Published in final edited form as:

Med Care. 2019 June ; 57(6): 437–443. doi:10.1097/MLR.0000000000001120.

Medicaid Expansion at Title X Clinics: Client Volume, Payer Mix, and Contraceptive Method Type

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Abstract

Background.—Title X supports access to family planning and preventive care services. Given its focus on low-income clients, Title X clinics may have been particularly affected by the Affordable Care Act's Medicaid expansion.

Objectives.—To examine the impact of the Affordable Care Act's Medicaid expansion on Title X client volumes, health insurance coverage, and contraceptive method mix.

Research Design.—A difference-in-differences design compared changes in the outcomes of interest before and after expansion, for expansion versus non-expansion states.

Subjects.—Administrative data from Family Planning Annual Reports that describe Title X clients who sought services.

Measures.—Female client volume was measured using a participation ratio defined as the number of female clients per 100 women age 15–44 with incomes less than 250% of the federal poverty line. We also examined the share of clients by insurance type and contraceptive method type.

Results.—We did not find evidence that expansion was related to changes in client volume. We did find a significant 9.9 percentage point increase in the share of clients with Medicaid and a significant 10.0 percentage point decrease in the share of clients without coverage. We found suggestive evidence that expansion was associated with increased use of long-acting reversible contraceptives, but those results were somewhat sensitive to model specification.

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Conflict of Interest Disclosure: No author has a potential conflict of interest.

Conclusions.—Expansion was associated with meaningful increases in Medicaid coverage at Title X clinics and declines in uninsurance. Our results have important implications for the financial stability of Title X clinics in light of historical declines in Title X grant revenues.

Introduction

The National Title X Family Planning Program is the only federal program whose primary purpose is to support access to family planning and related preventive health care services.¹ Title X distributes grants to states, local health departments, and private organizations that oversee or are engaged in direct service delivery. Title X funded clinics include Federally Qualified Health Centers, local health department clinics, and Planned Parenthood sites. The program prioritizes the provision of services to low-income families. To receive Title X funding, providers must provide free services to clients at or below 100% of the federal poverty level (FPL) and reduced-cost services to clients between 101% and 250% of FPL.² In 2013, 92% of the 4.6 million clients served by Title X had family incomes below 250% of FPL, 25% were publicly insured, and 63% were uninsured.³

The expansion of Medicaid under the Affordable Care Act (ACA) could have had important impacts on the Title X program, given its focus on low-income clients. The expansion allowed states to extend Medicaid eligibility to all non-elderly adults (age 19–64) with family incomes up to 138% of the poverty level. By 2018, 34 states and the District of Columbia had adopted the ACA Medicaid expansion. A large literature has found that the expansion increased health insurance coverage and access to care.^{4,5} Low-income women of reproductive age have shared these gains. Johnston et al. (2017) found that the expansion reduced the uninsured rate among poor women age 19–44 by 13.2 percentage points.⁶

Title X grant funds comprise an essential, but relatively small share of Title X clinic revenue. In 2013, 20 percent of the \$1.3 billion of total revenue came from Title X grants, compared to 39 percent from Medicaid payments and 41 percent from other sources (which primarily consisted of private insurance payments and state and local funds).³ ACA Medicaid expansion, in addition to drawing newly-insured people into the health system, could have increased the share of Title X clients covered by Medicaid, providing additional funds for services. Given steady declines in inflation adjusted Title X grant levels since the early 2000's, additional revenue from Medicaid may have helped clinics maintain service levels, see more clients, and/or provide higher-cost family planning services, such as long-acting reversible contraceptives (LARCs). On the other hand, it is also possible that the expansion enabled newly-insured clients to seek care outside of the Title X system.

