a linear variable, using the midpoint of each dollar-value category, and then analyzed as the logarithm of spending. In sensitivity analyses (see Appendix),(25) we considered alternative models, which produced similar results.

All regressions used robust standard errors clustered at the county level, to account for non-independence of observations within the same county over time. While state policies such as these are often analyzed using state-level clustering, with a small number of clusters as in our study (three states), these models produce falsely precise standard errors.(30) Our use of county-level clustering generally produced much more conservative results. We also tested a multilevel

mixed model incorporating state fixed effects and county-level random effects, and the results were nearly identical.

The primary sample size was 5,665 adults. We also conducted subgroup analyses for clinical measures, examining cholesterol screening rates for adults with cardiovascular risk factors or established disease (hypertension, CAD, stroke, or diabetes); glucose screening rates for adults with diabetes; and regular care for chronic conditions among those reporting at least one such condition.

Analyses were conducted using Stata 12.1.

Limitations

Our study has several important limitations. First, we used a quasi-experimental study design, which precludes a clear causal interpretation of our findings. We chose three states in the same Census region with similar low-income populations, but demographic or economic differences between states may have affected our study outcomes – for instance, the higher share of Latinos and urban residents in Texas compared to Arkansas and Kentucky. We directly adjusted for these factors but cannot rule out that other unmeasured time-varying confounders could have biased our results.

Our results also may not generalize to other states. For instance, both Kentucky and Arkansas had Medicaid provider participation rates above the national median prior to the ACA,(7) which may have led to more favorable results from expanding coverage. However, we contend that these states are the best available options for evaluating this policy: of the states enacting the private option, only Arkansas had a policy in effect for 2014 that applied to nearly the full Medicaid-eligible population, and Kentucky was the only state in the same region

implementing a traditional Medicaid expansion. Future research in other states and program settings would be worthwhile.

Our first-year data came from late 2013, before the ACA's eligibility expansions took effect but during the law's first open enrollment period. Some respondents may have been influenced by coverage changes that were about to occur or may have misreported 2014 coverage as having already started. In addition, measuring types of coverage under the ACA is complex and respondents may be confused about different forms of coverage. It is unclear whether a managed care-based Medicaid expansion in Kentucky or the private option in Arkansas is more likely to confuse beneficiaries and cause reporting errors.

Our survey measurement of family income differs from the more detailed approach used by states to determine Medicaid and Marketplace eligibility, which may have introduced bias or reduced our power to detect significant changes associated with the different approaches to coverage expansion.

Finally, our survey had a lower response rate than government surveys.(31) However, recent studies indicate that response rates may not be a meaningful gauge of non-response bias,(32) and random-digit telephone surveys generally produce valid results when they appropriately weight estimates using observed population features.(26) Similar surveys with response rates lower than ours(15, 33, 34) have been used to assess the early impact of the ACA and have produced findings comparable to those from subsequently-released governmental survey and administrative data.(35, 36)

RESULTS

Descriptive Statistics

The sample contained nearly 1900 low-income adults in each state, with roughly equal numbers in each survey year (Exhibit 1). The racial and ethnic composition of the sample varied, with more Latinos (40%) in Texas than in Arkansas (4%) or Kentucky (2%). In Texas, more respondents had attended college but fewer respondents lived in rural areas. More than half of adults in all three states reported at least one chronic medical condition, with hypertension, depression, and asthma/COPD the most common.

Coverage Changes

Exhibit 2 shows the unadjusted pattern of insurance changes by state. In all three states, low-income adults had uninsured rates in 2013 of approximately 40%. In 2014, this rate dropped significantly in all three states – most dramatically in Kentucky (from 40.3% to 12.4%, $p<0.001$) and Arkansas (from 41.8% to 19.4%, $p<0.001$), with smaller changes in Texas (38.5% to 27.1%, $p<0.001$). Arkansas' coverage gains were primarily via private insurance, Kentucky's via Medicaid, and Texas a combination of the two.

Expansion versus Non-Expansion

Exhibit 3 shows the regression results comparing the two expansion states versus non-expansion, and Appendix Table 1 shows the state-by-state unadjusted changes.(25) After adjustment, there was a 14.0 percentage-point larger reduction ($p<0.001$) in the uninsured rate in expansion states, relative to Texas, with concurrent significant increases in Medicaid and private insurance. For access to care and affordability outcomes, there were reductions of 9.9 percentage points in skipping medications due to cost ($p=0.002$) and 8.9 percentage points in trouble paying medical bills ($p=0.003$), relative to Texas. There was a significantly greater increase in ED visits due to a lack of outpatient appointments (4.9 percentage points, $p=0.05$)

compared to Texas, but a borderline significant reduction in use of the ED as a usual source of care (-5.1 percentage points, p=0.06).

Among adults with chronic conditions, we found a significantly greater increase in the proportion in expansion states that had regularly received care for those conditions (11.6 percentage points, p=0.02). We did not detect statistically significant changes in mental or physical health, utilization, or preventive measures.

Medicaid versus Private Coverage Expansion

Exhibit 4 examined Arkansas's private coverage expansion and Kentucky's Medicaid expansion separately. Both states demonstrated significantly greater reductions in the uninsured rate than Texas: 11.3 percentage points in Arkansas (p=0.003) and 16.6 in Kentucky (p<0.001); these two estimates were not statistically different from one another (p=0.12). Kentucky experienced greater gains via Medicaid (16.1 percentage points, p<0.001), while Arkansas experienced greater gains via private insurance (12.4 percentage points, p<0.001), and these estimates differed from one another (both p<0.01).

