

Nudges to increase completion of welfare applications: experimental evidence from Michigan

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Abstract:

The Temporary Assistance for Needy Families (TANF) program provides cash assistance to very-low-income families with children. Application procedures to receive TANF benefits, however, often involve substantial transaction costs likely to reduce take-up. Using a randomized controlled trial design, we estimate the marginal effects of a personalized telephone-call reminder to increase TANF application completion in southwest Michigan, where applicants must visit a regional public employment office at least four times to complete their application for benefits. Compared to a generic telephone call, we find that personalizing reminder calls did not increase participation in the initial appointment at the public employment office. Additionally, reminders before remaining appointments, combined with the personalized reminder call to attend the orientation, did not increase attendance at appointments after orientation.

Keywords: Temporary Assistance for Needy Families, Nudge, Welfare-to-work, Randomized controlled trial, Application costs

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The Temporary Assistance for Needy Families (TANF) program provides cash assistance to very-low-income families with children in the United States. Application procedures to receive TANF benefits, however, often involve substantial transaction costs likely to reduce take-up (Currie, 2006; Deshpande & Li, 2019; Finkelstein & Notowidigdo, 2019; Herd & Moynihan, 2018; Moffitt, 1983; Ribar, 2014). In Michigan, applicants must visit a regional public employment office at least four times to demonstrate a determined effort to seek employment. The application process takes at least 28 days, and 60 percent of initial applicants fail to meet application requirements and therefore do not receive benefits. Because TANF serves some of the most vulnerable families in the United States, ineligibility for benefits may significantly reduce their household well-being.

In this research letter, we estimate, through a randomized controlled trial design, the effects of a low-cost intervention to increase completion of TANF applications in a four-county region of southwest Michigan. Before their first appointment at a regional public employment office, all of Michigan's TANF applicants receive a short reminder telephone call that lists the appointment date, time, and location. In 2015, Michigan Works! Southwest, the local agency that coordinates Michigan's TANF application process for area residents, provided detailed telephone calls to some applicants. During these calls, in addition to listing the appointment's date, time, and location (as in the calls normally made to applicants), callers explained how long orientation could last and emphasized services and employment networks the agency uses to connect applicants to employment opportunities. Callers also welcomed questions regarding orientation and directions to the location. Additionally,

applicants who received these more in-depth and open-ended calls received reminder calls before each of the three required appointments after orientation, whereas the remaining applicants did not receive any additional reminder calls. We find that the detailed reminder call neither increased attendance at the initial orientation session nor that the detailed reminder call, combined with the additional reminders, increased attendance at appointments after orientation.

Our work contributes to the literature on low-cost interventions, or *nudges*, that encourage individuals to engage in certain behaviors without altering their available options. Researchers have shown that nudges can affect a wide range of behaviors, including savings, borrowing, and investment (Duflo et al., 2011; Marx & Turner, 2019; Thaler & Benartzi, 2004; Thaler & Sunstein, 2008); energy use (Alcott & Rogers, 2014; Thaler & Sunstein, 2009); college enrollment and persistence (Castleman & Page, 2015, 2016); court appearances (Fishbane et al., 2020); and computer password strength (Peer et al., 2020). In the work most similar to ours, Zhang et al. (2020) show that reminder letters increased compliance with wage-reporting requirements within the Supplemental Security Income program. The authors do not find evidence, however, that the specific language of the reminder letters affected wage reporting. We are the first to study the effects of a nudge to increase completion of welfare applications. Understanding how low-cost nudges within the welfare application process affect benefit receipt is of policy importance because even small changes in income could improve the living standards of very-low-income families.

Background

The Personal Responsibility and Work Opportunity Act of 1996 established the TANF program, a means-tested cash transfer program for families with children. The income, assets, and size of the assistance unit—which comprises children and any adults who care for them—determine households' eligibility for monthly cash assistance. TANF generally serves very-low-income families: non-TANF income averaged less than \$900 per month among adult TANF recipients as of fiscal year 2015 (Office of Family Assistance, Administration for Children and Families, U.S. Department of Health and Human Services, 2016). States set all TANF policy parameters and administer monthly payments but receive about half of their funding from the federal government if they meet spending requirements and have at least 50 percent of their adult TANF caseloads engaged in work-related activities, such as employment and job training.¹

Prior to 2013, Michigan's welfare-to-work program, known as Jobs, Employment, and Training (JET), continuously failed to reach at least 50 percent participation in work-related activities. In an effort to fulfill federal work requirements, Michigan replaced JET with the Partnership, Accountability, Training, and Hope (PATH) program in 2013. Unlike JET, PATH mandated that TANF applicants spend several weeks demonstrating employability skills to receive cash assistance. In crafting the program, policymakers hoped PATH application requirements would deter individuals unlikely to participate in work-related activities from receiving cash assistance.

