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Virginia Medicaid Expansion: New Members Report Reduced Financial Concerns During The COVID-19 Pandemic

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ABSTRACT Medicaid is a critical antipoverty program. Since the Affordable Care Act expanded Medicaid eligibility, millions of newly eligible people have enrolled, creating positive financial improvements for low-income families. We examined the association of Virginia’s 2019 Medicaid expansion and changes in health care–related and non-health-care-related financial needs among newly eligible Medicaid enrollees. Our unique survey collected responses between December 2018 and April 2019 from newly enrolled members reporting on experiences in the year before enrollment and between July 2020 and May 2021 from members reporting on experiences one year after enrollment. The follow-up period coincided with the COVID-19 pandemic. Medicaid enrollment was associated with decreases in concern about all financial needs assessed: housing, food, monthly bills, credit card and loan payments, and health care costs. These reductions were broadly similar across demographic subgroups and across the months of the pandemic that overlapped with the follow-up period. We add to the evidence that Medicaid expansion is a social safety-net policy that could improve equity among low-income families, potentially encouraging states that have yet to expand to do so.

Medicaid is a vital antipoverty program in the US. In 2010 it was estimated that Medicaid kept at least 2.6 million Americans out of poverty.¹ After the Affordable Care Act expanded Medicaid eligibility beginning in 2010, the poverty rate in states that participated in the expansion had decreased by 0.92 percentage points by 2016.² The COVID-19 pandemic has reinforced the importance of social safety-net policies in the US, including Medicaid. Medicaid enrollment increased by 9.3 million beneficiaries (13.1 percent) nationally between February 2020 and January 2021 as the pandemic spread throughout the country.³

Medicaid expansion has had a positive impact

on health care affordability, which is a significant problem for many Americans but particularly among people with lower incomes. In 2016 more than a quarter of Americans reported that someone in their household had difficulty paying medical bills, with those who were uninsured or had lower incomes more likely to face such challenges.⁴ Medically related debt remains one of the largest drivers of bankruptcy in the US.⁵ Medicaid expansion has made health care more affordable, in part by reducing out-of-pocket health care spending, resulting in less worry about paying medical bills.^{6–8} Conversely, one study found that when residents of Iowa were disenrolled from Medicaid, they were less likely to receive medical care when needed.⁹ Expanding Medicaid decreases medical debt as well, in-

cluding reducing the size of debt, the number of people with debt, and the likelihood of debt collection.^{10–12} Medical collections declined by 8.1 percentage points in the third year after expansion in Louisiana compared with nonexpansion southern states.¹³

The positive spillovers of Medicaid expansion include improvements in credit scores^{11,12} and decreased payday loan borrowing.¹⁴ Evidence from studies of Michigan's Medicaid expansion indicates that the amount of medical bills in collections and the number of bankruptcies decreased for people enrolled in Medicaid after expansion.¹⁵ Moreover, reductions in bills sent to third-party collections and improvement in credit scores were larger among people with chronic diseases or recent hospitalizations.¹⁵

Medicaid expansion may also increase the ability of covered families to pay for housing and food. Recent evidence suggests that food insecurity decreased by 2.2 percentage points for people in expansion states compared with those in nonexpansion states.¹⁶ Medicaid expansion is also associated with less worry about paying housing costs or purchasing healthy meals.¹⁷ Increasing health insurance coverage among low-income families also has been shown to increase home ownership.¹⁸ Other evidence suggests that eviction rates declined after Medicaid expansion.¹⁹

In 2019 Virginia expanded Medicaid under the ACA, extending coverage to more than 500,000 low-income adults in the state by the end of 2021.²⁰ As part of its Medicaid expansion evaluation, the authors, with the support of the Virginia Department of Medical Assistance Services, surveyed newly enrolled Medicaid members about their health and financial well-being in the year before enrolling in Medicaid (baseline survey; December 2018–April 2019) and then conducted a follow-up survey eighteen to twenty-four months after enrollment (July 2020–May 2021).²¹

