Administrative Burden and Procedural Denials: Experimental Evidence from SNAP*

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Abstract

Many safety net program applications result in procedural denials due to the administrative burden associated with applying. We study the effect of an alternative application process for the Supplemental Nutrition Assistance Program designed to alleviate barriers to program access associated with the intake interview. Using a field experiment involving over 60,000 applicants in Los Angeles, we find that access to on-demand interviews expedites approvals and increases overall participation rates: early approvals nearly double and approval rates increase by six percentage points. Our findings highlight the importance of incorporating flexibility into the design of program integrity policies to minimize procedural denials.

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1 Introduction

Government programs are often marred by administrative burden and incomplete take-up (Currie, 2006, Herd and Moynihan, 2019). Many safety net programs entail a lengthy enrollment process involving complex applications and demonstration of program eligibility. These application hurdles have the potential to lead to procedural denials—rejections due to application errors or incompleteness rather than benefit ineligibility. For example, several programs, including the Supplemental Nutrition Assistance Program (SNAP), require applicants to complete an interview with a caseworker as part of the enrollment process.[1] On the one hand, these interviews provide a point of contact during which caseworkers can offer additional application assistance or resolve any discrepancies in the submitted application. At the same time, the fact that the interview is a requirement may cause otherwise eligible cases to be denied solely due to a missed interview.

Consider the enrollment process for SNAP. All applicants must complete a caseworker interview within 30 days of applying for the program. These interviews, which primarily take place over the phone, are typically scheduled by the SNAP offices without consideration for the applicant's availability. This results in a high proportion of missed interviews and, in turn, application denials. For example, over one-third of all applications in Los Angeles County are denied due to a missed interview. For comparison, that is five times the number of applications denied for ineligibility.

In this paper, we study the effect of an alternative SNAP application process designed to alleviate barriers to program access associated with the intake interview by increasing its flexibility. Specifically, our intervention provided access to on-demand interviews to a randomly selected subset of SNAP applicants in Los Angeles County. This interview process is the first of its kind in California, though it closely mirrors that of a small but growing number of states with a waiver to conduct unscheduled SNAP interviews.

To evaluate the effect of this alternative interview process, we conducted a large-scale field experiment involving over 60,000 Los Angeles County SNAP applicants. Our sample includes all cases that applied to the program through GetCalFresh.org, an online application system which processes more than half of SNAP applications in Los Angeles. All applicants, regardless of experimental group, were assigned an interview date through the standard process. Applicants assigned to the treatment group received an electronic communication informing them of the availability of on-demand interviews and provided them with a number for this service, referred to as the "end-to-end" (E2E) line. Control group members received

[1] Other safety net programs requiring intake interviews include the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), Temporary Assistance for Needy Families (TANF), and Disability Insurance (DI).

the standard communications informing them that they should expect a call from the county regarding their interview.

We find that access to on-demand interviews significantly reduced time to case determination and increased overall participation rates. Applicants in the treatment group were 6.2 percentage points more likely to be approved by the 30-day deadline (a 13 percent increase). Early approvals (applications approved within five days of applying) nearly doubled from 14 percent in the control group to 27 percent in the treatment group. While control group members partially catch up over time by reapplying or resolving pending applications after the deadline, we find that the intervention led to a large and significant increase in long-term participation: a 2.8 percentage point increase in the likelihood of ever participating in SNAP by the end of our five-month follow-up period. This increase in SNAP participation led to substantial increases in benefits received: applicant households that enrolled in SNAP as a result of the intervention received an additional $600 per month in benefits.

We find no evidence that interview flexibility worsens targeting; if anything, the increases in participation that we observe are largest among applicants who qualify for expedited (emergency) benefits—a determination based on extreme need. However, we document substantial heterogeneity across SNAP offices: offices with lower approval rates see the largest increases in enrollment while offices with higher approval rates see small or null effects. This suggests that our intervention may help to reduce disparities in enrollment success for applicants assigned to offices with differing administrative resources.

Our intervention design comes with potential costs. First, traditional scheduled interviews allow administrators to allocate appointments based on caseworker availability; conversely, on-demand interviews may result in long wait times during periods of high demand. We leverage a natural experiment, in which uncertainty around the expiration of pandemic unemployment benefits led to a large, unexpected increase in calls, to estimate effects on participation. We find no changes in the treatment effect during this temporary surge in demand. Second, it is possible that the shift of resources toward on-demand interviews may have worsened outcomes for those receiving standard interviews. However, we find no effect of the roll-out of E2E on the approval rates of control applicants.