Little is known about the impact of the ACA Medicaid expansion on Title X clinics. One descriptive study found that the share of Title X patients with insurance coverage increased from 28% in 2013 to 40% in 2015 among states that adopted the expansion in 2014. In states that did not adopt the expansion, Medicaid coverage increased far less, from 23% to 26%.⁷ However, this descriptive study did not isolate the causal impact of Medicaid expansion and it did not consider the effects of expansion on other outcomes such as client volumes or the mix of services provided. An analogous body of research has examined the effect of expansion on other types of safety-net clinics. For example, Han et al. (2015) found that

expansion increased patient volumes and the share of patients with Medicaid seen at Federally Qualified Health Centers (FQHC).⁸ Cole et al. (2017) found that the expansion improved the quality of care at FQHCs on four of eight measures examined.⁹

In this study, we examined the effect of the ACA Medicaid expansion on Title X client volume, payer mix, and the primary contraceptive method used by female clients. We expected that the expansion would increase client volumes, the share of patients with Medicaid, and the share of women using long-acting reversible contraceptives.

Methods

Data

We used annual administrative data from the Family Planning Annual Reports (FPAR). Compiled by the Office of Population Affairs in the U.S. Department of Health and Human Services, the FPAR contains aggregated performance measures and summary characteristics of the Title X client population. The data are obtained through mandatory submissions by Title X grantees and undergo a number of consistency and quality checks before being made publicly available.¹ In particular, we made use of a series of state-level tables that report the number and characteristics of Title X family planning users. Family planning users are clients who obtain services in order to prevent an unintended pregnancy or obtain a desired pregnancy. The unit of observation was the state-year level.

We examined the volume of female family planning users with a participation ratio that was defined as the number of unique female family planning users per 100 women age 15–44 in the state-year with incomes below 250% of FPL (denominator counts were obtained from the American Community Survey). We focused on women because approximately 90% of Title X clients are female. We scaled the volume by the reproductive-age population below 250% of FPL because the Title X program targets the low-income population.³ We also examined the composition of family planning users by insurance type: private (employer provided, individually purchased, or coverage from the military), public (Medicaid, Children's Health Insurance Program, and all other types of publicly-provided insurance, not including those only eligible for Medicaid family planning waiver benefits), and uninsured.¹⁰ The National Health Interview suggests that 84% of publicly insured women of reproductive age in 2016 obtained their coverage from Medicaid (authors' tabulations). The FPAR does not report gender-specific tables for health insurance, so this analysis pooled men and women together.

Finally, we examined the share of female family planning users at risk of unintended pregnancy by their primary contraceptive method type. The population at risk of unintended pregnancy excludes those who are pregnant or seeking pregnancy and those practicing abstinence. Method type categories include permanent methods (male or female sterilization), LARCs (implants and intrauterine devices), moderate methods (injectable contraceptives, vaginal rings, birth control patches, birth control pills, diaphragms, and cervical caps), and less effective methods (male or female condoms, birth control sponges, withdrawal, fertility-based awareness, lactational amenorrhea, and spermicides). The FPAR does not report state-level rates of those using no method. However, because distributions

are reported specifically for family planning users at risk of unintended pregnancy (i.e. sexually active clients who sought care to avoid pregnancy), the rate of non-use is low.¹¹

Because data on insurance and contraceptive type were only available from 2012–2016, our analysis was limited to those years. The state-specific number of clients with unknown health insurance types are reported in the FPAR. We subtracted these unknown totals from the denominators of our rates. In our analytic sample, 2.0% were missing health insurance and the rate did not vary significantly by Medicaid expansion status ($p=0.277$). The share of clients with unknown contraceptive type is not reported at the state-level, so could not be subtracted from the denominators. Furthermore, unknown and non-users are pooled together in the state-level denominators such that the relative proportions of each cannot be inferred for individual states. Nationally, three percent of female family planning users at risk of unintended pregnancy use an unknown contraceptive method.¹¹

Statistical Analyses

We measured the effect of Medicaid expansion on the outcomes of interest using a difference-in-differences design. The difference-in-differences compared pre-post changes in the outcomes of interest among states that adopted Medicaid expansion (the treatment group) to changes in states that did not (the comparison group). The assumption of difference-in-differences analyses is that the trend in the comparison group represents the trend that would have occurred in the treatment group had the treatment never occurred. Following common practice, we assessed this assumption by visually inspecting trends leading up to expansion and through formal tests of differential pre-trends (presented in the supplemental appendix).