The present study, which used data from those surveys, expands the literature in four ways. First, no studies have analyzed the changes in financial distress for a population of newly eligible Medicaid enrollees before and after enrollment. Most studies have used difference-in-differences comparisons or have used cross-sectional post-test-only designs, such as studies on Medicaid expansion in Oregon and Michigan.^{15,22} Second, few studies have focused on financial need related to housing, food, or monthly bills, with most of the prior evidence reporting on rare events or concentrating on health care affordability.^{15,19,22} Third, this study was among the first to examine differences in financial need after Medicaid enrollment be-

tween member demographic subgroups including sex, rurality, and race and ethnicity, adding an additional equity lens to Medicaid expansion evaluations.²³

Last, because the follow-up survey period overlapped with the COVID-19 pandemic, we offer insights on the impact of public health insurance in a time of economic and public health crisis. Numerous social policies were put in place as well, such as increased unemployment benefits and eviction moratoriums intended to mitigate the financial impact of the COVID-19 pandemic on families.²⁴ This study examined how financial distress changed for beneficiaries during the first year of enrollment in expanded Medicaid compared with the year before enrollment. Given prior evidence, we expected that financial distress would decrease during the first year of enrollment, although these effects could be influenced by the pandemic and the related social policies.

Study Data And Methods

SAMPLE Data were obtained from the Medicaid Expansion New Member Survey—a baseline and follow-up survey of a representative sample of adults enrolled in Virginia Medicaid under expansion eligibility. Between December 2018 and April 2019, a baseline sample of 7,500 members was drawn from a sample frame of 170,838 members, using enrollment files provided by Virginia's Department of Medical Assistance Services. The sample frame comprised all newly enrolled people who were eligible because of expansion, did not have full-benefit Medicaid coverage, or were not in a Qualified Health Plan in the past year. Paper surveys were mailed to these members, followed by four additional reminders. In total, 1,556 members responded to the baseline survey, for a 20.7 percent response rate.

The follow-up survey was conducted from July 2020 through January 2021. During this period, 7,500 surveys were sent, followed by a reminder notice to two groups: members responding to the baseline survey who were continuously enrolled for twelve months ($n = 1,255$) and a supplemental sample of those continuously enrolled for twelve months, drawn from the initial sample frame ($n = 6,245$). A total of 1,622 members responded to the follow-up survey, for a response rate of 21.6 percent.

Although the response rates for both surveys may appear low, they are similar to those for other surveys of Medicaid members. A 22 percent response rate was achieved in a random-digit-dialing telephone survey of low-income working-age adults across the US;⁶ other mail-based sur-

veys of Medicaid members in Virginia had response rates of approximately 20 percent among members with opioid use disorder.²⁵ Further, a survey of Iowa's Medicaid expansion population yielded a 22 percent response rate.²⁶

To minimize potential nonresponse bias, baseline sample survey weights were constructed to correct for differences between respondents and nonrespondents on the basis of age, sex, race and ethnicity, poverty status (below or above 100 percent of the federal poverty level), and six Virginia regions. Additional survey weights adjusted the follow-up sample to reflect initial sample frame based on age, sex, and race and ethnicity. To construct sample weights, we used the propensity cell weighting method.²⁷ Additional details are in the online appendix on the survey protocol (appendix A), as well as the sampling design and correction for nonresponse bias (appendix B).²⁸

FINANCIAL DISTRESS OUTCOMES Both surveys included measures of financial concern about medical and nonmedical needs adapted from the National Health Interview Survey.²⁹ For the baseline survey, the question stem read: “[The following] questions ask about your experiences during the past twelve months before you were enrolled in your new Medicaid health plan. Please indicate how worried you were about each of the following before you enrolled in Medicaid.” Participants were then asked about financial worries related to not being able to pay rent, mortgage, or other housing costs; not having enough money to pay for food; not having enough money to pay normal monthly bills; not being able to make the minimum payments on credit cards, payday loans, or student loans; not being able to pay medical costs for normal health care; or not being able to pay medical costs for a serious illness or an accident.