In both Arkansas and Kentucky, compared to Texas, coverage expansion was associated with significant reductions in skipping medications due to cost. Trouble paying medical bills decreased significantly in Kentucky compared to Texas. Kentucky experienced both a decline in the ED as a usual source of care (p=0.05) and an increase in ED visits due to a lack of available office visits (p=0.04), compared to Texas. Both Arkansas and Kentucky experienced large increases in rates of regular care among adults with chronic conditions relative to Texas – 13.0 percentage points in Arkansas (p=0.02) and 10.3 percentage points in Kentucky (p=0.06), though the latter was not statistically significant. Various approaches for analyzing out-of-pocket spending all showed significant reductions in Kentucky compared to Texas, with a median

estimate of a 33% relative decline from a baseline average of $434 per year (p=0.02), and smaller non-significant declines in Arkansas (Appendix Table 2).(25)

Aside from the differential change in private versus public coverage, the between-group tests for Arkansas versus Kentucky showed only one other significant difference – a greater reduction in trouble paying medical bills in Kentucky than in Arkansas. Otherwise, all estimates for Kentucky and Arkansas were not significantly different from one another.

Results using logistic models for categorical outcomes and Poisson models for count data produced similar findings as our primary analysis, as did a multilevel mixed-effects model.

DISCUSSION

In a survey of approximately 5600 low-income adults before and after the first year of the ACA's coverage expansions, we found that Kentucky's traditional Medicaid expansion and Arkansas's private option led to major declines in the uninsured rate, along with significant improvements in affordability of care, access to prescription medications, and regular care for individuals with chronic conditions such as hypertension, asthma, and depression.

Our finding of large coverage gains in these states is consistent with recent reports showing that Kentucky and Arkansas experienced the largest reductions in the uninsured rates of any states in the U.S.(37, 38) In fact, our estimates of coverage gains in these states are even larger than those reported previously, which makes sense given that our sample was limited to low-income non-elderly adults (rather than all adults), and we used year-end estimates that captured the full impact of the 2014 expansion, rather than average estimates across the full calendar year.

Our results are also consistent with studies showing improved access to care and financial

protection in several Medicaid expansions prior to the ACA in Oregon, New York, Arizona, Maine, and Wisconsin,(2-5) as well as national studies of the ACA's early effects.(15) To our knowledge, ours is the first to identify similar changes from the ACA's Medicaid expansion in several Southern states in particular, which historically have had high poverty rates and poor access to care.(39)

We did not detect significant changes in utilization, which would have been expected based on previous studies of insurance expansion.(2, 4) It is possible that the sample size was too small to detect such changes after just a single year. Previous research also suggests that coverage expansions can produce rapid improvements in self-reported physical and mental health,(2, 3, 40, 41) but we did not find any significant changes. Notably, we found borderline significant changes for several outcomes – including having a personal doctor and a checkup in the prior year (both $p<0.10$). Our sample size of 5600 adults may have limited our ability to detect significant changes for some outcomes with just one year of follow-up data. In addition, many of these measures asked respondents about the past 12 months, meaning that for those who acquired coverage late in 2014, much of the study period occurred before they had enrolled. Additional research will be valuable in determining whether more changes become apparent in the future, as coverage expansions typically take several years to reach maximum enrollment.(42)

One somewhat unexpected pattern of findings was that the Medicaid expansion was associated with both an *increase* in use of the ED due to a lack of available outpatient care and a *decrease* in relying on the ED as a usual source of care. While at first glance somewhat contradictory, these results may reflect that gaining health insurance removes financial barriers to pursuing outpatient care when available, but with an increase in demand patients are also more

likely to experience delays in obtaining outpatient appointments. The recent expiration of the ACA's higher Medicaid payment rates to primary care providers – which in one study was shown to increase physician participation(43) – may further exacerbate this challenge.

While several improvements in access and affordability of care were evident in the two expansion states, our comparison of the traditional Medicaid expansion and the private option revealed few significant differences other than the type of insurance obtained (public versus private). The only other outcome showing a significant difference between Kentucky and Arkansas was trouble paying medical bills, for which Kentucky experienced a significantly larger reduction than Arkansas. This may indicate that Medicaid expansion is financially advantageous for low-income adults compared to Marketplace coverage, even though Arkansas' private option included additional cost-sharing protections for poor adults.(11) This pattern would be consistent with previous research demonstrating Medicaid's more comprehensive financial protection relative to private insurance.(44, 45)

It is possible that longer follow-up and a larger sample may reveal other significant differences between the private option and Medicaid expansion. It is also possible that our findings are specific to the three study states here, and would differ considerably in other states that may be considering a traditional Medicaid expansion or a variation of the private option. Nonetheless, our overall first-year results suggest that the two expansion approaches were largely similar in their impacts on several dimensions of beneficiary experience.

Conclusions

In a two-year survey of nearly 6000 low-income adults in three Southern states, we found major declines in the uninsured rates in two states enacting alternative approaches to coverage

expansion. We also detected preliminary improvements in some measures of access, affordability, and care for important chronic diseases among low-income adults, compared to adults living in a nearby non-expansion state. However, we did not find any significant changes in utilization or health status in the first year of the expansions. Meanwhile, we found limited differences after one year between Kentucky's traditional Medicaid expansion and Arkansas' private option.

As several states continue to debate coverage expansion for low-income adults under the ACA, our findings suggest the decision of *whether* to expand matters much more than *how* to expand, at least in the models used to date. Both Arkansas's private option and Kentucky's traditional Medicaid expansion appear to be promising approaches that have thus far produced similar improvements in access among low-income adults. Future research monitoring alternative approaches to coverage expansion in these states and elsewhere will be critical to evaluating the ACA's long-term impact for low-income populations.