PATH is a rigorous program designed to “identify barriers and help clients connect to the resources they will need to obtain employment” (Michigan Department of Health and Human Services, 2020). Individuals who complete Michigan’s online TANF application are first notified of the PATH participation requirement through a postal letter.² The letter lists the date, time, and location of a group orientation session that all parents must attend at the Michigan Works! office in their county of residence the following Monday. The letter also references a 21-day application eligibility period (AEP) that will follow the orientation.³ It clearly informs applicants that failure to attend or reschedule the orientation session within 15 days of the notice being sent will result in application denial.

The PATH orientation session, which lasts about two hours, outlines weekly AEP requirements. During the 21-day AEP, PATH participants are required to complete a number of activities for a specified number of hours per week, such as creating a personalized employment strategy, completing a job skills assessment, and attending workshops on résumé and interview preparation.⁴ Additionally, participants must attend weekly one-on-one employability interviews at their county’s Michigan Works! office. Participants who fail to complete AEP requirements within 45 days are denied assistance and must restart the application process to receive TANF benefits.

Local PATH program managers at Michigan Works! Southwest determined that, as a follow-up to the postal letter, telephone call reminders boosted participation in the orientation session. Hence, on the Friday before their scheduled orientation session, PATH participants

in the Michigan Works! Southwest area receive a short generic telephone call that reminds them of the orientation date, time, and location. PATH participants normally do not receive reminders before their weekly AEP interviews. Between 2013 and 2014, about 40 percent of Michigan's TANF applicants fulfilled all PATH requirements. Hence, there is considerable scope to increase benefit receipt through increases in completion of applications.

Research Design

In light of onerous PATH requirements, existing research on the SSI program suggests that nudges to attend orientation and weekly AEP interviews could increase TANF receipt in Michigan (Zhang et al., 2020). To estimate the effects of nudges within the welfare context, the W.E. Upjohn Institute for Employment Research collaborated with Michigan Works! Southwest to conduct a telephone reminder-call intervention. The intervention took place during 2015 in Kalamazoo, Calhoun, St. Joseph, and Branch Counties, where about 500,000 individuals, or nearly 5 percent of Michigan's total population, reside. Box 1 shows that the treatment consisted of detailed reminder calls made on the Fridays preceding the orientation session and sometime during the week preceding each of the three AEP interviews.⁵ In addition to the date, time, and location of the applicant's orientation session, the more detailed treatment orientation reminder informed applicants as to how long orientation might last and some of the services Michigan Works! provides, including résumé preparation, mock job interviews, transportation assistance, and job training. Additionally, the treatment caller welcomed questions regarding directions to the Michigan Works! office and the orientation session more generally. The treatment AEP reminder call provided the date and time of the applicant's upcoming weekly one-on-one session, and the caller also

welcomed questions. Applicants who did not receive the treatment instead received the typical short orientation reminder that specifies the date, time, and location of the orientation session. They did not receive reminders before the AEP interviews.

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Box 1

Detailed Telephone Reminder-Call Intervention

First component of treatment: To attend orientation
Orientation script read to the control group:
Hi, this is [name] from the Michigan Works! PATH program calling to remind you that you are scheduled for your PATH orientation this coming Monday, [date], at [time]. We are located in the Michigan Works! building at [address]. See you Monday.
Orientation script read to the treatment group:
Hi, this is [name] from the Michigan Works! PATH program in [city]. I'm calling to remind you about your PATH orientation this coming Monday, [date], starting at [time]. Orientation begins promptly and could last until [time], depending on how many people attend. We are located in the Michigan Works! service center at [address]. <i>If speaking with the person:</i> "Do you know how to get there?" <i>and explain.</i> During orientation you'll learn about the free employment services available to you at Michigan Works! We can help you with résumé writing, job interview skills, employment leads, transportation assistance, and education or job training opportunities. <i>If speaking with the person:</i> "Do have any questions?" <i>If leaving a voicemail:</i> "If you have any questions, please call [number]." We'll plan on seeing you Monday at [time]. Thank you. Goodbye.
Second component of treatment: To attend weekly AEP appointments
No calls to the control group.
AEP script read to the treatment group before each of three weekly appointments:
Hi, this is [name] from the Michigan Works! PATH program in [city]. I'm calling to check in on your weekly plan and to remind you of your next one-on-one appointment on [date] at [time]. <i>If speaking with the person:</i> "Do you have any questions or concerns regarding your plan?" <i>If leaving a voicemail:</i> "If you have any questions, please call [number]." Thank you.

