

Primary Care Appointment Availability and Nonphysician Providers One Year After Medicaid Expansion

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Access to care depends, in large part, on states' unique healthcare environments, which have varying population demographics and healthcare workforces. After the 2012 Supreme Court decision made Medicaid expansion under the Affordable Care Act (ACA) optional, 19 states decided not to expand Medicaid and the remaining 31 states expanded Medicaid in a variety of ways.¹ For this reason, ongoing state-level evaluations are critically important to evaluate the consequences of Medicaid expansions in order to inform other states facing similar expansion challenges.

Although most primary care providers were accepting new patients on the eve of ACA-sponsored coverage expansions in 2012 and 2013,² there was widespread concern that primary care capacity would be insufficient to meet the growing demand for care by newly insured individuals^{3,4}—many of whom are establishing care with a primary care provider for the first time. Higher than expected enrollment in Medicaid^{5,7} has heightened this concern.⁸

In order to provide timely estimates of changes in primary care access in the era of healthcare reform, we previously reported preliminary results from a simulated patient study examining primary care appointment availability and wait times for new patients with Medicaid and private insurance before and 4 months after implementation of Medicaid expansion in Michigan on April 1, 2014.⁹ We found an initial increase in primary care appointment availability for new Medicaid patients with no lengthening of wait times 4 months after expansion.

Since then, the number of enrollees in the state's Medicaid expansion program—or Healthy Michigan Plan—has nearly doubled, from approximately 350,000 to 600,000.¹⁰ Each new Healthy Michigan Plan beneficiary is required to obtain a primary care appointment within 90 days of enrollment. With the expanding number of enrollees and the mandate to schedule early appointments, there was increasing uncertainty as to whether the initial increase in primary care appointment ac-

ABSTRACT

Objectives: With insurance enrollment greater than expected under the Affordable Care Act, uncertainty about the availability and timeliness of healthcare services for newly insured individuals has increased. We examined primary care appointment availability and wait times for new Medicaid and privately insured patients before and after Medicaid expansion in Michigan.

Study Design: Simulated patient (“secret shopper”) study.

Methods: Extended follow-up of a previously reported simulated patient (“secret shopper”) study assessing accessibility of routine new patient appointments in a stratified proportionate random sample of Michigan primary care practices before versus 4, 8, and 12 months after Medicaid expansion.

Results: During the study period, approximately 600,000 adults enrolled in Michigan's Medicaid expansion program, representing 57% of the previously uninsured nonelderly adult population. One year after expansion, we found that appointment availability remained increased by 6 percentage points for new Medicaid patients (95% CI, 1.6-11.1) and decreased by 2 percentage points for new privately insured patients (95% CI, -0.5 to -3.8). Over the same period, the proportion of appointments scheduled with nonphysician providers (nurse practitioners or physician assistants) increased from 8% to 21% of Medicaid appointments (95% CI, 5.6-20.2) and from 11% to 19% of private-insurance appointments (95% CI, 1.3-14.1). Median wait times remained stable for new Medicaid patients and increased slightly for new privately insured patients, both remaining within 2 weeks.

Conclusions: During the first year following Medicaid expansion in Michigan, appointment availability for new Medicaid patients increased, a greater proportion of appointments could be obtained with nonphysician providers, and wait times remained within 2 weeks.

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Take-Away Points

During the first year following Medicaid expansion in Michigan:

- Appointment availability for new Medicaid patients remained increased, even after expiration of the Affordable Care Act–associated rate bump in Medicaid reimbursement to primary care providers.
- A greater proportion of appointments could be obtained with nonphysician providers (nurse practitioners or physician assistants).
- Despite the large number of newly insured individuals, median new patient wait times remained within 2 weeks and were similar for Medicaid and privately insured patients.

cess for new Medicaid patients would endure following continued coverage expansion. To monitor ongoing trends in appointment accessibility, we now present longitudinal data through the first 12 months after Medicaid expansion, regarding primary care appointment availability and wait times for new patients with Medicaid and private insurance.