The follow-up survey asked: “[The following] questions ask about your experiences in the past twelve months. Please indicate how worried you are about each of the following,” with the same measures of financial need and response options described above. Binary indicators of financial need in the past twelve months for each question were created (somewhat or very worried versus not worried).

Members were also asked in both surveys the following “yes” or “no” questions: “In the past twelve months, have you had problems paying medical bills?” and “In the past twelve months, have you had any medical bills that were being paid off over time?”

MEDICAID EXPANSION ENROLLMENT INDICATOR The primary covariate of interest was a binary indicator for whether the responses were obtained from the baseline or follow-up surveys

Our findings add insight into the financial protection of public insurance during a public health crisis.

to proxy for the year before and after Medicaid enrollment.

MEMBER CHARACTERISTICS Data on member demographics were obtained from the enrollment files and surveys. Enrollment files captured members' sex, age, race and ethnicity, and ZIP code. A binary rural/nonrural indicator was created on the basis of members' ZIP codes, linked to the rural-urban commuting area codes from the Department of Agriculture's Economic Research Service (codes 1–3 were classified as nonrural and 4–7 as rural).³⁰ Data for marital status, employment status, education level, self-rated physical and mental health, number of health conditions, and past-year emergency department (ED) use or hospitalizations came from the surveys.

ANALYTIC APPROACH After we calculated univariate statistics for member characteristics and outcomes, the weighted unadjusted differences in financial distress outcomes between the two surveys were tested. Weighted linear probability models then were fit to the data for each outcome with robust standard errors to correct for members who responded to both surveys. Complete case analyses were used, as data on race and ethnicity, age, sex, rurality, marital status, self-rated health, and health care use were complete for 97–100 percent of respondents. Education and employment status were missing for about 5 percent of respondents. Number of health conditions was missing for 7 percent of respondents.

To test for differences in the association between enrollment in Medicaid expansion and financial distress across member characteristics, our models were stratified by race and ethnicity, rurality, and sex, and weighted regressions were reestimated. The Medicaid expansion coefficient was then compared between stratified groups using the “seemingly unrelated estimation” post test.³¹

To examine potential confounding influences arising from the COVID-19 pandemic coinciding

Medicaid expansion in Virginia was associated with similar changes in financial needs across demographic subgroups of members.

with the survey follow-up period, we conducted several analyses. We created a timeline of COVID-19-related policies and when our follow-up surveys were returned (appendix C).²⁸ We stratified the follow-up sample by survey return month and reestimated our models, using the full baseline sample and follow-up sample in each month of the pandemic that overlapped with the follow-up period. We note that members who returned surveys in August 2020 had six months of their lookback period overlapping with the pandemic, whereas those who returned them in February–May 2021, the last group to return surveys, had lookback periods that completely overlapped with the first year of the pandemic.

Members in the follow-up survey were asked, “What was your job status prior to the coronavirus emergency that began in March?” to assess the impact of the pandemic on employment. Responses to this question and to the current employment question in the follow-up survey were combined to determine whether members remained in (employed or unemployed) or out (retired, student, or homemaker) of the labor force after the pandemic. We then dropped members from the follow-up survey whose labor-force status changed during the pandemic. A labor-force status indicator was also created from the baseline survey. Our main models were stratified by labor-force status and reestimated with adjustments for covariates and weights to correct for nonresponse bias.

As our main analytic approach, we chose to use the repeated cross-section design, as the longitudinal cohort experienced significant attrition, which might not be random, and many sensitivity tests required sufficient power to check robustness across subsamples of the cross-sections. Because of sample design and

weighting, both the baseline and the follow-up are representative of the same population—the initial sample frame of newly enrolled members. Nonetheless, fixed and random effects panel data models using the subsample of members responding to both surveys were conducted to test the robustness of our analytic decision. Full regression models are in appendixes L and M.²⁸ Analyses were conducted using STATA, version 16.