Notes: Detailed telephone reminder-call intervention scripts by treatment assignment. Calls were made on the Friday preceding the scheduled orientation session and sometime during the week preceding each of the three AEP interviews. The control text is the script for standard practice. The treatment text is the script used for treatment calls. Information is property of Michigan's One-Stop Management Information System for workforce development services.

Table 1 displays characteristics of the 702 applicants who had orientation sessions scheduled between July 27, 2015, and January 4, 2016, of which 358 were randomly assigned to receive the treatment.⁶ Applicants are, on average, 28 years old, and about 85 percent of them are female. Applicants tend to have low levels of education, as less than 3 percent hold a bachelor's degree or higher. Some 80 percent of applicants are single parents. Applicant characteristics are similar across the treatment and control groups, and no differences in average characteristics are statistically significant at conventional levels.

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Table 1**Summary Statistics for TANF Applicants**

Variable	Treatment	Control	Difference	Alternative control	Difference
Age	28.03	27.69	0.34 (0.600)	27.61	0.42 (0.516)
Female	0.835	0.846	-0.011 (0.028)	0.857	-0.022 (0.024)
Education					
Less than high school	0.274	0.265	0.009 (0.034)	0.251	0.023 (0.029)
High school/GED	0.489	0.491	-0.002 (0.038)	0.507	-0.018 (0.033)
Associate degree	0.031	0.052	-0.022 (0.015)	0.048	-0.017 (0.013)
Bachelor's degree or higher	0.022	0.023	-0.001 (0.011)	0.027	-0.004 (0.010)
Other credential	0.176	0.160	0.016 (0.028)	0.161	0.015 (0.025)
Unknown	0.008	0.009	-0.000 (0.007)	0.007	0.002 (0.006)
Two-parent family	0.184	0.233	-0.048 (0.031)	0.218	-0.033 (0.027)
Observations	358	344		602	

Notes: Summary statistics for TANF applicants by treatment assignment. “Treatment” and “Control” denote observations randomly assigned to the treatment and control groups, respectively. “Alternative control” includes observations randomly assigned to the control group plus TANF applicants with orientation sessions scheduled between May 18, 2015, and July 26, 2015. “Other credential” indicates a postsecondary certificate or occupational license. Standard errors are listed in parentheses. Authors’ computations based on participant tracking and confidential program administrative data maintained by the W.E. Upjohn Institute for Employment Research as administrative entity for Michigan Works! Southwest.

An additional 258 individuals applied for TANF benefits and were scheduled for orientation sessions between May 18, 2015, and July 26, 2015, before treatment assignment began. In

the online appendix, we show that, on average, there are no significant differences in characteristics between individuals randomly assigned to the control group and individuals scheduled for orientation sessions earlier in 2015. Table 1 shows that including those scheduled for orientation before July 27, 2015, in the control group does not substantially change control group characteristics on average, and differences in average characteristics between the treatment group and this alternative control group remain statistically insignificant at conventional levels. Therefore, we henceforth include the individuals with scheduled orientation sessions before July 27, 2015, in the control group. Results in which we restrict the control group to those who underwent random assignment are similar and can be found in the online appendix.

Table 2 displays success rates for orientation reminder calls across the treatment and control groups.⁷ Table 2 shows that callers spoke with about 30 percent of applicants directly and spoke with another individual in the household for an additional 9 percent of applicants. Callers left a voicemail message with around 30 percent of applicants and were unable to contact the applicant in another 30 percent of cases. The distribution of call outcomes is quite similar across both treatment and control groups. While callers were slightly more likely to make some type of contact with individuals in the treatment group, the difference in contact rates between the treatment and control groups is statistically insignificant at conventional levels.

Table 2**Orientation Reminder-Call Success Rates**

	Treatment	Control	Difference
Spoke with applicant	0.318	0.305	0.013 (0.035)
Spoke with someone else in household	0.087	0.087	-0.001 (0.021)
Left voicemail	0.321	0.311	0.010 (0.035)
Unable to contact	0.274	0.297	-0.023 (0.034)
Observations	358	344	

Notes: Orientation reminder-call success rates by treatment assignment. “Treatment” and “Control” denote observations randomly assigned to the treatment and control groups, respectively. Standard errors are listed in parentheses. Authors’ computations based on participant tracking and confidential program administrative data maintained by the W.E. Upjohn Institute for Employment Research as administrative entity for Michigan Works! Southwest.