Our findings contribute to a growing body of research demonstrating that administrative burdens associated with means-tested programs lead to lower rates of program participation. For example, simplifying claiming or application processes increases take-up of the Earned Income Tax Credit (Bhargava and Manoli, 2015, Kopczuk and Pop-Eleches, 2007), college tuition aid (Bettinger et al., 2012, Dynarski et al., 2021), and income-driven student repayment plans (Mueller and Yannelis, 2022, Herbst, 2022). Similarly, proximity to a program office increases take-up of DI and WIC (Deshpande and Li, 2019, Rossin-Slater, 2013). In

the context of SNAP, application assistance (Finkelstein and Notowidigdo, 2019), improvements in case management technology (Gray, 2019), and additional time for recertification interview completion (Homonoff and Somerville, 2021) lead to increases in participation.

One potential policy implication is to remove the intake interview altogether. On the one hand, our findings suggest that the interview presents a barrier to enrollment for certain cases. On the other, recent findings suggest that removing personal assistance from the application process leads to a lower tolerance for application errors and decreases overall participation (Wu and Meyer, 2022). Taken together, this research may explain why prior studies find that eliminating the interview had no effect on the approval rate (Rowe et al., 2015): interviews create additional administrative burden for certain cases, but removing them may generate additional procedural denials among more complicated eligibility determinations.

Our specific intervention design also alleviates concerns regarding impacts on program integrity, as the policy change we consider does not remove any eligibility verification steps—all applicants must still complete an interview to be approved. Consequently, we find no evidence that interview flexibility leads to a decrease in program integrity; our treatment effects are driven solely by applicants who we estimate to be eligible. At the same time, our results highlight the importance of incorporating flexibility into the design of program integrity policies to minimize procedural denials.

2 Institutional Background

2.1 Supplemental Nutrition Assistance Program

The Supplemental Nutrition Assistance Program (SNAP) is the largest nutrition assistance program in the US, serving over 40 million people at a cost of $79 billion in 2020. The program provides funds for food purchases to low-income households. SNAP benefits typically vary by income and household size; however, in March 2020, the Families First Coronavirus Response Act increased benefits for all households to the statutory maximum. At the start of our intervention, a single-person household could receive a maximum transfer of just over $200 per month, while a family of four could receive up to $680 per month. The maximum benefit amount increased by an additional 15 percent in January 2021 through the Consolidated Appropriations Act and remained in effect throughout our study period.

In California, SNAP is known as CalFresh and administered at the county level. In Los Angeles, the Department of Public Social Services is responsible for CalFresh. Los Angeles has one of the highest SNAP caseloads in the US, serving 1.3 million individuals per month in FY2020. To qualify for Calfresh, households must have gross income below 200 percent

of the federal poverty line and net income below 100 percent of the federal poverty line. Los Angeles issued roughly $270 million in benefits each month in FY2020.

2.2 SNAP Application Process

To successfully enroll in SNAP, individuals must first submit an application to assess program eligibility. Applicants provide details and supporting documentation on household information including income, expenses, immigration status, and residency for all individuals in the household. Applications can be submitted in person, by mail, or online. Individuals can submit online applications and supporting documents through the county's website or through an online portal administered by Code for America, a non-profit organization, called GetCalFresh.org. GetCalFresh was introduced as an alternative online application—or a "digital enrollment assistant"—designed to streamline application questions and provide additional support throughout the enrollment process. GetCalFresh processes the application, forwards it to the appropriate SNAP office, and provides the applicant with additional communication and support throughout the application process. GetCalfresh operates in all 58 counties in California and currently processes roughly half of all SNAP applications in Los Angeles (Appendix Figure A.1).

In addition, federal law requires that all applicants complete an interview with a SNAP caseworker. These interviews primarily take place over the phone, though applicants can complete an interview in-person as well.[2] During these interviews, caseworkers offer applicants assistance with their application and ensure that they are not denied due to missing or contradictory information. At the same time, the interview is a *requirement*: applicants who have successfully completed their application form and submitted the necessary documentation, but who have not completed a caseworker interview, are denied.