METHODS

We conducted a simulated patient (“secret shopper”) study, in which trained research staff called a stratified proportionate random sample of primary care practices ($N = 295$) to request a new patient appointment before (March 17-31, 2014) and, serially, after Medicaid expansion implementation in Michigan on April 1, 2014 (July 21-August 11, 2014; November 17-December 12, 2014; and March 20-April 15, 2015). Details of our study methodology, including sampling, practice classification, and simulated patient call protocols, were reported in our previous article.⁹ Briefly, we conducted a telephone survey of Michigan primary care clinics caring for adult patients February 24 to March 7, 2014, to confirm study eligibility and acceptance of new Medicaid patients, as well as other practice characteristics. Given the study’s focus on assessing appointment accessibility for new Medicaid patients, we placed simulated patient calls to clinics that accepted Medicaid in order to assess appointment wait times.

Trained research assistants called primary care clinics as simulated prospective patients with Medicaid or private coverage every 4 months up to 1 year after Medicaid expansion (see [eAppendix A](#) for a timeline of study calls and enrollment [eAppendices available at www.ajmc.com]). Callers requested the next available routine new-patient appointment for a patient with well-controlled hypertension. Calls with each insurance scenario were separated by at least 1 week and appointments were canceled at the end of each call. The University of Michigan Institutional Review Board considered the study “not regulated,” as we did not collect information about individual patients or clinic staff.

Our main outcome was availability of appointments to simulated patients, which we defined as a specific appointment date and time offered during the call. For clinics that accepted Medicaid and offered appointments, we calculated wait times as the difference in calendar days between the call date and appointment date. We also noted whether the appointment was made with a physician or nonphysician provider (eg, nurse practitioner, physician assistant).

We compared changes in appointment availability across the same clinics between pre- and postexpansion periods using logistic regression with time indicators. To compare changes in the skewed distribution of wait times over time and between Medicaid and private insurance, we conducted paired testing with the Wilcoxon signed rank-sum test. In sensitivity analyses, we used linear regression with time indicators after log-transforming the wait time variable, but results did not differ. Because our analyses were based on clinic-level longitudinal data, each clinic could contribute multiple observations to each regression analysis over the 4 waves of data collection. We therefore clustered the residual structure at the clinic level to obtain robust standard errors.^{11,12}

To assess differences across varying categories of clinics (eg, urban vs rural practices) at a given time period, we used χ^2 testing for appointment availability and the Wilcoxon rank sum test for wait time differences. We considered a 2-sided $P < .05$ statistically significant. All analyses were performed using Stata version 13 (StataCorp, College Station, Texas).

RESULTS

Full details of clinic characteristics have been published previously.⁹ We found in the current study that approximately half of the 295 study clinics were small practices with 1 to 2 providers ([eAppendix B](#)) and that 42% of clinics employed nonphysician providers, such as nurse practitioners or physician assistants. Although only 9% were traditionally defined as safety net clinics, 74% had established patients with Medicaid coverage. Clinics were located mostly in urban locations. During the study period, approximately 600,000 individuals enrolled in the state’s Medicaid expansion program¹⁰ and 340,000 enrolled in Marketplace plans,¹³ together representing approximately 10% of the state’s total population and 90% of the previously uninsured nonelderly adult population ([eAppendix A](#)).

Table 1. Primary Care Appointment Availability Before Versus After Medicaid Expansion

	Percentage of Clinics Accepting New Patients ^a			
	Pre-Expansion	4 Months Post Expansion	8 Months Post Expansion	12 Months Post Expansion
Medicaid	49%	55% ^b	56% ^b	55% ^b
Private insurance	88%	86% ^b	85% ^b	86% ^b

^aN = 295 clinics.

^bP <.05 for comparison of pre-expansion with postexpansion appointment availability.

Table 2. Proportion of Appointments Obtained With Nonphysician Providers Before Versus After Medicaid Expansion

	Proportion of New Patient Appointments Obtained With Nonphysician Providers ^a			
	Pre-Expansion	4 Months Post Expansion	8 Months Post Expansion	12 Months Post Expansion
Medicaid	8%	13%	18% ^b	21% ^b
Private insurance	11%	10%	15%	19% ^b

^aN = 295 clinics.

^bP <.05 for comparison of pre-expansion with post expansion.

Table 3. Primary Care Appointment Wait Times Before Versus After Medicaid Expansion

	Median Wait Times ^a (calendar days, interquartile range)			
	Pre-Expansion	4 Months Post Expansion	8 Months Post Expansion	12 Months Post Expansion
Medicaid	8 (3-18)	12 (4-24)	7 (2-21)	7 (4-21)
Private insurance	7 (2.5-15)	11 (3-21)	10 (4-19)	10 (5-21) ^b

^aN = 144 clinics that accepted Medicaid before and after Medicaid expansion.