REFERENCES

1. Kaiser. Status of State Action on the Medicaid Expansion Decision Washington, DC: Kaiser Family Foundation; 2015. Available from: http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/.
2. Finkelstein A, Taubman S, Wright BJ, Bernstein M, Gruber J, Newhouse JP, et al. The Oregon Health Insurance Experiment: Evidence from the First Year. Quarterly Journal of Economics. 2012;127(3):1057-106.
3. Sommers BD, Baicker K, Epstein AM. Mortality and access to care among adults after state Medicaid expansions. N Engl J Med. 2012;367(11):1025-34.
4. Baicker K, Taubman S, Allen H, Bernstein M, Gruber J, Newhouse JP, et al. The Oregon Experiment - Effects of Medicaid on Clinical Outcomes. N Engl J Med. 2013;368(18):1713-22.
5. DeLeire T, Dague L, Leininger L, Voskuil K, Friedsam D. Wisconsin Experience Indicates that Expanding Public Insurance to Low-Income Childless Adults Has Health Care Impacts. Health Aff (Millwood). 2013;32(6):1037-45.
6. Sommers BD, Epstein AM. U.S. governors and the Medicaid expansion--no quick resolution in sight. N Engl J Med. 2013;368(6):496-9.
7. Decker SL. In 2011 nearly one-third of physicians said they would not accept new Medicaid patients, but rising fees may help. Health Aff (Millwood). 2012;31(8):1673-9.
8. Crawford M, McMahon SM. Alternative Medicaid expansion models: exploring state options. Trenton, NJ: Center for Health Care Strategies, 2014.
9. Thompson JW. Inside Arkansas's Private Option. Healthcare Journal of Little Rock. 2014;Jan/Feb:54-6.
10. G.A.O. Medicaid Demonstrations: HHS's Approval Process for Arkansas's Medicaid Expansion Waiver Raises Cost Concerns. U.S. Government Accountability Office, 2014 8 August 2014. Report No.
11. Rosenbaum S, Sommers BD. Using Medicaid to buy private health insurance--the great new experiment? N Engl J Med. 2013;369(1):7-9.
12. Feds approve N.H. Medicaid expansion plan: Associated Press; 2015 [updated 5 March 2015]. Available from: http://hosted2.ap.org/NHWLV/43dda9ff6c4347c09d7ecdb8d0d1cdea/Article_2015-03-05-NH--Medicaid Expansion/id-06df509bda5f4a9c8a90439f87c47189.
13. Wishner JB, Holahan J, Upadhyay D, McGrath M. Medicaid Expansion, the Private Option, and Personal Responsibility Requirements. Washington, DC: Urban Institute, 2015.
14. Shartzer A, Kenney GM, Long SK, Hempstead K, Wissoker D. Who are the Remaining Uninsured as of June 2014? Washington, DC: Urban Institute, 2014.
15. Sommers BD, Gunja MZ, Finegold K, Musco T. Changes in Self-reported Insurance Coverage, Access to Care, and Health Under the Affordable Care Act. Jama. 2015;314(4):366-74.
16. Collins SR, Rasmussen PW, Doty MM, Beutel S. The Rise in Health Care Coverage and Affordability Since Health Reform Took Effect. New York, NY: The Commonwealth Fund, 2015 Contract No.: Pub 1800, vol 2.
17. Monthly Managed Care Member Counts: January, 2015. Frankfort, KY: Kentucky Department for Medicaid Services, 2015 Contract No.: 14 April 2015.

18. Kaiser. Where are states today? Medicaid and state-funded coverage eligibility levels for low-income adults. Washington, D.C.: Kaiser Family Foundation, 2012 Contract No.: 7993-02.
19. Kaiser. Medicaid financial eligibility: primary pathways for the elderly and people with disabilities. Washington, D.C.: Kaiser Family Foundation, 2010.
20. Prior HHS Poverty Guidelines and Federal Register References. 2014 28 February 2011.
21. NCHS Fact Sheet: National Health Interview Survey. Hyattsville, MD: National Center for Health Statistics, 2014.
22. The BRFSS Data User Guide. Atlanta, GA: Centers for Disease Control and Prevention 2013 Contract No.: 5 August 2013.
23. Davern M, Quinn BC, Kenney GM, Blewett LA. The American Community Survey and health insurance coverage estimates: possibilities and challenges for health policy researchers. Health Serv Res. 2009;44(2 Pt 1):593-605.
24. Epstein AM, Sommers BD, Kuznetsov Y, Blendon RJ. Low-income residents in three States view medicaid as equal to or better than private coverage, support expansion. Health Aff (Millwood). 2014;33(11):2041-7.
25. Editor, please insert appendix verbiage
26. Assessing the Representativeness of Public Opinion Surveys. Washington, D.C.: Pew Research Center, 2012.
27. Miilunpalo S, Vuori I, Oja P, Pasanen M, Urponen H. Self-rated health status as a health measure: the predictive value of self-reported health status on the use of physician services and on mortality in the working-age population. J Clin Epidemiol. 1997;50(5):517-28.
28. Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: validity of a two-item depression screener. Med Care. 2003;41(11):1284-92.
29. Karaca-Mandic P, Norton EC, Dowd B. Interaction terms in nonlinear models. Health Serv Res. 2012;47(1 Pt 1):255-74.
30. Bertrand M, Duflo E, Mullainathan S. How Much Should We Trust Differences-in-Differences Estimates? Quarterly Journal of Economics. 2004;119:249-75.
31. Skopec L, Musco T, Sommers BD. A Potential New Data Source for Assessing the Impacts of Health Reform: Evaluating the Gallup-Healthways Well-Being Index. Healthcare: Journal of Delivery Science and Innovation. 2014;2(2):113-20.
32. Davern M. Nonresponse rates are a problematic indicator of nonresponse bias in survey research. Health Serv Res. 2013;48(3):905-12.
33. Sommers BD, Musco T, Finegold K, Gunja MZ, Burke A, McDowell AM. Health Reform and Changes in Health Insurance Coverage in 2014. N Engl J Med. 2014; 371(9):867-74.
34. Karpman M, Long SK, Huntress M. Nonfederal Surveys Fill a Gap in Data on ACA. Washington, DC: Urban Institute, 2015.
35. Long SK, Kenney GM, Zuckerman S, Wissoker D, Goin D, Karpman M, et al. QuickTake: Number of Uninsured Adults Falls by 5.4 Million since 2013. Washington, DC: Urban Institute, 2014.
36. Martinez ME, Cohen RA. Health Insurance Coverage: Early Release of Estimates from the National Health Interview Surveys, January-June 2014. National Center for Health Statistics, 2014.
37. Witters D. Arkansas, Kentucky See Most Improvement in Uninsured Rates. Washington, DC: Gallup, 2015.