Data on ACA Medicaid expansion status and implementation dates came from the Kaiser Family Foundation.¹² We considered a state to have implemented in a given calendar year if implementation occurred prior to July because the expansion was operational for at least half of the year. Otherwise, we considered it to have implemented in the following year. Twenty-one states implemented in 2014, and 20 states never implemented during the study period. Five states implemented after 2014, including three in 2015 and two in 2016. Following previous work, we removed five states that chose an early adoption date or had an ACA Medicaid expansion-like program prior to 2014.^{6,13} A complete list of each state's Medicaid expansion status is provided in the supplemental appendix. After removing the early expansion states, we observed 230 state-years.

The difference-in-differences comparisons were conducted using weighted linear regressions. Much like Miller and Wherry (2017), we allowed each expansion state's post-period to begin in the first full year of implementation.¹³ The difference-in-differences estimate was obtained from the interaction between a post-period indicator and an ever-expanded indicator. State and year fixed effects (see below) subsumed the main effects of post and expansion status. We estimated two versions of the difference-in-differences model. The first had a single post-period and measured expansion effects averaged over all post-period years. The second allowed for effects to flexibly evolve over each year of the expansion by including separate indicators for years one, two, and three of the expansion.

All analyses were weighted by the number of reproductive-age women below 250% of FPL in the state-year so that our results were representative of the experience of clinics visited by the average Title X client (versus the experience of the states, on average). Standard errors were clustered on state to account for serial autocorrelation.¹⁴ The regressions included state fixed effects to control for any stable state-level characteristics that did not change over time and year fixed effects to flexibly control for national trends that were common across states. Such trends might include those precipitated by the ACA's preventive care mandate, which began to be implemented in 2010.

We also controlled for a number of state-by-year characteristics that could be correlated with the timing of Medicaid expansion and the outcomes of interest and would not be controlled for by the state or year fixed effects. From the American Community Survey, we obtained the percent of reproductive age women below 250% of the federal poverty level and a number of characteristics of such women. These characteristics included mean age, percent residing in households with children, average number of children, race/ethnicity, percent married, percent below 100% of FPL, percent working, percent with a high school education or less, percent living in a different household than the previous year, and percent living in a predominately rural community (communities were defined using Public Use Microdata Areas, the lowest level of available geography in the ACS). We also controlled for a number of other reproductive health policies that varied over time and across states. These included carve-outs of immediate postpartum contraception in Medicaid, outpatient Medicaid reimbursement reform (e.g. including a separate LARC device payment that accompanies the visit rate), other state and locally focused contraceptive access initiatives (e.g. Colorado's Family Planning Initiative), pharmacist scope-of-practice laws permitting over-the-counter contraceptives, and the number of unique state policies aimed at restricting abortion access. Data on these policies was obtained from a comprehensive environmental scan that included Medicaid state plans, state legislative documents, and reports from the Association of State and Territorial Health Officials and the American College of Obstetricians and Gynecologists. More details are provided in the supplemental appendix.

Sensitivity Analyses

In the supplemental appendix, we report on a number of sensitivity analyses. We considered a larger list of early expansion states, we removed late expansion states so that all expansion states in the model adopted in the same year, and considered unweighted models. We removed Colorado, which implemented a large family planning access program in 2008, and Texas, which implemented large cuts to reproductive health funding during the study period.^{15,16} We also examined how sensitive statistical inferences were to fractional logit specifications.¹⁷

The sensitivity analyses also considered an additional outcome not reported in the main tables below. We expected to find increases in the share of family planning users with incomes between 101% and 250% of the FPL. The lower income range of this group was targeted by the Medicaid expansion and such clients would have faced sliding-scale fees at Title X clinics had they been uninsured. Thus, they may have been more likely to attend Title X clinics after expansion. However, as described in more detail in the supplemental

appendix, non-expansion states did not appear to be a good comparison group for expansion states for these outcomes. Namely, trends in this outcome appeared to diverge in expansion states *prior* to the expansion.

Results

Table 1 reports baseline (2012–2013) characteristics by Medicaid expansion status. Expansion states had a smaller share of reproductive-age women below 250% of the FPL compared to non-expansion states ($p=0.003$). The population of reproductive-age women below 250% of FPL was less likely to be non-Hispanic African American, and more likely to be non-Hispanic other race in expansion states compared to non-expansion states ($p<0.01$). Expansion state residents were also less likely to live with children and less likely to live in a rural community.