LIMITATIONS There are several limitations that should be considered. First, our sample included people in only one state, so they might not be generalizable to a national sample. Further, our findings relied solely on self-reported survey data. In comparison, several previous studies linked longitudinal credit card data to more directly measure effects on credit scores, avoiding limitations inherent in self-reported data.^{15,22} This current study examined changes in financial distress one year after enrollment, but research suggests that the financial impact of Medicaid expansion may be enduring.⁶ Finally, completion of the follow-up survey occurred during the COVID-19 pandemic. Although this likely limited the generalizability of the findings outside of the pandemic, it provides insight into the critical nature of public health insurance during a public health and economic crisis.

Study Results

MEMBER CHARACTERISTICS Among the 2,877 members responding to the baseline and follow-up surveys in Virginia, most were non-Hispanic White (53.4 percent; 95% confidence interval: 51.3, 55.4), female (52.5 percent; 95% CI: 50.5, 54.6), and nonrural (74.7 percent; 95% CI: 72.9, 76.4), as seen in exhibit 1. About half of the members responding were single (49.5 percent; 95% CI: 47.4, 51.6) and had more than a high school diploma (47.9 percent; 95% CI: 45.1, 50.7). Most respondents reported being in good, very good, or excellent physical health (64.0 percent; 95% CI: 62.0, 65.9]) and mental health (69.8 percent; 95% CI: 67.9, 71.7). Respondents in the follow-up survey were widely similar to those in the baseline survey in terms of member characteristics, with the exception that those in the follow-up survey were less likely to report past-year hospital or ED use and more likely to be out of the labor force ($p < 0.05$ each). Although the decrease in hospital and ED use was similar to other evidence on health care use during the first year of the pandemic,³² it is important to note that primary care visits and preventive care use increased after enrollment in Medicaid among our respondents (data not shown).²¹

EXHIBIT 1

Characteristics of newly enrolled Medicaid expansion members in Virginia surveyed during 2019–21

	Baseline	Follow-up	Total sample
Race and ethnicity ^a (n = 2,877)			
Non-Hispanic White	53.6	53.2	53.4
Non-Hispanic Black/African American	30.9	32.9	31.9
Non-Hispanic other	14.0	12.0	13.0
Hispanic	1.5	2.0	1.8
Age, ^a years* (n = 2,877)			
18–29	23.2	20.5	21.8
30–39	24.5	25.3	24.9
40–49	20.2	17.5	18.8
50–59	22.2	25.7	24.0
60–64	9.9	10.9	10.4
Marital status ^b (n = 2,821)			
Single (never married)	50.5	48.5	49.5
Married	20.9	20.9	20.9
Separated, widowed, or divorced	28.6	30.6	29.6
Highest level of education ^b (n = 2,771)			
Less than high school diploma	19.4	17.1	18.2
High school diploma	32.8	35.0	33.9
More than high school	47.9	47.9	47.9
Current employment ^b **** (n = 2,737)			
Employed or self-employed	44.3	44.8	44.5
Not employed but looking for work	32.9	25.8	29.4
Retired, student, or homemaker	22.9	29.4	26.1
Male ^a (n = 2,877)	47.5	47.4	47.5
Rural ^a (n = 2,875)	24.6	26.0	25.3
Past-year hospital or ED use ^{b,c} **** (n = 2,801)	49.7	35.4	42.5
Fair or poor self-rated health ^b			
Physical (n = 2,818)	37.2	34.8	36.0
Mental (n = 2,812)	31.5	28.8	30.2
No. of health conditions ^b (n = 2,677)			
0	29.7	27.3	28.5
1	29.4	27.9	28.7
2	30.8	34.4	32.6
3–11	10.1	10.5	10.3
Financial distress outcomes; worried or very worried about: ^b			
Housing costs**** (n = 2,800)	68.8	62.3	65.5
Food**** (n = 2,802)	65.7	55.8	60.8
Monthly bills**** (n = 2,808)	80.2	72.4	76.2
Minimum payments**** (n = 2,780)	53.9	44.5	49.2
Normal health care costs**** (n = 2,788)	83.8	48.8	66.2
Catastrophic health care costs**** (n = 2,797)	77.6	52.1	64.8
Any problems paying medical bills**** (n = 2,826)	66.5	19.0	42.6
Any medical bills paid off over time**** (n = 2,820)	33.4	14.9	24.1