38. Guyer J, Shine N, Musumeci M, Rudowitz R. A Look at the Private Option. Washington, DC: Kaiser Family Foundation, 2015.
39. McCarthy D, Schoen C, Radley D. State health system performance: a scorecard. Jama. 2014;312(2):131-2.
40. Sommers BD, Long SK, Baicker K. Changes in Mortality After Massachusetts Health Care Reform: A Quasi-experimental Study. Ann Intern Med. 2014;160(9):585-93.
41. Chua KP, Sommers BD. Changes in health and medical spending among young adults under health reform. Jama. 2014;311(23):2437-9.
42. Sommers BD, Kenney GM, Epstein AM. New evidence on the affordable care act: coverage impacts of early medicaid expansions. Health Aff (Millwood). 2014;33(1):78-87.
43. Polsky D, Richards M, Basseyn S, Wissoker D, Kenney GM, Zuckerman S, et al. Appointment Availability after Increases in Medicaid Payments for Primary Care. N Engl J Med. 2015.
44. Hill SC. Medicaid Expansion In Opt-Out States Would Produce Consumer Savings And Less Financial Burden Than Exchange Coverage. Health Aff (Millwood). 2015.
45. Magge H, Cabral HJ, Kazis LE, Sommers BD. Prevalence and Predictors of Underinsurance Among Low-Income Adults. J Gen Intern Med. 2013.

EXHIBIT LIST

EXHIBIT 1: Table
TITLE: Descriptive Statistics for the Study Sample, by State
SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: P-values represent chi-square test for significant differences in each variable across the three states.

EXHIBIT 2: Figure
TITLE: Insurance Coverage Among Low-Income Adults By State, 2013-2014
SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: Individuals who reported multiple forms of coverage were assigned a primary form of coverage using a health insurance hierarchy (see Appendix).

EXHIBIT 3: Table
TITLE: Changes in Coverage, Access, and Health after the First Year of ACA Medicaid Expansion
SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: ED = Emergency Department. Results show differences-in-differences estimates for expansion states (Arkansas and Kentucky) versus Texas. All analyses adjusted for sex, age, race/ethnicity, marital status, family size, education, income, urban vs. rural residence, state, and year. The sample contained 5665 adults (minus item non-response for each specific outcome), except where otherwise noted.

† – All estimates are reported as percentage point changes for binary outcomes, other than number of office and ED visits, self-reported health, depression score, and out-of-pocket spending.

§ – Out-of-pocket spending estimates show relative change (%) using log-expenditures as the outcome.

* – Conditions assessed in the survey were hypertension, heart attack/coronary artery disease, stroke, asthma/COPD, kidney disease, diabetes, depression, cancer, and substance abuse.

- Usual source of care was grouped into 3 categories – those reporting an office-based usual source of care, those without any usual source of care, and those using the ED as the usual source of care.

EXHIBIT 4: Table
TITLE: Changes in Coverage, Access, and Health – Private Option vs. Medicaid Expansion
SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: AR = Arkansas, KY = Kentucky, TX = Texas. ED = Emergency Department. Results show differences-in-differences estimates for Kentucky versus Texas and Arkansas versus Texas. The last column shows the p-value for the post-estimation hypothesis test that the Kentucky and Arkansas differences-in-differences estimates were equivalent. All analyses

adjusted for sex, age, race/ethnicity, marital status, family size, education, income, urban vs. rural residence, state, and year. The sample contained 5665 adults (minus item non-response for each specific outcome), except where otherwise noted.

† – All estimates are reported as percentage point changes for binary outcomes, other than number of office and ED visits, self-reported health, depression score, and out-of-pocket spending.

§ – Out-of-pocket spending estimates show relative change (%) using log-expenditures as the outcome.

* – Conditions assessed in the survey were hypertension, heart attack/coronary artery disease, stroke, asthma/COPD, kidney disease, diabetes, depression, cancer, and substance abuse.