Figure 1 shows trends for a selected set of outcomes. For clarity, the graphs are limited to 2014 expansion and never expansion states. In the supplemental appendix we report trends for each outcome for each expansion timing group (never expansion, early expansion, 2014 expansion, and late expansion). Panel A demonstrates declining participation ratios in both 2014 expansion and never expansion states. The parallel trends observed in the pre-period continue through the post-period. Panel B shows that the percent of family planning users with public coverage (Medicaid or any other public coverage type) was similar in 2012 and 2013 and then increased substantially in expansion states during the post-period, but not in never expansion states. Panel C shows large post-period declines in uninsurance rates for expansion states relative to non-expansion states. The percent of female planning users at risk of unintended pregnancy who used a LARC as their primary contraceptive method is provided in Panel D. The rate increased in a similar fashion in both expansion and never expansion states during the pre-period. In the post-period, however, the trend slightly increased in expansion states while it flattened in never expansion states. These graphs demonstrate that never expansion state trends are reasonable comparisons for expansion state trends. Formal statistical tests of parallel pre-trends confirm this finding (see appendix).

Table 2 reports the difference-in-differences estimates for the participation ratio and health insurance composition measures. Estimates for the participation ratio were small and not statistically significant in either the average post-period or year of implementation models. The average post-period model suggested a 9.9 percentage point increase in public coverage (a 46% gain) in expansion states relative to non-expansion states ($p = 0.001$). The change in public coverage was mirrored by a reduction in the uninsured, which declined by 10.0 percentage points or 15% ($p = 0.001$). There was no statistically significant change in private coverage, suggesting that Medicaid was not crowding-out other payers. The results from the year of implementation models showed fairly consistent patterns for each year of expansion.

We found no statistical evidence that expansion was associated with a change in the use of sterilization as the primary method type for female family planning users at risk of unintended pregnancy (Table 3). The difference-in-differences results suggested that expansion was associated with a moderate increase in the use of LARCs, which rose by 1.4 percentage points, a 14% increase, averaged over the post-period ($p=0.043$). By the third

year of expansion, the change in the use of LARCs had increased by a statistically significant 2.4 percentage points relative to non-expansion states ($p=0.020$). The average post-period model suggested a 3.6 percentage point increase in moderate method use, but the estimate was not precise ($p=0.161$). The average post-period model suggested a 0.9 percentage point decline in less effective method use, but the estimate was not statistically significant. By the third year of expansion, less effective method use had declined by a statistically significant 3.2 percentage points in expansion relative to non-expansion states, a 14% reduction.

Sensitivity Results

The supplemental appendix reports results from the sensitivity tests. All outcomes were robust to including a larger number of states in the early expansion group, to removing late expansion states from the model, and to fractional logit specifications. The client volume and coverage models were robust to excluding Colorado and Texas and to the exclusion of weights. However, the coefficient of interest in the LARC model was slightly attenuated and less precisely estimated after excluding Texas and Colorado and in models that did not include weights. In both robustness tests, the coefficient suggested a 1.0 percentage point increase in LARC use ($p=0.153$ and $p=0.183$, respectively) compared to the statistically significant 1.4 percentage point increase suggested by the main results in Table 3.

Discussion

In this study we examined the effect of the ACA Medicaid expansion on the size and composition of the Title X client population. We did not find evidence that expansion led to changes in the number of female family planning users served by the Title X program. The lack of evidence supporting changes to client volume was surprising given evidence from FQHCs suggesting that expansion increased caseloads.⁸ Our results could suggest that clients' demand for Title X clinics is not constrained by their coverage status (as intended by the Title X program). However, the expansion was associated with substantial shifts in the share of clients with public coverage. Changes in coverage composition alongside steady client volumes could suggest that the the gain in coverage was partially achieved through on-site enrollment. Over 70% of clinics have enrollment forms on site.¹⁸

Relative to non-expansion states, clinics in expansion states experienced a 9.9 percentage point increase in the share of clients with public coverage. This represents a 46 percent increase from the base rate of 21.6%. These coverage gains appeared to be driven by declines in uninsured rates rather than declines in private coverage.