SOURCES Medicaid Expansion New Member Survey data, and Medicaid enrollment file data from Virginia's Department of Medical Assistance Services. **NOTES** For respondents reporting on experiences 12 months before enrollment (baseline), n = 1,255; weighted n = 136,580. For respondents reporting on experiences after 12 months of enrollment (follow-up), n = 1,622; weighted n = 138,476. Total sample, N = 2,877; weighted N = 275,056. All estimates are weighted to adjust for nonresponse bias and represent members newly enrolled in expanded Medicaid in Virginia. p value levels are reported for tests of differences across survey waves. ED is emergency department. ^aData from enrollment files. ^bData from questions on the survey. ^cThis is similar to other evidence on health care use during the first year of the pandemic; see Adjemian J et al., Update: COVID-19 pandemic-associated changes in emergency department visits—United States, December 2020–January 2021 (note 32 in text). However, it is important to note that primary care visits and preventive care use increased after enrollment in Medicaid among our respondents. See Shadowen H et al., Experiences with the first year of Medicaid enrollment (note 21 in text). *p < 0.10 ***p < 0.01 ****p < 0.001

MEDICAID EXPANSION AND FINANCIAL DISTRESS

► **UNADJUSTED DIFFERENCES:** Before adjustment, enrollment in Medicaid after Virginia’s expansion was associated with reductions in financial distress for all outcomes examined ($p < 0.05$ each; exhibit 1). Large decreases were observed in concern about paying for regular health care (83.8 percent before enrollment versus 48.8 percent after enrollment; $p < 0.01$) and in problems paying medical bills (66.5 percent before enrollment versus 19.0 percent after enrollment; $p < 0.01$).

► **ADJUSTED DIFFERENCES:** After adjustment, being enrolled in Medicaid expansion for the past twelve months was significantly associated with decreases in reporting nonmedical financial needs (exhibit 2). We found a 5.0-percentage-point decrease (95% CI: -0.090 , -0.009) in the likelihood of being worried about paying for housing costs after twelve months of enrollment compared with the year before enrollment. We observed a 7.7-percentage-point decrease (95% CI: -0.117 , -0.037) in the likelihood of being worried about paying for food after a year of enrollment, a 6.4-percentage-point decrease (95% CI: -0.101 , -0.027) in the likelihood of

being worried about paying monthly bills, and a 7.8-percentage-point decrease (95% CI: -0.120 , -0.037) in the likelihood of being worried about paying the minimum amount on loans or credit cards.

We observed larger decreases in concern about medical costs and medical debts. The likelihood of being worried about the cost of normal health care decreased by 33.7 percentage points (95% CI: -0.376 , -0.298) twelve months after enrollment compared with the year before enrollment. The likelihood of being worried about the cost of catastrophic health care decreased by 23.8 percentage points (95% CI: -0.277 , -0.199) after enrollment. The probability of reporting any problems paying medical bills decreased by 44.6 percentage points (95% CI: -0.483 , -0.408) and paying off any medical debt over time, by 18.5 percentage points (95% CI: -0.221 , -0.148) after enrollment.

When we stratified the results by race and ethnicity, we observed significant differences in the magnitude of the Medicaid expansion coefficient between non-Hispanic White and non-Hispanic Black or African American members for only two financial distress outcomes (exhibit 3). Non-Hispanic Black and African American

EXHIBIT 2

Adjusted associations between Medicaid expansion enrollment in Virginia and changes in health care–related and non-health-care-related financial needs, 2019–21