A summary of application outcomes reveals a potential consequence of this policy design. Appendix Figure A.2 presents outcomes for all GetCalFresh applications in Los Angeles County in mid-2019, roughly one year prior to the start of our study. Only 48 percent of all applications were approved. The vast majority of denials resulted from procedural issues during the enrollment process rather than issues related to program eligibility. Specifically, almost one in three applications were denied for a missed interview, more than all other reasons for denial combined. In contrast, only 6.5 percent of applications were denied due

[2]All face-to-face interviews were suspended in March 2020. Several other SNAP operations waivers were introduced in response to the pandemic, including extended certification periods and the temporary elimination of work requirements. Most importantly, California adopted a waiver that removed the interview requirement in October 2020; however, in practice, Los Angeles used these waivers very infrequently.

to ineligibility.[3]

The SNAP interview process in the majority of states, including California, is as follows. Once an individual has submitted their application, it is sent to a SNAP office and assigned an interview date and time. All interviews are scheduled to occur within 10 days of the application submission.[4] Interviews take place over the phone if the applicant has provided a phone number with their application, otherwise they take place face-to-face at a SNAP office. Applicants are informed of their interview appointment by mail through an appointment letter. Caseworkers call the applicant up to three times within the scheduled interview window, after which they record the interview as incomplete. If an applicant misses the call from their caseworker, they are referred to a call center to reschedule. Applications are denied if an interview is not completed within 30 days of application.

Surveys of denied applicants conducted by Code for America staff point to the intake interview as an important barrier to enrollment. Respondents described the lack of flexibility in the interview process as a key issue. In particular, they highlighted the challenges of completing an interview that is scheduled without their input, resulting in conflicts with work or family obligations. This scheduling issue was exacerbated by the difficulty in connecting with caseworkers to reschedule interviews. Additionally, some respondents commented that they were unaware of their appointment time due to the fact that this important information was only communicated via mail.

3 Intervention Design

In 2020, Los Angeles expanded an alternative interview process called the "End-to-End" (E2E) line. The county staffed a call line that offered the option of an on-demand interview for individuals who had completed an application through GetCalFresh. While this process was the first of its kind in California, it closely mirrors the interview assignment process used in states that adopt an on-demand interview waiver.[5]

To evaluate the effect of offering flexible, on-demand interviews during SNAP enrollment, we partnered with Los Angeles County to conduct a large-scale randomized control trial. Upon application submission, applicants assigned to the treatment group received a communication from GetCalFresh via text or email providing them with information on how

[3]It is possible that some cases that were denied due to a missed interview may have ultimately been determined to be ineligible; therefore, this data should be viewed as merely suggestive.

[4]Interviews for cases that qualify for expedited benefits are assigned to interviews within three days of application submission.

[5]As of April 2020, fifteen states had a certification waiver that allowed them to conduct unscheduled interviews.

to contact the E2E line to complete their interview. Applicants could call this number at their convenience and connect directly to a caseworker to complete their interview. Control group members received the standard communications from GetCalFresh informing them that the county would be in touch with them to complete an interview. Appendix Table A.1 presents the treatment and control messages.[6] The county assigned all applicants an interview through the standard processes regardless of their treatment status. As a result, treatment group members who did not call the E2E line by their scheduled interview date were still contacted by the county for an interview through the standard channels.

Our sample includes the universe of applications submitted through GetCalFresh from Los Angeles County. Random assignment was conducted over a six-month period between October 2020 to May 2021 and was rolled out in stages to the county's 31 offices (see Appendix Figure A.3). Once an individual submitted their application to GetCalFresh, they were randomly assigned to the treatment group (75 percent) or the control group (25 percent).

We make two minor sample restrictions. First, we exclude the roughly two percent of GetCalFresh applications that did not provide either a phone number or an email address—a necessary step for receiving our experimental communications. Second, since we implemented the randomization at the application level rather than the household level, we exclude all cases that submitted a repeat application within 30 days of the initial application to prevent the possibility that applicants were re-randomized before the initial application deadline. Our final sample contains 64,711 applications with 48,524 applications in the treatment group and 16,187 in the control group.

3.1 Data

Our primary data set includes administrative data on application submissions. These data detail whether an application has been approved, denied, or is pending on each day post-submission. We collect data on all reapplications within five months. In our experimental messages, each treatment member received a unique virtual number to connect to the E2E line allowing us to link call information to individual applicants. While we do not have wait times for each call, our data include daily county-wide estimates of call volume as well as average call and wait times. Finally, these data contain all demographic characteristics included in the initial application including financial information used to assess the applicant's eligibility (such as household size and income), additional demographic characteristics (such as age and sex of applicant), and which office each case is assigned to based on their address.