We found suggestive evidence that expansion was associated with increases in LARC use among female family planning users at risk of unintended pregnancy. The shift was particularly large by the third year of expansion. In our preferred model, expansion was associated with a 2.4 percentage point increase (a 23% gain), relative to non-expansion states. Changes in LARC use appeared to be accompanied by declines in less-effective method use. However, measured effects to contraceptive mix were somewhat sensitive to alternative modeling approaches. While these alternative models suggested effects that were

roughly the same magnitude as our main models, the coefficient estimates were smaller and less precisely estimated.

Providing access to a broad range of contraceptive options that allow women of all income levels to control their reproduction in a manner that is consistent with their desires is a key goal of the Title X program.² The ability of clinics to achieve this goal depends on their financial capacity. Since 2003, Title X clinics have experienced a 28% decline in inflation adjusted Title X grant funds.¹ New revenues generated by Medicaid expansion are likely important to maintaining the financial stability of these clinics which serve as the usual place of care for 61% of their clientele.¹⁹ The extent to which Medicaid expansion enables clinics to meet the contraceptive needs of their clients deserves additional study.

Like all quasi-experimental studies, ours was limited by our ability to isolate the causal effects of the policy from other confounding trends. We controlled for a number of important demographic and policy factors and our examination of trends leading up to expansion suggests that states not adopting expansion constituted a reasonable comparison group. Our study was also limited by the data available in the FPAR. We lacked data on health insurance coverage type and contraceptive method use prior to 2012, which would have allowed for fuller measurement of trends leading up to the expansion. We also lacked measures of clinic financial position (i.e. operating margins) that may have been affected by expansion. Nor did we observe state-level data on source-specific revenue amounts. It remains unclear if Medicaid expansion increased total revenue or if it was offset by declining Title X grants funds or state-specific payments.

Title X clinics are a major source of care for people across the country, especially low-income women. Fourteen percent of all women who utilize any contraceptive service do so at a Title X clinic and 25% of poor women and 36% of uninsured women obtain their contraceptive services through a Title X provider.¹⁹ The Title X program and the family planning services it supports have been shown to substantially improve low-income women's ability to plan their pregnancies.^{20,21} Planned pregnancies (versus mistimed or unwanted pregnancies) are associated with better health outcomes for mothers and infants and public cost savings.^{22,23} Our results suggest that Medicaid has an important role to play in helping to deliver the services provided at Title X clinics. State decisions regarding Medicaid expansion may have important implications for state level variation in unintended pregnancy.²⁴

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments:

We thank Layne Amerikaner for comments on a previous draft of this paper.

Funding: This work was supported by infrastructural support from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, population research infrastructure grant P2C-HD041041, and a research grant from a private philanthropic foundation. Neither organization had any involvement in the analysis and interpretation of the data, nor on the decision to submit the article for publication.

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Figure 1. Selected Outcomes by Expansion Status and Year

Source: 2012–2016 Family Planning Annual Reports, 2012–2016 American Community Survey, and Kaiser Family Foundation. Data are weighted by the number of women in the state-year below 250% of poverty. FPL is federal poverty level and LARC is long-acting reversible contraceptives. Public coverage includes Medicaid and other public coverage programs.

Table 1.

Baseline Characteristics by ACA Medicaid Expansion Status, 2012–2013

	Never Expanded		Expanded in 2014 or Later		P-Value
	Mean	S.E.	Mean	S.E.	
Women Less than 250% FPL, %	52.3	0.87	47.9	1.1	0.003
Among Women Less than 250% FPL					
Age, Years	28.7	0.07	28.6	0.05	0.269
Children in Household, %	52.7	0.89	50.5	0.74	0.064
# Children in Households with Children	1.4	0.01	1.5	0.03	0.337
Married, %	29.2	1.12	27.9	0.75	0.355
White, Non-Hispanic, %	46.3	5.06	47.8	7.43	0.869
African-American, Non-Hispanic, %	24.1	3.36	13.1	2.41	0.009
Other Race, Non-Hispanic, %	5.8	0.57	9.8	1.33	0.008
Hispanic, %	23.8	7.33	29.4	8.09	0.607
Below Poverty, %	40.5	0.53	40.7	0.45	0.761
High School Education or Less, %	59.8	1.26	59.3	0.94	0.755
Working, %	51.4	0.83	50.6	1.62	0.634
Rural, %	21.9	4.51	11.4	3.33	0.066
Moved in last year, %	26.5	0.45	25.8	1.15	0.575