	Financial distress outcomes; somewhat or very worried about paying for:							
	Housing	Food	Bills	Min. pmts.	Health care costs		Problems paying med. bills	Med. bills paid off over time
					Normal	Catastrophic		
Wave of survey								
Baseline	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Follow-up	-0.050^{**}	-0.077^{****}	-0.064^{****}	-0.078^{****}	-0.337^{****}	-0.238^{****}	-0.446^{****}	-0.185^{****}
Race and ethnicity								
NH White	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
NH Black/AA	-0.007	-0.022	-0.014	-0.012	-0.052^{**}	-0.097^{****}	0.014	-0.017
NH other	0.023	-0.066^*	0.008	0.036	-0.008	0.002	-0.095^{***}	-0.033
Hispanic	-0.142^*	0.017	-0.094	0.048	-0.017	-0.013	-0.054	0.013
Sex								
Male	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Female	0.033	0.026	0.023	0.080^{****}	0.004	-0.011	0.015	0.026
Rural								
Not rural	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Rural	-0.046^*	0.001	-0.005	-0.058^{**}	-0.045^{**}	-0.049^{**}	0.013	-0.012
Model F-statistic	8.01	13.66	8.87	10.33	28.37	20.58	72.4	10.27
Model R ²	0.0730	0.1085	0.0827	0.0818	0.1939	0.1445	0.3296	0.1010

SOURCE Authors’ analysis of Medicaid Expansion New Member Survey data. **NOTES** Sample sizes and weighted sample sizes for areas of concern are as follows: housing costs: $n = 2,453$, weighted $n = 238,919$; food: $n = 2,456$, weighted $n = 239,002$; monthly bills: $n = 2,458$, weighted $n = 239,186$; minimum credit card or loan payments: $n = 2,443$, weighted $n = 238,314$; normal health care costs: $n = 2,444$, weighted $n = 238,025$; catastrophic health care costs: $n = 2,453$, weighted $n = 238,953$; any problems paying medical bills: $n = 2,442$, weighted $n = 237,828$; any medical bills being paid off over time: $n = 2,441$, weighted $n = 237,978$. Estimates represent regression coefficients from linear probability models and were weighted to adjust for nonresponse bias and represent members newly enrolled in expanded Medicaid. Estimates were also adjusted for age, marital status, education status, health care use, self-rated physical and mental health, and number of health conditions. Full regression models are in appendix D (see note 28 in text). NH is non-Hispanic. AA is African American. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$ **** $p < 0.001$

EXHIBIT 3

Comparing differences in financial needs after Medicaid expansion enrollment in Virginia across demographic subgroups of enrollees, 2019–21

Financial distress outcomes; somewhat or very worried about paying for:

Enrollee characteristics					Health care costs		Problems paying med. bills	Med. bills paid off over time
	Housing	Food	Bills	Min. pmts.	Normal	Catastrophic		
Race and ethnicity								
NH White	-0.028 ^a	-0.089 ^{****}	-0.076 ^{***}	-0.091 ^{***}	-0.323 ^{****}	-0.224 ^{****}	-0.489 ^{****}	-0.207 ^{****}
NH Black/AA	-0.123 ^{****}	-0.106 ^{***}	-0.089 ^{***}	-0.076 ^{**}	-0.412 ^{****}	-0.287 ^{****}	-0.434 ^{****}	-0.143 ^{****}
Rurality								
Nonrural	-0.042 [*]	-0.063 ^{***}	-0.056 ^{***}	-0.079 ^{***}	-0.331 ^{****}	-0.233 ^{****}	-0.411 ^{**** a}	-0.162 ^{****,a}
Rural	-0.077 [*]	-0.118 ^{***}	-0.092 ^{***}	-0.082 ^{**}	-0.351 ^{****}	-0.247 ^{****}	-0.545 ^{**** a}	-0.247 ^{****,a}
Sex								
Male	-0.042	-0.057 [*]	-0.068 ^{**}	-0.069 ^{**}	-0.331 ^{****}	-0.236 ^{****}	-0.416 ^{****}	-0.163 ^{****}
Female	-0.057 ^{**}	-0.096 ^{****}	-0.063 ^{***}	-0.092 ^{****}	-0.344 ^{****}	-0.242 ^{****}	-0.469 ^{****}	-0.200 ^{****}