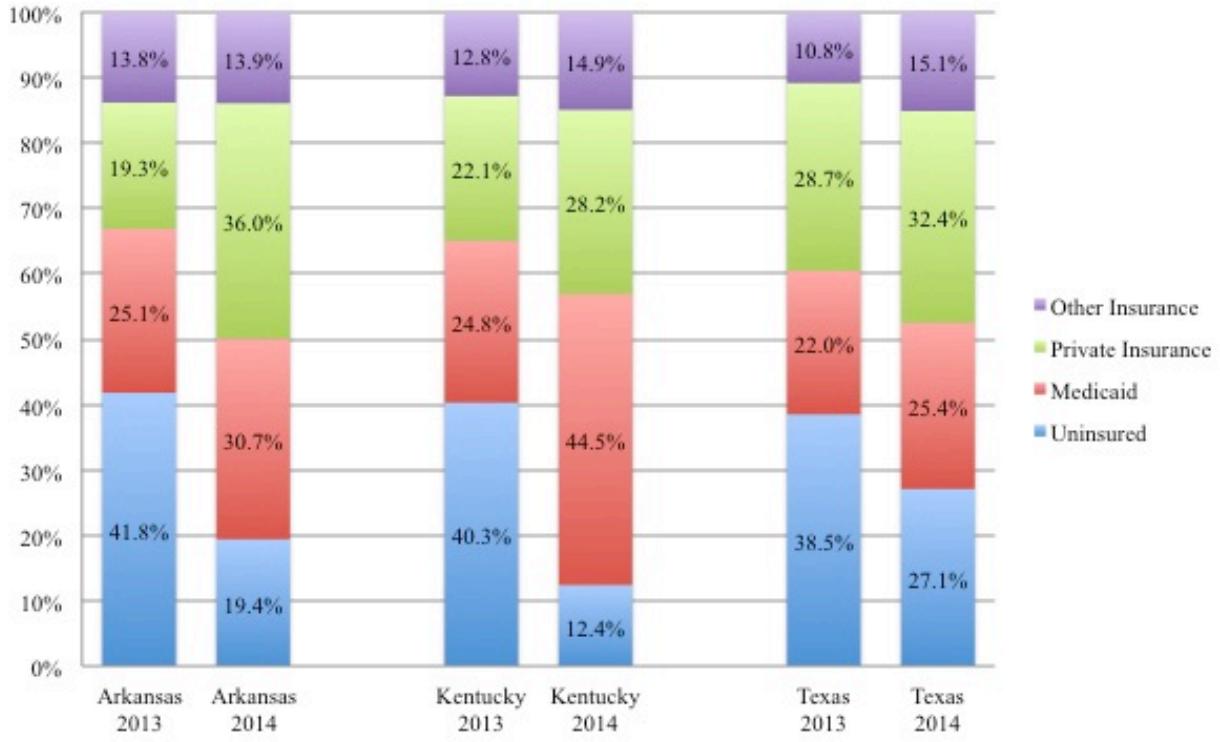
- Usual source of care was grouped into 3 categories – those reporting an office-based usual source of care, those without any usual source of care, and those using the ED as the usual source of care

Exhibit 1:
Descriptive Statistics for the Study Sample, by State

VARIABLE		Arkansas	Kentucky	Texas	P-value
Sample size (N)		1,879	1,898	1,888	N/A
Family Income	Under 50% of Poverty	32%	34%	28%	0.24
	50% -100% of Poverty	36%	37%	37%	
	100%-138% Poverty	25%	23%	27%	
	Don't know/Refused	7%	6%	8%	
Female		57%	56%	58%	0.79
Age	19-34	43%	41%	47%	0.15
	35-44	19%	20%	18%	
	45-54	16%	17%	16%	
	55-64	22%	22%	19%	
Race/ethnicity	White non-Latino	66%	84%	36%	<0.001
	Latino	4%	2%	40%	
	Black non-Latino	25%	11%	19%	
	Other	4%	3%	5%	
Education	Less than High School Degree	20%	26%	23%	0.001
	High school graduate	47%	43%	40%	
	Some college/college graduate	33%	31%	37%	
Married or Living with a Partner		40%	42%	41%	0.60
Family Size (number)		2.9	2.9	3.3	<0.001
Rural		55%	55%	13%	<0.001
Medical Conditions	Hypertension	36%	38%	27%	<0.001
	Coronary Artery Disease	8%	10%	5%	<0.001
	Stroke	5%	5%	4%	0.40
	Asthma/COPD	26%	29%	19%	<0.001
	Kidney Disease	2%	3%	2%	0.18
	Diabetes	15%	16%	14%	0.28
	Depression	39%	44%	28%	<0.001
	Cancer	5%	6%	3%	0.02
	Substance Abuse	4%	4%	3%	0.23
	≥1 condition	67%	70%	53%	<0.001

SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: P-values represent chi-square test for significant differences in each variable across the three states.

Exhibit 2: Insurance Coverage Among Low-Income Adults By State, 2013-2014



SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: Individuals who reported multiple forms of coverage were assigned a primary form of coverage using a health insurance hierarchy (see Appendix).

Exhibit 3: Changes in Coverage, Access, and Health after the First Year of ACA Medicaid Expansion

OUTCOME	Baseline Mean in Expansion States (2013)	Net Change After Expansion (Arkansas & Kentucky vs. Texas)		
		Net change†	95% CI	p-value
COVERAGE				
Uninsured	41.0%	-14.0	-20.1, -7.8	<0.001
Medicaid	25.0%	9.4	3.3, 15.6	0.003
Private Insurance	20.7%	7.6	1.4, 13.7	0.02
ACCESS TO CARE AND AFFORDABILITY				
Personal doctor	56.9%	7.9	-0.1, 16.3	0.07
Usual source of care#	80.8%	3.8	-3.5, 11.0	0.31
Cost-related delay in care	39.5%	-4.3	-10.9, 2.3	0.20
Skipped prescribed medication due to cost	39.2%	-9.9	-16.2, -3.5	0.002
Trouble obtaining primary care appointment	15.7%	3.6	-2.4, 9.7	0.24
Trouble obtaining specialist appointment	14.0%	2.6	-3.0, 8.2	0.37
ED is usual location of care#	9.6%	-5.1	-10.5, 0.3	0.06
ED visit because office visit unavailable	12.9%	4.9	0.0, 9.7	0.05
Trouble paying medical bills	42.9%	-8.9	-14.6, -3.1	0.003
Annual out-of-pocket medical spending§	$434	-0.24§	-0.49, 0.02	0.06
UTILIZATION				
Office visits in past year (number)	2.8	0.5	-0.3, 1.4	0.22
Any office visits in past year	55.5%	2.2	-3.7, 8.1	0.46
ED visits in past year (number)	1.2	-0.1	-0.5, 0.2	0.47
Any ED visits in past year	21.0%	-1.7	-7.5, 4.0	0.55
Any hospitalization in past year	16.9%	-1.7	-6.9, 3.6	0.54
PREVENTION AND QUALITY				
Checkup in past year	45.8%	6.9	-0.6, 14.4	0.07
Cholesterol check in past year (full sample)	42.0%	-1.1	-8.2, 6.0	0.76
Cholesterol check in past year (heart disease, stroke, diabetes, hypertension; n=2871)	63.5%	2.7	-7.8, 13.2	0.61
Glucose check in past year (full sample)	43.0%	2.3	-5.2, 9.8	0.54
Glucose check in past year (diabetes, n=1139)	86.2%	4.2	-8.0, 16.4	0.50
Regular care for chronic condition* (n=3932)	65.7%	11.6	1.6, 21.6	0.02
Overall quality of care - excellent/very good	53.8%	-2.4	-10.5, 5.8	0.57
Overall quality of care - fair/poor	19.9%	-2.7	-9.0, 3.6	0.40
PHYSICAL AND MENTAL HEALTH				
Excellent/very good self-reported health	31.1%	-0.2	-8.1, 7.8	0.97
Self-reported health (1 to 5, lower is better)	3.09	0.02	-0.17, 0.20	0.87
PHQ-2 depression score (0 to 6, lower is better)	1.78	0.22	-0.03, 0.47	0.08
Positive depression screen (≥ 2)	47.5%	1.9	-5.5, 9.4	0.61

SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.

NOTES: ED = Emergency Department. Results show differences-in-differences estimates for expansion states (Arkansas and Kentucky) versus Texas. All analyses adjusted for sex, age, race/ethnicity, marital status, family size, education, income, urban vs. rural residence, state, and year. The sample contained 5665 adults (minus item non-response for each specific outcome), except where otherwise noted.

† – All estimates are reported as percentage point changes for binary outcomes, other than number of office and ED visits, self-reported health, depression score, and out-of-pocket spending.

§ – Out-of-pocket spending estimates show relative change (%) using log-expenditures as the outcome.

* – Conditions assessed in the survey were hypertension, heart attack/coronary artery disease, stroke, asthma/COPD, kidney disease, diabetes, depression, cancer, and substance abuse.

- Usual source of care was grouped into 3 categories – those reporting an office-based usual source of care, those without any usual source of care, and those using the ED as the usual source of care.

Exhibit 4: Changes in Coverage, Access, and Health – Private Option vs. Medicaid Expansion

OUTCOME	Private Option (AR vs. TX)			Traditional Medicaid (KY vs. TX)			Private vs. Medicaid p-value
	Baseline Mean in AR (2013)	Net change†	p-value	Baseline Mean in KY (2013)	Net change†	p-value	
COVERAGE							
Uninsured	41.8%	-11.3	0.003	40.2%	-16.6	<0.001	**0.12**
Medicaid	25.1%	2.7	0.42	24.8%	16.1	<0.001	**<0.001**
Private Insurance	19.3%	12.4	<0.001	22.1%	2.8	0.45	**0.002**
ACCESS TO CARE AND AFFORDABILITY							
Personal doctor	57.2%	7.1	0.13	56.6%	8.6	0.07	**0.67**
Usual source of care#	78.4%	4.8	0.24	83.1%	2.8	0.49	**0.55**
Cost-related delay in care	39.5%	-2.9	0.47	39.6%	-5.8	0.15	**0.49**
Skipped prescribed medication due to cost	40.9%	-8.8	0.02	37.5%	-10.9	0.004	**0.59**
Trouble obtaining primary care appointment	16.0%	3.2	0.38	15.4%	4.1	0.25	**0.80**
Trouble obtaining specialist appointment	12.1%	3.0	0.32	15.8%	2.1	0.53	**0.77**
ED is usual location of care#	9.9%	-4.3	0.16	9.3%	-5.9	0.05	**0.54**
ED visit because office visit unavailable	12.7%	4.0	0.17	13.1%	5.8	0.04	**0.54**
Trouble paying medical bills	43.1%	-4.8	0.19	42.7%	-12.9	<0.001	**0.05**
Annual out-of-pocket medical spending§	$446	-0.15§	0.29	$423	-0.33§	0.02	**0.12**
UTILIZATION							
Office visits in past year (number)	2.61	0.7	0.14	2.98	0.4	0.42	**0.40**
Any office visits in past year	55.3%	1.5	0.65	55.7%	2.9	0.43	**0.71**
ED visits in past year (number)	1.04	-0.1	0.56	1.27	-0.2	0.53	**0.81**
Any ED visits in past year	21.7%	-3.6	0.30	20.4%	0.1	0.98	**0.36**
Any hospitalization in past year	14.7%	-0.1	0.98	19.0%	-3.1	0.31	**0.34**
PREVENTION AND QUALITY							
Checkup in past year	45.3%	7.3	0.10	46.3%	6.5	0.13	**0.83**
Cholesterol check in past year (full sample)	38.1%	-1.1	0.78	45.8%	-1.1	0.81	**0.99**
Cholesterol check in past year (heart disease, stroke, diabetes, hypertension; n=2871)	60.7%	2.8	0.70	66.2%	2.7	0.65	**0.99**
Glucose check in past year (full sample)	41.5%	1.6	0.72	44.5%	3.1	0.47	**0.71**
Glucose check in past year (diabetes, n=1139)	88.5%	1.1	0.88	84.1%	7.1	0.33	**0.41**
Regular care for chronic condition* (n=3932)	61.8%	13.0	0.02	69.4%	10.3	0.06	**0.56**
Overall quality of care - excellent/very good	51.8%	-1.6	0.74	55.7%	-3.1	0.52	**0.75**
Overall quality of care - fair/poor	22.5%	-5.0	0.20	17.2%	-0.5	0.89	**0.19**
PHYSICAL AND MENTAL HEALTH							
Excellent/very good self-reported health	30.3%	2.9	0.53	31.9%	-3.2	0.50	**0.19**
Self-reported health (1 to 5, lower is better)	3.08	-0.03	0.81	3.10	0.06	0.56	**0.41**
PHQ-2 depression score (0 to 6, lower is better)	1.81	0.17	0.22	1.74	0.27	0.09	**0.54**
Positive depression screen (≥ 2)	48.1%	0.2	0.96	46.8%	3.7	0.41	**0.44**

SOURCE: Authors' analysis of data from a telephone survey of 5,665 adults ages 19-64 with family incomes below 138% of the federal poverty level.
NOTES: AR = Arkansas, KY = Kentucky, TX = Texas. ED = Emergency Department. Results show differences-in-differences estimates for Kentucky versus Texas and Arkansas versus Texas. The last column shows the p-value for the post-estimation hypothesis test that the Kentucky and Arkansas differences-in-differences estimates were equivalent. All analyses adjusted for sex, age, race/ethnicity, marital status, family size, education, income, urban vs. rural residence, state, and year. The sample contained 5665 adults (minus item non-response for each specific outcome), except where otherwise noted.