Source: 2012–2013 American Community Survey. Estimates are weighted by the number of women in the state-year below 250% FPL. S.E. are standard errors clustered on state. P-values are from an independent samples t-test. n=230.

Difference-in-Difference Estimates of the effect of Medicaid Expansion on Title × Client Volumes and Health Insurance Composition, 2012–2016

Table 2.

	Outcomes											
	Participation Ratios			Public Coverage			Private Coverage			Uninsured		
	Est.	S.E.	P-Value	Est.	S.E.	P-Value	Est.	S.E.	P-Value	Est.	S.E.	P-Value
Average Post-Period Effect	0.1	0.5	0.798	9.9	2.53	0.001	0.1	1.38	0.946	-10.0	2.61	0.001
Effects by Year of Implementation												
Year 1	-0.1	0.39	0.772	8.9	3.01	0.005	-1.3	1.61	0.438	-7.7	2.73	0.007
Year 2	0.1	0.73	0.911	11.7	3.07	0.001	0.4	1.76	0.842	-12.1	3.27	0.001
Year 3	0.7	0.88	0.421	9.2	2.83	0.002	2.6	2.18	0.244	-11.7	3.25	0.001
Baseline Rate in Expansion States		16.9			21.6			10.2			68.2	

Source: 2012–2016 Family Planning Annual Report, 2012–2016 American Community Survey, Kaiser Family Foundation, and miscellaneous sources. Participation ratio is defined as the number of female family planning users per 100 women of child bearing age with family incomes less than 250% of the poverty line. Health insurance coverage definitions are provided in the main text. All estimates are weighted by the number of women of reproductive age below 250% of the federal poverty line in the state-year. Standard errors are clustered on state. See text for a list of model covariates. Complete results provided in the supplemental appendix. Est. is estimate, S.E. are standard errors, and FPL is federal poverty level. n=230.

Difference-in-Difference Estimates of the effect of Medicaid Expansion on Primary Contraceptive Method Mix among Female Family Planning Users at-risk of Unintended Pregnancy, 2012–2016

Table 3.

	Outcomes											
	Permanent Methods			LARC			Moderate Methods			Less Effective Methods		
	Est.	S.E.	P-Value	Est.	S.E.	P-Value	Est.	S.E.	P-Value	Est.	S.E.	P-Value
Average Post-Period Effect	-0.3	0.38	0.428	1.4	0.66	0.043	3.6	2.51	0.161	-0.9	0.95	0.362
Effects by Year of Implementation												
Year 1	0.3	0.29	0.297	0.4	0.65	0.511	0.1	1.17	0.923	0.1	0.88	0.866
Year 2	-0.6	0.61	0.312	2.0	0.77	0.014	7.1	4.38	0.112	-0.8	1.27	0.558
Year 3	-1.1	0.76	0.154	2.4	0.99	0.02	5.4	3.24	0.1	-3.2	1.54	0.041
Baseline Rate in Expansion States		2.4			10.3			60.2			22.6	

Source: 2012–2016 Family Planning Annual Report, 2012–2016 American Community Survey, Kaiser Family Foundation, and miscellaneous sources. Contraceptive definitions are provided in the main text. All estimates are weighted by the number of women of reproductive age below 250% of the federal poverty line in the state-year. Standard errors are clustered on state. See text for a list of model covariates. Complete results provided in the supplemental appendix. LARC is long acting reversible contraceptive, Est. is estimate, S.E. are standard errors, and FPL is federal poverty level. Baseline rates do not add to 100 because non-users and unknown users are not shown. n=230.