^bP <.05 for comparison of pre-expansion with postexpansion wait times.

Availability of Appointments

The proportion of clinics with appointments available to new Medicaid patients increased from 49% before expansion to 55% by 12 months after expansion (+6 percentage points; 95% CI, 1.6-11.1) (Table 1). Appointment availability for new privately insured patients decreased from 88% of clinics to 86% by 12 months after expansion (-2 percentage points; 95% CI, -0.5 to -3.8). Changes in appointment availability for both Medicaid and privately insured groups at 12 months post expansion remained stable compared with the 4-month postexpansion findings.

We also examined the proportion of appointments scheduled with nonphysician providers versus physicians, and found that there was an increasing proportion of appointments scheduled with nonphysician providers over the study period (Table 2). For Medicaid appointments, 8% were scheduled with nonphysician providers before expansion, and this increased to 21% by 12 months post expansion (+13 percentage points; 95% CI, 5.6-20.2). For private insurance appointments, 11% were scheduled with nonphysician providers before expansion, and this

increased to 19% by 12 months post expansion (+8 percentage points; 95% CI, 1.3-14.1).

Wait Times

In clinics that accepted patients with Medicaid, median wait times for new Medicaid patients remained stable over the 12-month period (Table 3). In these same clinics, median wait times for new privately insured patients increased slightly by 12 months post expansion, from 7 to 10 days (P = .02). However, there was no significant difference between wait times for new Medicaid and new privately insured patients throughout the study period. Furthermore, median new patient wait times remained within 2 weeks, with more than 95% falling within the 90-day requirement of the Healthy Michigan law.

Variation by Practice Characteristics

Larger practices (≥3 providers) were more likely to accept new Medicaid patients pre-expansion and initially experienced significantly increased appointment availability 4 and 8 months post expansion (P = .002 and P = .02, respec-

tively) (eAppendix C); however, this increase was no longer significant by 12 months post expansion ($P = .14$). Safety net clinics were much more likely than non-safety net clinics to accept new Medicaid patients at baseline; however, only non-safety net clinics had significantly increased appointment availability after expansion ($P = .005$ at 12 months post expansion). Clinics in urban locations were less likely to accept new Medicaid patients than clinics in nonurban locations at baseline, but only urban clinics had increased Medicaid appointment availability post expansion ($P = .006$ at 12 months post expansion).

DISCUSSION

In this extended longitudinal follow-up of a simulated patient (“secret shopper”) study, we found that the proportion of primary care clinics accepting new Medicaid patients increased 12 months post-Medicaid expansion in Michigan. During the study period, there was also a steady increase in the proportion of appointments scheduled with nonphysician providers. Despite the large number of newly insured individuals, median new patient wait times remained within 2 weeks and were similar for Medicaid and privately insured patients. Although there was a statistically significant increase in wait times for new privately insured patients 12 months post expansion, the 3-day difference in wait times is likely not clinically meaningful for a patient scheduling an initial primary care appointment.

Notably, although the ACA-associated rate bump in Medicaid reimbursement to primary care providers expired at the end of 2014, the increased availability of appointments to new Medicaid patients persisted into 2015 despite Medicaid payments returning to pre-ACA levels. Prior literature suggested that states with larger increases in reimbursement during the rate bump had larger increases in Medicaid appointment availability.¹⁴ Consequently, many feared that primary care appointment access would decline soon after the rates dropped. Our observation of stable increases in Medicaid appointment availability suggests that this has not happened. Nevertheless, continuous careful attention to this issue is warranted, as primary care practice policies on acceptance of new Medicaid patients may continue to change over time.

The unexpected increase in appointment capacity, despite a fixed clinic sample and declining reimbursement, may be partially explained by the increasingly prominent role of nonphysician primary care providers.¹⁵ Given the increasing proportion of appointments scheduled with nonphysician providers during the study period, we speculate that clinics may have either hired additional

nurse practitioners or physician assistants, or transferred the work of new patient intakes to existing nonphysician providers. Prior literature also suggests that nonphysician providers are more likely than physicians to care for Medicaid patients.^{16,17} In spite of lower Medicaid reimbursement in 2015, it is possible that practices were able to continue accepting new patients, as such providers often receive lower salaries than physicians.¹⁷

Limitations

The study design has certain limitations, which were also discussed in our previous article.⁹ These limitations include incomplete calls; however, these only occurred with less than 5% of sampled clinics. Additionally, the study was limited by our focus on accessibility of appointments to new, rather than established, patients and the focus on a single large Midwestern state. Due to our emphasis on evaluating Healthy Michigan’s appointment rule, we examined wait times only in clinics that accepted Medicaid. Appointment availability and wait times may differ for established patients, patients in clinics that do not accept Medicaid, and patients in other states.