† – All estimates are reported as percentage point changes for binary outcomes, other than number of office and ED visits, self-reported health, depression score, and out-of-pocket spending.

§ – Out-of-pocket spending estimates show relative change (%) using log-expenditures as the outcome.

* – Conditions assessed in the survey were hypertension, heart attack/coronary artery disease, stroke, asthma/COPD, kidney disease, diabetes, depression, cancer, and substance abuse.

- Usual source of care was grouped into 3 categories – those reporting an office-based usual source of care, those without any usual source of care, and those using the ED as the usual source of care

APPENDIX: Methods

Characterizing Insurance Status

Health insurance was assessed with the following list of 6 coverage options (using state-specific names when appropriate): Medicaid, Medicare, military coverage, employer/union sponsored insurance, Marketplace coverage, or non-Marketplace private coverage purchased directly from an insurer. For those with more than one type of insurance (23.9%), we assigned a primary form of coverage, using the following hierarchy: Medicaid, Medicare, employer-sponsored insurance, Marketplace coverage, non-Marketplace direct purchase, and other. For Arkansas and Texas, which did not expand Medicaid in 2014 but did offer Marketplace coverage to some (Texas) or all (Arkansas) adults with incomes below 138% of FPL, those reporting both Marketplace and Medicaid were classified as having Marketplace insurance. Finally, responses were categorized into four mutually exclusive groups: uninsured, Medicaid, private insurance, and other.

Response Rate and Item Non-Response

The survey's overall response rate was 26%, using the *American Association for Public Opinion Research's RR3 definition. By year and phone type, the response rates were as follow:*

State and Phone Type	***2013***	***2014***
Arkansas Cell Phone	*26%*	*26%*
Arkansas Land Line	*25%*	*23%*
Kentucky Cell Phone	*22%*	*19%*
Kentucky Land Line	*32%*	*25%*
Texas Cell Phone	*22%*	*18%*
Texas Land Line	*26%*	*20%*

Item non-response was handled as follows. For independent variables in Tables 2 and 3, incomplete observations were omitted for those particular analyses. Non-response for race/ethnicity (0.6%) was treated as "other." Missing income was treated as its own category in regression analyses, given its much higher prevalence (7.0%) than other categories of missing data. Other covariates in Table 1 with missing values were imputed based on age, education, race/ethnicity, gender, income, marital status, family size, urban/rural location, cell phone usage, and political affiliation. This resulted in regression-based imputation for 0.8% of the weighted sample for missing age, 0.4% for education, and 0.4% for marital status. Our overall results were nearly identical if we omitted these imputed observations (1.3% of the sample) from the analysis.

Regression Equation (1)

$$Uninsured_{ist} = \beta_0 + \beta_1 X_i + \beta_2 \text{Arkansas}_s + \beta_3 \text{Kentucky}_s + \beta_4 Year2014_t + \beta_5 Expansion\ State_s * Year2014_t + \varepsilon_{ist}$$

where i indexed individuals, s state, and t year. X_i was a vector of demographics (age, sex, race/ethnicity, marital status, family size, education, income, and urban vs. rural status). β_2 and β_3 capture the direct effects of each state at baseline compared to Texas, β_4 adjusts for the year, and β_5 measures the difference-in-differences estimate for change in outcome in the expansion states (Arkansas and Kentucky) in 2014, compared to the control group (Texas). The error terms, ε_{ist}, were assumed to be correlated between individuals within counties, but independent between counties. The magnitude of the correlation and adjustment for the correlation was done through robust sandwich-based estimates.

Regression Equation (2)

$$Uninsured_{ist} = \beta_0 + \beta_1 X_i + \beta_2 \text{Arkansas}_s + \beta_3 \text{Kentucky}_s + \beta_4 Year2014_t$$
$$+ \beta_5 Arkansas_s * Year2014_t + \beta_6 Kentucky_s * Year2014_t + \varepsilon_{ist}$$

where *i* indexed individuals, *s* state, and *t* year. X_i was a vector of demographics (age, sex, race/ethnicity, marital status, family size, education, income, and urban vs. rural status). β_2 and β_3 capture the direct effects of each state, and β_4 adjusts for the year. β_5 measures the difference-in-differences estimate for the change in outcome in Arkansas ("the private option") in 2014, compared to Texas (the control group). β_6 measures the difference-in-differences estimate for the change in outcome in Kentucky (traditional Medicaid expansion) in 2014, compared to Texas. We then tested the null hypothesis that $\beta_5 = \beta_6$ (using the post-estimation *test* command in Stata) to detect whether the 2014 changes in Arkansas differed significantly from those in Kentucky. The error terms, ε_{ist}, were assumed to be correlated between individuals within counties, but independent between counties. The magnitude of the correlation and adjustment for the correlation was done through robust sandwich-based estimates.

Additional Details on Analytic Approach & Sensitivity Analyses

Medical out-of-pocket spending was converted from six discrete categories into a linear variable, using the midpoint of each dollar-value category, then analyzed as the logarithm of spending. In sensitivity analyses, we considered different approaches to converting spending categories into dollars (see Appendix Table 1). We also tested the impact of alternatives to the linear models presented in the main analyses – Poisson models for visit count data and an ordered logit model for ordinal measures of self-reported health, PHQ-2, and categories of out-

of-pocket spending. Since the results were highly similar for each of these approaches as our main findings, the alternative results are not presented here.