[6] Applicants in both experimental groups also received reminder messages on the following business day.

The data have a few limitations worth noting. First, we do not have information on intermediate process outcomes such as interview completion or whether income and other verification documents were submitted, nor the date on which scheduled interviews are assigned. Second, the daily case status data only extend for 90 days post-application. As a result, we do not observe exits from the program that occur after this period. Finally, our reapplications data are limited to applications through GetCalFresh.

4 Results

4.1 Sample Characteristics and Intervention Take-up

Appendix Table A.2 summarizes the characteristics of the applicants in our sample, overall and by experimental group. The average applicant had a household size of 1.7 people, 60 percent of applicants were female, 17 percent had an elderly or disabled member, 10 percent received SSI, and 85 percent spoke English as their primary language. Fifty-five percent of applicants had no income in the past month, 45 percent had no money on hand, and only 60 percent lived in stable housing. Based on this data, 53 percent of applicants appeared to qualify for expedited (emergency) benefits, and 90 percent of applicants appeared eligible for SNAP. We observe a small, but statistically significant difference in the average household sample across experimental groups. As a result, our preferred specification controls for all of the application characteristics reported in this table.

Appendix Table A.3 presents data on call characteristics for the two experimental groups—the "first stage" of our intervention. Fifty-three percent of treatment group members called at least once before their application deadline with an average call time of about half an hour.[7] County-level data shows that the E2E line received an average of 350 calls per day with an average wait time of only 2.5 minutes. As designed, less than 0.5 percent of control group applicants ever called. Appendix Figure A.4 shows that half of all callers contact the E2E line the same day that they receive the treatment message and 90 percent call within three days.

4.2 Application Outcomes

Figure 1 plots the share of applications approved by days since submission separately for each experimental group. The figure shows a striking difference in approval rates between the two

[7] Appendix Table A.4 shows that callers differed statistically from other applicants on most characteristics, though the magnitude of most of these differences was often small and did not indicate a consistent qualitative pattern.

groups that emerges over the first week after application submission. By day five, 27 percent of treatment group applications were approved, compared to only 14 percent of control group applications. This difference decreases somewhat over the course of the month, but a large gap in approval rates persists at the 30-day application deadline: 55 percent of applications in the treatment group were approved compared to only 49 percent in the control group.

To formally test for differences in outcomes across the treatment and control groups, Panel A of Table 1 presents results from the following econometric model,

$$Y_{it} = \alpha + \beta T_i + \gamma X_i + \nu Z_t + \varepsilon_{it} \tag{1}$$

where Y_{it} is the outcome for case i applying to SNAP on date t, T_i is an indicator equal to one if applicant i was in the treatment group, X_i is a vector of case characteristics included in the application, Z_t is a set of time period controls including intervention week and day of week fixed effects, and ε_{it} is an error term.[8] The parameter β provides an estimate of the intent-to-treat (ITT); that is, the causal effect of providing access to the E2E line on the outcome of interest.

We provide all treatment group members with the E2E number, however, many applicants may ignore our communication, as suggested in Appendix Table A.3. Therefore, we also estimate the treatment-on-the-treated (TOT) in Panel B using the following joint specification:

$$Y_{it} = \eta_0 + \eta_1 Called_{it} + \eta_2 z_{it} + \varepsilon_{it} \tag{2}$$

$$Called_{it} = \pi_0 + \pi_1 T_i + \pi_2 z_{it} + \varepsilon_{it} \tag{3}$$

where $Called_{it}$ is an indicator equal to one if applicant i ever called the E2E line as of time period t.

Column 1 of Table 1 estimates the effect of the intervention on whether the application was approved by the 30-day administrative deadline for determining a case. We find that approval rates were 6.2 percentage points higher for those with access to on-demand interviews. This amounts to a 12.7 percent increase in the approval rate relative to the control group mean of 48.9 percent. Panel B shows that cases that were induced to call the E2E line as a result of receiving our treatment communications were 11.9 percentage points more likely to be approved relative to the control group, a 24 percent increase off the control mean.

We also investigate whether access to on-demand interviews expedited approvals and

[8] Appendix Table A.5 presents a version of Table 1 that excludes all controls. Results are qualitatively similar for all outcomes considered.

overall time to determination. Column 2 of Table 1 estimates the effect of the intervention on the timeliness of application processing, regardless of whether the application was approved or denied—a key performance metric for SNAP administrators.[9] We find that applicants in the treatment group received a case determination four days earlier than those in the control group (a 19 percent decrease in processing time) with a TOT estimate of just over a week.