Results

Table 3 displays the effects of the reminder-call treatment on orientation-session attendance rates. Based on simple differences in means, we fail to reject the null hypothesis that personalizing the orientation reminder did not affect attendance: some 31 percent of applicants in the treatment group and 35 percent of applicants in the control group completed orientation, and the difference in attendance rates is statistically insignificant. Additionally, the adjusted difference in orientation completion rates of -0.044 from an ordinary least squares model that includes controls for age, sex, educational attainment, and family composition is also insignificant and in line with the simple difference estimate.

Table 3

Effects on Orientation Completion Rates

	Completed orientation
Treatment	0.307
Control	0.352
Simple difference	-0.045 (0.032)
Adjusted difference	-0.044 (0.031)
Observations	960

Notes: Effects of the detailed reminder-call treatment on orientation-session completion rates. “Adjusted difference” denotes the estimate from an ordinary least squares model that includes controls for age, sex, educational attainment, and household composition. Robust standard errors are listed in parentheses.

Table 4 shows the effects of the in-depth orientation call—as well as the reminders before the weekly one-on-one appointments—on rates of attendance at the AEP sessions and the completion of all welfare application requirements.⁸ Among all TANF applicants, we fail to reject the null hypotheses that the treatment did not affect welfare application completions or attendance at either of the first two AEP appointments. Some 17 percent of individuals in the treatment group and 16 percent of individuals in the control group fulfilled all application requirements, and the simple difference in completion rates is statistically insignificant. The statistically insignificant adjusted difference, 0.010, is nearly identical to the simple difference.⁹

Table 4**Effects on AEP Session Attendance and Completion of Welfare Applications**

	Attended Week 1	Attended Week 2	Completed AEP
Treatment	0.233	0.199	0.171
Control	0.238	0.192	0.163
Simple difference	-0.004 (0.029)	0.008 (0.027)	0.008 (0.025)
Adjusted difference	0.000 (0.029)	0.012 (0.027)	0.010 (0.025)
Observations	940	940	940

Notes: Effects of the detailed reminder-call treatment on AEP session attendance and completion of welfare applications. “Attended Week 1” and “Attended Week 2” list effects on attending the first and second AEP interviews, respectively. “Completed AEP” lists effects on completing all welfare application requirements. Robust standard errors are listed in parentheses.

Discussion

Completing an application for TANF cash assistance in Michigan requires participation in an orientation session and a 21-day AEP involving employment-readiness activities. After local PATH program managers determined that generic telephone call reminders boosted attendance at orientation, the W.E. Upjohn Institute for Employment Research collaborated with Michigan Works! Southwest to test whether personalized reminder calls could increase reminder-call salience. However, the marginal effect of personalization was small and did not justify the added cost. The result that personalizing reminders has little impact is consistent with evidence from Zhang et al. (2020) and suggests that altering the language of reminders does not help individuals overcome onerous administrative burdens of certain transfer programs.

Since the reminder-call intervention, PATH program managers have introduced reminders via additional modes of communication. Reminders are now delivered via postal mail, telephone call, email, and text message if authorized by TANF applicants. Attendance rates suggest that email reminders are more effective nudges than both generic and personalized reminder calls and that, for applicants with cell phones, text message reminders are most effective in increasing attendance at scheduled meetings.

Evaluating alternative modes of delivering attendance reminders is an avenue for future research. Future research also could investigate whether reminders are more effective when tied to quicker benefit receipt. Discounting benefits to be received in the future may prevent reminders from being effective when cash assistance does not arrive until several weeks after orientation. In light of this, Michigan recently shortened AEP requirements from 21 to 10 days. Hence, future research may address the extent to which attendance reminders via each mode of communication may be more effective under shorter application periods.

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Notes

1. The minimum work participation rate for adults in two-parent families is 90 percent. The federal government may forgive a state's failure to meet work requirements if there is reasonable cause, such as a high unemployment rate, or if the state is placed on an approved corrective compliance plan.
2. An example of the PATH orientation notice can be found in the online appendix.
3. The 21-day AEP was shortened to 10 days on October 1, 2020.
4. The PATH AEP work requirement form can be found in the online appendix. Once AEP requirements are complete, TANF recipients must continue to engage in work-related activities to receive benefits. Specifically, one-parent households must complete 20 hours of work-related activities per week if there is a child younger than age 6 in the household and 35 hours otherwise. Two-parent households with children younger than age 6 must complete 30 hours of work-related activities per week; two-parent households *without* young children must complete 55 hours. Some individuals, such as those with children younger than two months, those who are ill or incapacitated, and those who care for individuals who are ill or incapacitated, may be exempt from work requirements.
5. Additional information regarding the analysis plan can be found in the online appendix.
6. We exclude from the analyses some 25 individuals who received orientation deferrals after random assignment. Additionally, prior to implementing the intervention, as shown in the online appendix, we conducted power tests to estimate the sample size needed to precisely estimate the effects of the reminder-call treatment. Because local PATH program managers believed the results to date from the evaluation sufficient to end the randomized controlled trial, the intervention ended before we reached the planned sample size. Hence, failure to

reject the null hypotheses could stem from an insufficient number of observations. Future research may employ larger sample sizes to obtain more precise estimates of the effects of nudges to increase completions of welfare applications.