CONCLUSIONS

One year following Medicaid expansion in Michigan, appointment availability for new Medicaid patients increased. This is perhaps attributable to increasing proportions of appointments scheduled with nonphysician providers. Future research should examine the evolving role of nonphysician providers and other team-based approaches to expanding primary care capacity and improving access for the newly insured.¹⁸

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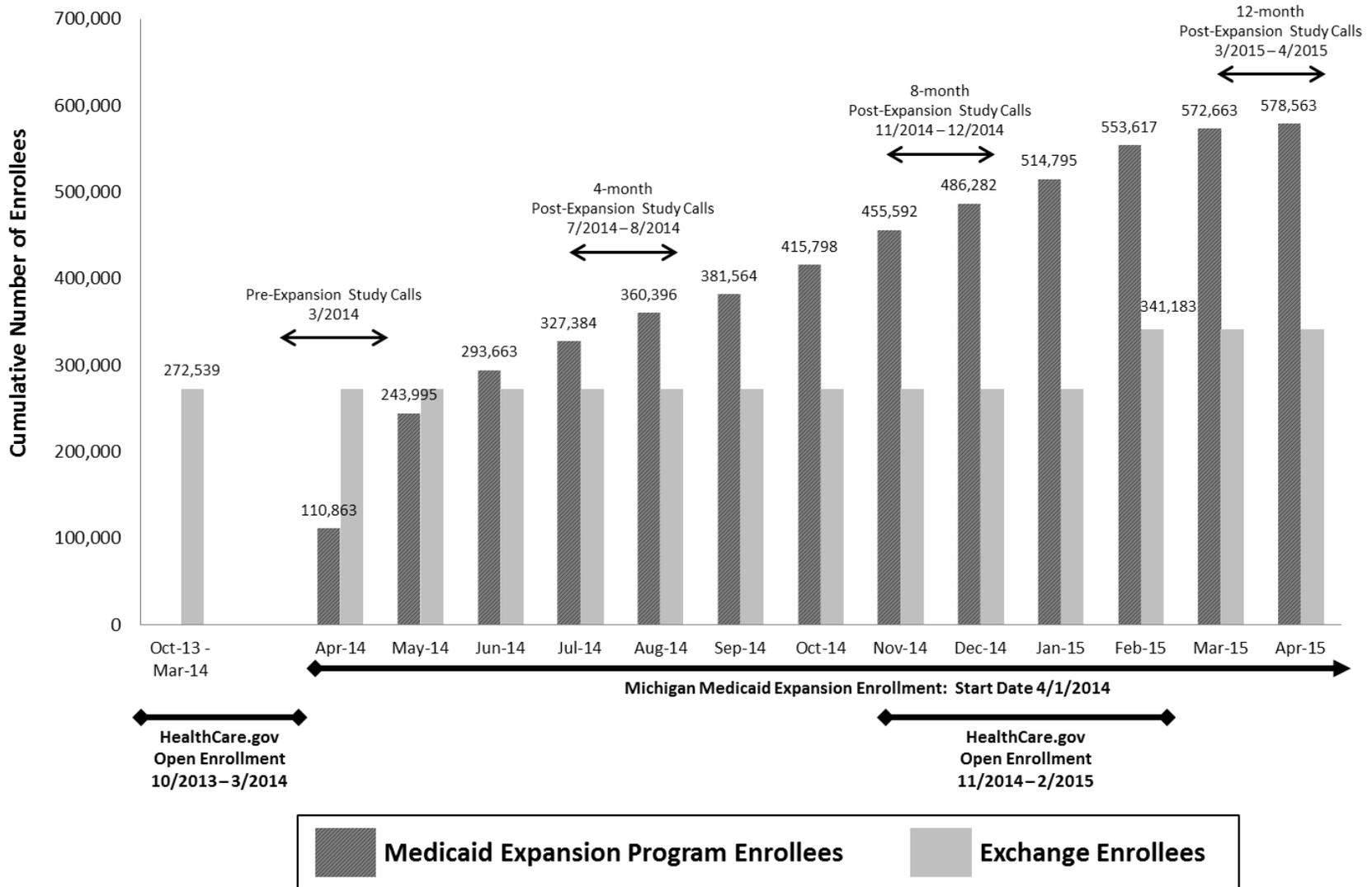
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eAppendix A. Timing of Study Calls in Context of Medicaid Expansion and Exchange Enrollment