Figure 1.B presents treatment effects corresponding to the raw approval rates in Figure 1.A in five-day increments with coefficient estimates presented in columns 3-7 of Table 1. We find that the intervention increased the likelihood of being approved for SNAP within five days of application submission by 14.0 percentage points. This estimate suggests that the intervention doubled the five-day approval rate off a control mean of 13.7 percent. The treatment effects decline somewhat throughout the application review month, a sign that the control group catches up over time, yet remain large in magnitude and statistically significant: increases in the approval rate are 12.2, 10.8, 9.1, and 7.9 percentage points as of day 10, 15, 20, and 25 since application submission, respectively.

4.3 Long-term SNAP Participation

The prior section demonstrates that access to flexible interviews increases and expedites SNAP approvals. However, control group members who were denied as a result of the interview process may subsequently reapply or have their case reopened and approved after the deadline. To analyze the effect of the intervention on long-term SNAP participation, we extend our administrative data set in two ways. First, we follow the status of the initial application past the application deadline to determine whether initial denial decisions were subsequently overturned or pending cases were eventually approved. Second, we link our sample population to any reapplications through GetCalFresh in the five months following the initial submission. Note that since randomization occurs at the application level, any reapplications that occurred during the intervention were re-randomized. Therefore, control group members who reapplied after a denial had a high likelihood of eventually being treated. As a result, these treatment effect estimates may be biased downwards.

Figure 2 presents estimates of the treatment effect on the likelihood of ever participating in SNAP by days since the application deadline. We find the treatment effect declines during the two weeks following the end of the initial application review period, suggesting that a portion of control group members who are denied as a result of the interview process eventually gain access to the program. However, the treatment effects then stabilize and

[9]For this analysis, we consider the small fraction of cases whose status is pending as of the application deadline as determined on day 30, though this decision does not meaningfully change our results.

remain large and statistically significant. Column 8 of Table 1 shows that the intervention led to a 2.8 percentage point increase in ever receiving SNAP during our five-month follow-up period. These findings demonstrate that the traditional interview process not only leads to delays in SNAP benefit access, but prevents a substantial fraction of applicants from ever enrolling in the program.

4.4 Benefit Receipt

Table 2 presents estimates of the effect of the intervention on benefit amounts received. Column 1 presents the ITT estimate for the benefit dollars received per month. We find that the intervention led to an increase of $17 per household per month or $84 over our five-month follow-up period. When aggregated across the 48,500 applicants who received our treatment messages, the intervention led to an additional $4 million dollars in benefits distributed over the five-month follow-up period. Column 2 presents the TOT estimates which show that these benefit increases are roughly double the amount when focusing on those who called E2E. To estimate the monthly benefit gains among those who participated in SNAP as a result of receiving the treatment communication, column 3 regresses an indicator for ever participating in SNAP during the five-month follow-up period, instrumenting for participation with the treatment status. We find that households that gained access to SNAP due to the intervention received an additional $611 in SNAP benefits per month, or just over $3,000 during the five-month follow-up.

5 Additional Analyses

5.1 Staffing Constraints: Robustness and Scalability

One concern with our intervention design relates to trade-offs regarding caseworker resources. For example, it is possible that the expansion of the E2E line came at the expense of staffing resources traditionally provided for conducting scheduled interviews. Any changes to the efficacy of the standard interview process would bias our results. Appendix Figure A.5.A uses the staggered roll-out of the E2E expansion by office in an event study framework to determine whether the introduction of E2E affects the control group approval rate. This analysis compares control group applicants in treated offices to all applicants in untreated offices. We find no evidence of negative spillover effects of the intervention on untreated applicants.[10] Appendix Table A.6 presents the Callaway and SantAnna (2021) difference-

[10]For comparison, Appendix Figure A.5.B shows that the roll-out led to significant increases in approvals among treated applicants relative to applicants in untreated offices.

in-differences estimator and confirms that the roll-out of E2E had no significant impact on approval rates for untreated applications.