7. Given data limitations, Table 2 displays orientation reminder-call success rates only for individuals who underwent random assignment. We suspect that telephone-call success rates were similar for individuals who were scheduled for orientation before July 26, 2015.

8. We exclude from Table 4 some 20 individuals who received AEP deferrals after completing orientation.

9. While estimates conditional on attending orientation are not necessarily causal, in the online appendix, we show that conditional on attending orientation, 58 percent of individuals in the treatment group and 48 percent of individuals in the control group completed all welfare application requirements. Both the simple difference, 0.100, and the adjusted difference, 0.112, are statistically significant at the 10 percent level. Among those who attended orientation, individuals who received the treatment also were more likely to attend the first two AEP sessions.

References

Allcott, H. & Rogers, T. (2014). The short-run and long-run effects of behavioral interventions: Experimental evidence from energy conservation. *American Economic Review*, 104(10), 3003-3037.

- Castleman, B. & Page, L. C. (2015). Summer nudging: Can personalized text messages and peer mentor outreach increase college going among low-income high school graduates? *Journal of Economic Behavior and Organization*, 115, 144-160.
- (2016). Freshman year financial aid nudges: An experimental to increase FAFSA renewal and college persistence. *Journal of Human Resources*, 51(2): 389-415.
- Currie, J. (2006). The take-up of social benefits. In A. Auerbach, D. Card, & J. Quigley (Eds.), *Public policy and the income distribution* (pp. 80-148). New York: Russell Sage Foundation.
- Deshpande, M. & Li, Y. (2019). Who is screened out? Application costs and the targeting of disability programs. *American Economic Journal: Economic Policy*, 11(4), 213-248.
- Duflo, E., Kremer, M., & Robinson, J. (2011). Nudging farmers to use fertilizer: Theory and experimental evidence from Kenya. *American Economic Review*, 101(6): 2350-2390.
- Finkelstein, A. & Notowidigdo, M. J. (2019). Take-up and targeting: Experimental evidence from SNAP. *Quarterly Journal of Economics*, 134(3), 1505-1556.
- Fishbane, A., Ouss, A., & Shah, A. K. (2020). Behavioral nudges reduce failure to appear for court. *Science*, 370(6517).
- Herd, P. & Moynihan, D. P. (2018). *Administrative burden: Policymaking by other means*. New York: Russell Sage Foundation.
- Marx, B. M. & Turner, L. J. (2019). Student loan nudges: Experimental evidence on borrowing and educational attainment. *American Economic Journal: Economic Policy*, 11(2): 108-141.

Michigan Department of Health and Human Services. (2020). *Cash Assistance*.

[https://www.michigan.gov/mdhhs/0,5885,7-339-71547_5526_63577-291595--
_00.html](https://www.michigan.gov/mdhhs/0,5885,7-339-71547_5526_63577-291595--_00.html)

Moffitt, R. (1983). An economic model of welfare stigma. *American Economic Review*, 73(5), 1023-1035.

Office of Family Assistance, Administration for Children and Families, U.S. Department of Health and Human Services. (2016). *Characteristics and financial circumstances of TANF recipients, fiscal year 2015* [Data set].

Peer, E., Egelman, S., Harbach, M., Malkin, N., Mathur, A., & Frik, A. (2020). Nudge me right: Personalizing online security nudges to people's decision-making styles. *Computers in Human Behavior*, 109(10647).

Ribar, D. (2014). How to improve participation in social assistance programs. *IZA World of Labor* 1-10.

Thaler, R. H. & Benartzi, S. (2004). Save more tomorrow: Using behavioral economics to increase employee saving. *Journal of Political Economy*, 112(1): S164-S187.

Thaler, R. H. & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven: Yale University Press.

Zhang, C. Y., Hemmeter, J., Kessler, J. B., Metcalfe, R. D., & Weathers, R. (2020). Nudging timely wage reporting: Field experimental evidence from the United States Social Supplementary Income Program. NBER Working Paper No. 27875.