eAppendix B. Characteristics of Study Clinics^a

Clinic Characteristics	n (%) (N=295)
Practice Size^b	
1 provider	94 (32%)
2 providers	72 (25%)
3-10 providers	107 (37%)
>10 providers	18 (6%)
Presence of Non-Physician Providers^b	
Yes	122 (42%)
No	169 (58%)
Safety Net Clinic^c	
Yes	27 (9%)
No	268 (91%)
Current Payers Accepted For Established Patients^b	
Private insurance	285 (97%)
Medicaid	217 (74%)
Urbanicity^d	
Urban	235 (80%)
Non-Urban	60 (20%)

^aAdditional details of clinic characteristics have been previously reported.⁸

^bAs reported in the telephone survey

^cClinic listed as a federally qualified health center, rural health clinic, healthcare for the homeless site, or migrant health center in publicly available national data sources

^dClassified by U.S. Department of Agriculture Urban Influence Codes linked to self-reported zip codes

eAppendix C. Variation in Availability and Wait Times for New Patient Primary Care Appointments by Practice Characteristics

MEDICAID

	Percentage of Clinics Accepting New Patients							
	Pre-expansion	p-value	4 months Post-expansion	p-value	8 months Post-expansion	p-value	12 months Post-expansion	p-value
Practice Size								
Small (<3 providers)	45%	0.15	47%	0.007	50%	0.03	51%	0.14
Large (≥3 providers)	54%		63%		63%		60%	
Safety Net Clinic								
Yes	85%	<0.001	89%	<0.001	81%	0.005	85%	0.002
No	45%		51%		53%		53%	
Urbanicity								
Urban	45%	0.01	52%	0.05	54%	0.18	53%	0.08
Non-Urban	63%		66%		63%		66%	

	Median Wait Times (Calendar Days)							
	Pre-expansion	p-value	4 months Post-expansion	p-value	8 months Post-expansion	p-value	12 months Post-expansion	p-value
Practice Size								
Small (<3 providers)	8	0.06	8	0.13	6	0.0002	6	0.01
Large (≥3 providers)	11.5		13		15		12.5	
Safety Net Clinic								
Yes	13	0.06	14	0.72	16	0.26	14	0.23
No	8		8.5		7		7	
Urbanicity								
Urban	8	0.008	8	0.30	7	0.19	7	0.27
Non-Urban	16.5		14		12		7	

PRIVATE INSURANCE

	Percentage of Clinics Accepting New Patients							
	Pre-expansion	p-value	4 months Post-expansion	p-value	8 months Post-expansion	p-value	12 months Post-expansion	p-value
Practice Size								
Small (<3 providers)	84%	0.03	82%	0.02	82%	0.07	82%	0.05
Large (≥3 providers)	93%		91%		90%		90%	
Safety Net Clinic								
Yes	96%	0.17	89%	0.66	85%	0.98	85%	0.90
No	87%		86%		85%		86%	
Urbanicity								
Urban	89%	0.41	88%	0.13	87%	0.08	88%	0.06
Non-Urban	85%		80%		78%		78%	

	Median Wait Times (Calendar Days)							
	Pre-expansion	p-value	4 months Post-expansion	p-value	8 months Post-expansion	p-value	12 months Post-expansion	p-value
Practice Size								
Small (<3 providers)	6	0.02	8	0.03	6	0.05	7	0.004
Large (≥3 providers)	9		13		13		13	
Safety Net Clinic								
Yes	12	0.03	11	0.80	13.5	0.10	9	0.91
No	6		11		8		10	
Urbanicity								
Urban	6	0.05	11	0.69	8	0.17	10	0.62
Non-Urban	9		12		13		10	

N=295 clinics for appointment availability estimates. N=144 clinics for wait time estimates. The following trends were significantly different over time:

- Larger practices had significant increases in Medicaid appointment availability at 4 and 8 months post-expansion.
- Non-safety net clinics had significant increases in Medicaid appointment availability at 4, 8, and 12 months post-expansion.
- Clinics in urban locations had significant increases in Medicaid appointment availability at 4, 8, and 12 months post-expansion.