A separate concern relates to the scalability of our intervention. One benefit of scheduled interviews is that SNAP administrators can allocate appointments based on caseworker availability to avoid overwhelming staff. With on-demand interviews, staffing constraints during periods of peak demand could lead to long wait times and, potentially, decreases in interview completion and participation. We use a natural experiment that unexpectedly increased SNAP applications to evaluate the capacity constraints of the E2E line. Halfway through our intervention, pandemic UI expansions were set to expire. While the program was ultimately extended, the fate of the policy remained uncertain up until the deadline. Prior to this decision, and in anticipation of the deadline, the California UI website included a link to GetCalFresh.org to encourage eligible recipients to apply for SNAP. This action resulted in a three to four fold increase in calls to E2E, accompanied by an increase in wait times, during the weeks in which the link remained on the website (Appendix Figure A.6).

Appendix Figure A.7 presents estimates of the treatment effect on long-term SNAP participation by intervention week to determine whether the temporary surge in demand led to differential treatment effects. While the treatment effects vary somewhat week to week, we do not find any observable differences during this unexpected increase in demand, pointing toward the likely scalability of our intervention (List, 2022).

5.2 Heterogeneity

5.2.1 Targeting and Program Integrity

Table 3 explores heterogeneity in our treatment effect. One motivation for this analysis is to determine whether access to on-demand interviews improves targeting. For example, several papers in the literature find that administrative burdens improve targeting of safety net program take-up (Finkelstein and Notowidigdo, 2019), consistent with the theoretical model in Nichols and Zeckhauser (1982), while others find no effect or even worsened targeting (Bhargava and Manoli, 2015, Deshpande and Li, 2019, Homonoff and Somerville, 2021), consistent with the model in Deshpande and Li (2019). Columns 1 through 6 use information provided in the submitted application to explore heterogeneity by characteristics that are plausibly correlated with need. These include expedited status, income, money on hand, employment status, whether the applicant lives in stable housing, and SSI receipt.

We find statistically significant differences in treatment effects for two subgroups: effects are significantly larger effects among expedited cases and marginally significantly smaller among SSI recipients. The first result is consistent with a model in which our intervention

improves targeting, as expedited cases are those determined to be most in need, while the latter suggests it may worsen targeting. However, it is worth noting that these heterogeneity analyses are an imperfect measure of targeting as these characteristics often alter the application process itself, potentially in ways that interact with our intervention. For example, conversations with Los Angeles staff, suggest that a more likely explanation for the differential impact by SSI receipt is that these applicants were exempt from the interview altogether—SSI recipients are exempt when assisted by a Social Security Administration caseworker. As a result, we interpret this finding to be an encouraging placebo test showing that applicants who are less likely to be subject to the interview requirement are also less likely to be affected by the intervention.[11]

A related motivation for our heterogeneity analysis is to explore whether the intervention appears to worsen program integrity; that is, whether cases that appear ineligible are more likely to have their case approved when they have access to on-demand interviews. Column 7 of Table 3 presents results by estimated eligibility and finds that the treatment effects are fully concentrated among applicants who appear eligible.[12]

5.2.2 Heterogeneity by SNAP Office

SNAP applications in Los Angeles are processed across over 30 separate offices. With the expansion of the E2E line, interviews for applicants from all over the county are processed through the same centralized system. If offices differ in their capacity to process cases, we may observe heterogeneity in treatment effects by office. Appendix Table A.7 presents estimates of the effect of the intervention on participation rates by office. We find substantial variation in the treatment effect sizes with some offices experiencing increases in long-term participation of over 6 percentage points, and others seeing no increase at all. Appendix Figure A.8 plots our office-level treatment effects against the overall participation rate in the control group—a plausible proxy for baseline efficacy. We find a strong negative association between the control group participation rate and the estimated treatment effect.

6 Conclusion

We find that providing SNAP applicants access to on-demand intake interviews increases program participation and expedites time to approval. Applicants who enrolled in SNAP as

[11]Similarly, it may be the case that our intervention is particularly helpful for cases assigned to early interviews, as is the case for expedited cases.

[12]Column 8 includes all of the above interactions simultaneously to account for any collinearities. The differential treatment effects by expedited status that we observe remain statistically significant; however, differences by SSI receipt and estimated eligibility are somewhat smaller and no longer significant.

a result of the intervention received an average of $600 in benefits per month. We find no evidence that this policy change worsens targeting or program integrity.