SOURCE Authors' analysis of Medicaid Expansion New Member Survey data. **NOTES** Estimates represent regression coefficients from linear probability models and were weighted to adjust for nonresponse bias and represent members newly enrolled in expanded Medicaid. Except when stratified on a given variable (for example, sex), estimates were adjusted for race and ethnicity, age, sex, rurality, marriage, education status, health care use, self-rated physical and mental health, and number of health conditions. *p* value levels are reported for tests of significance of the Medicaid enrollment coefficient in the stratified model. The outcomes are defined more fully in the exhibit 2 notes. NH is non-Hispanic. AA is African American. ^aIn parameter stability testing using a "seemingly unrelated estimation" post test, the Medicaid enrollment coefficient was significantly different between stratified models at $\alpha = 0.05$ for the following: NH White versus NH Black/AA for housing costs and normal health care costs and for not rural versus rural for any problems paying medical bills and any medical bills being paid off over time. Full regressions for all groups are in appendixes E–J (see note 28 in text). **p* < 0.10 ***p* < 0.05 ****p* < 0.01 *****p* < 0.001

members reported larger reductions than non-Hispanic White members in being worried about paying for housing (–12.3 percentage points versus –2.8 percentage points; *p* < 0.05) and normal health care costs (–41.2 percentage points versus –32.3 percentage points; *p* < 0.05). Because of limited power, we were unable to test for differences among non-Hispanic other or Hispanic members. Members who lived in rural areas compared with those who lived in nonrural areas reported significantly larger decreases in the likelihood of having problems paying medical bills (–54.5 percentage points versus –41.1 percentage points) and paying off medical debt over time (–24.7 percentage points versus –16.2 percentage points) after enrolling in Medicaid expansion (*p* < 0.05 each). There were no significant differences in the magnitude of the Medicaid expansion coefficient between male and female members for any measures of financial need.

ROBUSTNESS CHECKS In our sensitivity analyses, we found that the association between Medicaid expansion and financial distress remained largely consistent and of similar magnitude, regardless of whether those who were not continuously enrolled were included as well as when only those responding to both waves were included, across both fixed and random effects models (appendixes L and M).²⁸ Our main model results were also not sensitive to using logistic regressions instead of linear probability models (appendix N).²⁸

When examining the robustness of our main

analytic approach across months of the follow-up period coinciding with the COVID-19 pandemic, we found that the association of Medicaid expansion and changes in financial distress were broadly consistent between August 2020 and February–May 2021 (exhibit 4). However, estimated changes in concern over housing costs appeared to be sensitive to the month when the follow-up survey was returned. Finally, despite differences in COVID-19 policies targeting people in the labor force (for example, enhanced unemployment benefits), respondents in and out of the labor force both reported significant decreases in financial need across outcomes, with those out of the labor force reporting larger reductions (appendixes W and X).²⁸

Discussion

Medicaid is a vital social safety net for low-income US families. The COVID-19 pandemic has reinforced this role as millions of Americans lost their jobs and employer-based health insurance coverage. Our analysis built on previous evidence on the household financial benefits of Medicaid expansion by comparing nonmedical and medical financial distress in the year before and after enrollment. Our findings add insight into the financial protection of public insurance during a public health crisis.

We found that newly eligible enrollees reported decreased worry about paying for housing, food, monthly bills, and minimum payments on loan and credit card bills one year

Adjusted associations between Medicaid expansion enrollment in Virginia and financial need stratified by the month in which the follow-up survey was returned, 2019–21

Month of survey return	Financial distress outcomes; somewhat or very worried about paying for:				Health care costs		Problems paying med. bills	Med. bills paid off over time
	Housing	Food	Bills	Min. pmts.	Normal	Catastrophic		
8/20 vs. full baseline	-0.099***	-0.073**	-0.057*	-0.067*	-0.336***	-0.170***	-0.422***	-0.180***
9/20 vs. full baseline	-0.054	-0.071*	-0.066*	-0.050	-0.344***	-0.240***	-0.436***	-0.202***
10/20 vs. full baseline	-0.033	-0.072**	-0.074**	-0.161***	-0.376***	-0.299***	-0.447***	-0.175***
11/20 vs. full baseline	-0.044	-0.083**	-0.075**	-0.084**	-0.322***	-0.203***	-0.389***	-0.150***
12/20–1/21 vs. full baseline	-0.040	-0.091***	-0.061*	-0.068*	-0.310***	-0.251***	-0.450***	-0.195***
2–5/21 vs. full baseline	-0.092*	-0.093*	-0.064	-0.031	-0.378***	-0.265***	-0.482***	-0.166***