APPENDIX TABLE 1: Unadjusted State-By-State Changes for Each Study Outcome

OUTCOME	Arkansas		Kentucky		Texas	
	2013	2014	2013	2014	2013	2014
COVERAGE						
Uninsured	41.8%	19.4%	40.2%	12.4%	38.5%	27.1%
Medicaid	25.1%	30.7%	24.8%	44.5%	22.0%	25.4%
Private Insurance	19.3%	36.0%	22.1%	28.2%	28.7%	32.4%
ACCESS TO CARE AND AFFORDABILITY						
Personal doctor	57.2%	60.8%	56.6%	63.6%	52.4%	50.9%
Usual source of care#	78.4%	82.8%	83.1%	86.1%	79.5%	79.8%
Cost-related delay in care	39.5%	32.1%	39.6%	30.8%	31.7%	27.9%
Skipped prescribed medication due to cost	40.9%	30.0%	37.5%	25.8%	28.3%	26.9%
Trouble obtaining primary care appointment	16.0%	13.9%	15.4%	15.1%	19.8%	14.8%
Trouble obtaining specialist appointment	12.1%	11.8%	15.8%	15.7%	18.6%	15.8%
ED is usual location of care	9.9%	8.0%	9.3%	5.3%	8.1%	10.0%
ED visit because office visit unavailable	12.7%	12.2%	13.1%	14.9%	15.6%	11.3%
Trouble paying medical bills	43.1%	35.5%	42.7%	28.4%	31.9%	30.0%
Annual out-of-pocket medical spending	$446	$367	$423	$330	$380	$334
UTILIZATION						
Office visits in past year (number)	2.61	2.80	2.98	3.02	2.06	1.69
Any office visits in past year	55.3%	56.7%	55.7%	59.3%	44.1%	44.7%
ED visits in past year (number)	1.04	1.08	1.27	1.29	0.87	0.99
Any ED visits in past year	21.7%	19.0%	20.4%	21.5%	17.1%	18.2%
Any hospitalization in past year	14.7%	16.6%	19.0%	18.4%	15.8%	18.2%
PREVENTION AND QUALITY						
Checkup in past year	45.3%	53.6%	46.3%	54.5%	50.7%	52.6%
Cholesterol check in past year (full sample)	38.1%	39.3%	45.8%	47.4%	44.2%	47.6%
Cholesterol check in past year (heart disease, stroke, diabetes, hypertension; n=2871)	60.7%	59.0%	66.2%	64.4%	67.0%	60.9%
Glucose check in past year (full sample)	41.5%	43.3%	44.5%	49.1%	46.7%	48.4%
Glucose check in past year (diabetes, n=1139)	88.5%	83.3%	84.1%	84.9%	90.0%	82.5%
Regular care for chronic condition* (n=3932)	61.8%	70.1%	69.4%	76.1%	65.3%	61.7%
Overall quality of care - excellent/very good	51.8%	51.8%	55.7%	54.7%	49.8%	52.3%
Overall quality of care - fair/poor	22.5%	18.9%	17.2%	18.0%	20.1%	20.9%
PHYSICAL AND MENTAL HEALTH						
Excellent/very good self-reported health	30.3%	34.4%	31.9%	28.7%	38.5%	38.5%
Self-reported health (1 to 5, lower is better)	3.08	3.01	3.10	3.16	2.83	2.83
PHQ-2 depression score (0 to 6, lower is better)	1.81	1.72	1.74	1.77	1.48	1.22
Positive depression screen (≥ 2)	48.1%	43.2%	46.8%	46.1%	38.4%	33.6%

NOTES:

* – Conditions assessed in the survey were hypertension, heart attack/coronary artery disease, stroke, asthma/COPD, kidney disease, diabetes, depression, cancer, and substance abuse.

- Usual source of care was grouped into 3 categories – those reporting an office-based usual source of care, those without any usual source of care, and those using the ED as the usual source of care

APPENDIX TABLE 2: Sensitivity Analysis for Out-of-Pocket Spending

OUTCOME	Baseline Mean Dollars in Expansion States (2013)	Private Option (AR vs. TX)		Traditional Medicaid (KY vs. TX)		Private Option vs. Medicaid p-value
		Relative change, %	p-value	Relative change, %	p-value	
Logarithm of spending						
Low Cost Assumption	$316	-0.35	0.16	-0.73	0.004	0.07
Middle Cost Assumption	$434	-0.15	0.29	-0.33	0.02	0.12
High Cost Assumption	$553	-0.12	0.34	-0.27	0.03	0.13
Categories of Spending						
Ordered Logit Model	N/A	-0.18	0.28	-0.42	0.01	0.10

Notes:

AR = Arkansas, KY = Kentucky, TX = Texas. ED = Emergency Department.

Results show differences-in-differences estimates for Kentucky versus Texas and Arkansas versus Texas. The last column shows the p-value for the post-estimation hypothesis test that the Kentucky and Arkansas differences-in-differences estimates were equivalent. All analyses adjusted for sex, age, race/ethnicity, marital status, family size, education, income, urban vs. rural residence, state, and year. N = 5493.

Categories of spending were:
1 - Less than $50;
2 - $50 to less than $100
3 - $100 to less than $200
4 - $200 to less than $500
5 - $500 to less than $1,000
6 - $1,000 or more.

In the low cost assumption, we took the lowest value in each range as the outcome and used $1 for the lowest group.
In the middle cost assumption, we took the midpoint of each range and used $1,250 for the top-coded group.
In the high cost assumption, we took the highest value in each range and used $1,500 for the top-coded group.