It is worth noting that our intervention design layers the option of an on-demand interview over the existing scheduled interview process rather than replacing it. So while our results suggest that access to on-demand interviews increases benefit take-up with minimal additional costs, we cannot assess relative effectiveness of on-demand versus scheduled interviews. Furthermore, our intervention was conducted during a global pandemic, potentially raising concerns about external validity. On the one hand, this highlights the importance of our experimental design; on the other, it is possible that the applicants in our sample, and the context in which they were applying, may not be representative of the typical SNAP application experience in ways that could possibly interact with the intervention.

Our findings have direct implications for the many government programs that rely on interviews for eligibility screening. More broadly, they highlight the importance of incorporating flexibility and client autonomy into the design of application processes. However, it is also important to recognize the performance incentives faced by program administrators: states are incentivized to contain program costs through financial penalties for persistently high improper payment rates, yet no similar incentives exist to minimize procedural denials. This highlights the complexity of designing program eligibility processes that simultaneously reduce administrative burdens and also minimize program error rates. As a result, removing interviews altogether may be less effective without broader innovations to eligibility determination, such as benefit integration or use of third-party information sources.

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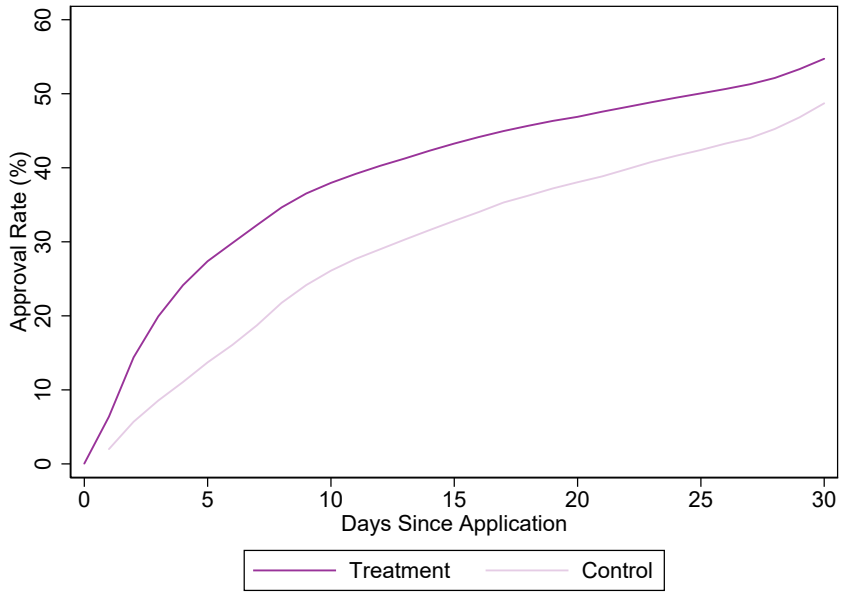
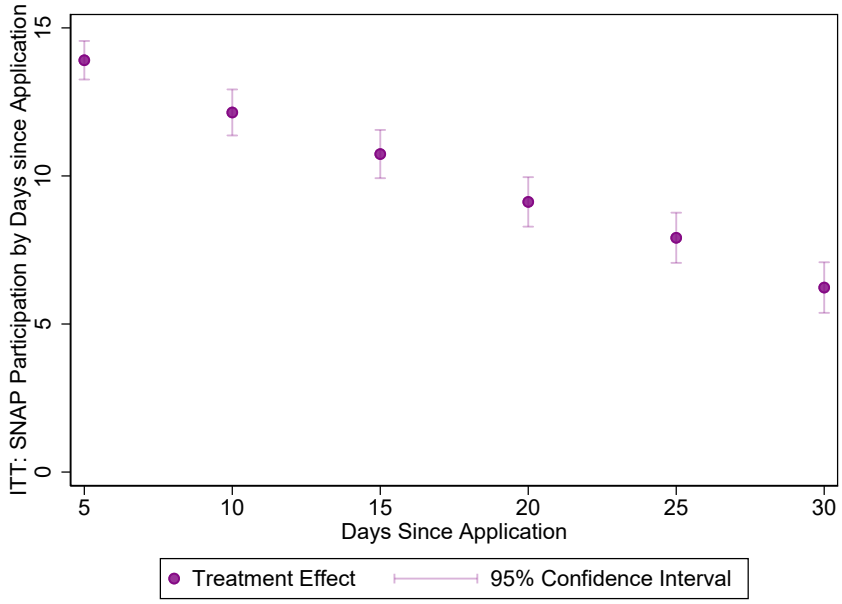
Figure 1: The Effect of the Intervention on SNAP Approval Rates