SOURCE Authors' analysis of Medicaid Expansion New Member Survey data. **NOTES** Sample sizes for each regression vary by outcome and are in the appendix (see note 21 in text). Estimates represent regression coefficients from linear probability models and were weighted to adjust for nonresponse bias and represent members newly enrolled in expanded Medicaid. Estimates were also adjusted for race and ethnicity, age, sex, rurality, marriage, education status, health care use, self-rated physical health, self-rated mental health, and number of health conditions. Estimates represent regression coefficients from linear probability models. The outcomes are defined more fully in the exhibit 2 notes. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$ **** $p < 0.001$

after enrollment in Virginia's expanded Medicaid program. These findings support previous studies that describe positive spillover effects of Medicaid expansion on non-health-care-related expenses.^{14,16,17} New enrollees reported significant decreases in being worried about normal and catastrophic health care costs as well as any problems paying medical bills and paying off medical debt over time. These findings are similar to national evidence and the results of studies focusing on Medicaid expansion in Louisiana and Michigan.^{13,15}

As increased attention is paid to the implications of publicly funded coverage on health equity, we add new evidence that Medicaid expansion in Virginia was associated with similar changes in financial needs across demographic subgroups of members. In the few cases where differences were found, non-Hispanic Black and African American and rural members experienced larger decreases in financial need after enrollment, echoing previous findings that Black and African American people experienced larger reductions in out-of-pocket expenses after Medicaid expansion compared with White people.²³ Our findings among rural Medicaid members in Virginia contrast those from Ohio's Medicaid evaluation, which found smaller enrollment-related changes in difficulty paying for rent, food, or debt among rural compared with nonrural members, suggesting that place may matter.³³ Additional research may clarify whether these financial protective effects differ among other important subgroups of new enrollees, such as other marginalized populations and those with substance use disorders or other chronic diseases.

Finally, the financial distress associated with

job loss and economic turmoil during COVID-19 was likely mitigated by public health and economic policies enacted during the pandemic, potentially confounding the effect of increased enrollment in Medicaid.³ Our findings align with prior evidence on the financial protections of Medicaid predating the pandemic and, with the exception of housing, do not appear sensitive to the month during the first year of the pandemic in which the follow-up surveys were returned. We speculate that changes in financial worry over housing costs are potentially confounded because of contemporaneous implementation of pandemic-related eviction moratoriums, in addition to other COVID-19 financial protection policies. Indeed, recent evidence suggests that those receiving unemployment benefits throughout the early months of the pandemic had a significant reduction in financial distress during April–November 2020.²⁴ Although many of the COVID-19 social policies focused on employment and unemployment protections, we found significant reductions in being worried about both medical and nonmedical financial needs among respondents who were in and out of the labor force after Medicaid enrollment. In sum, our results did not generally appear to be sensitive to the net effect of the COVID-19 pandemic and the policies implemented to mitigate its public health and economic impacts.

Our work is particularly important to consider in the context of the unwinding of maintenance-of-eligibility requirements implemented under the Families First Coronavirus Response Act of 2020 to promote coverage stability during the pandemic, disenrolling many current Medicaid enrollees.³⁴ In addition, this study provides evidence for the potentially critical role of Medicaid

expansion during public health and economic crises such as the COVID-19 pandemic. As more states consider expanding Medicaid and those that have expanded pursue waivers and state plan amendments to further innovate coverage

and benefits, our study findings suggest that expanded eligibility may improve the financial well-being of low-income families through multiple channels. ■

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