(a) Raw Approval Rates

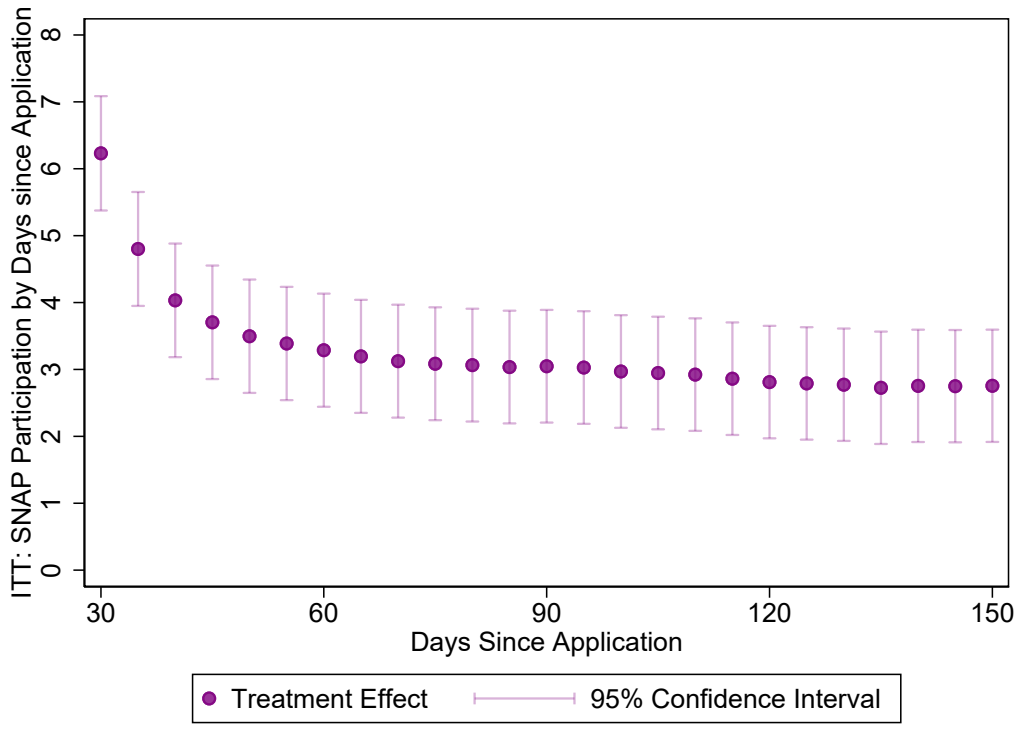


(b) Treatment Effects



Notes: Panel A presents the cumulative application approval rate by days since application submission by experimental group. Panel B presents the estimated intent-to-treat effect of the intervention on SNAP participation by days since application submission. The outcome is an indicator for ever having participated in SNAP by a given day in 5-day intervals through the the 30-day application deadline. Control variables include week, day-of-week, and SNAP office fixed effects as well as household characteristics including household size, age, sex, elderly or disabled status, language, income, cash on hand, SSI receipt, stable housing, rent, expedited benefit qualification, and estimated eligibility. Coefficient estimates are reported in percentage points (0-100). Bars denote the 95% confidence interval derived from heteroskedasticity robust standard errors.

Figure 2: The Effect of the Intervention on Long-Term SNAP Participation



Notes: The figure displays the estimated intent-to-treat effect of the intervention on SNAP participation by days since application submission. The outcome is an indicator for ever having participated in SNAP by a given day in 5-day intervals beginning with the date of the application deadline (30 days since submission). All specifications include week, day-of-week, and SNAP office fixed effects as well as household characteristics including household size, age, sex, elderly or disabled status, language, income, cash on hand, SSI receipt, stable housing, rent, expedited benefit qualification, and estimated eligibility. Coefficient estimates are reported in percentage points (0-100). Bars denote the 95% confidence interval derived from heteroskedasticity robust standard errors.

Table 1: Effect of Intervention on SNAP Participation Outcomes

			Approved by Day					
	Approval Rate	Days to Determination	Day 5	Day 10	Day 15	Day 20	Day 25	Day 150
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Panel A: Intent to Treat					
Treatment	6.23***	−3.95***	13.98***	12.17***	10.76***	9.13***	7.91***	2.78***
	(0.43)	(0.12)	(0.33)	(0.39)	(0.41)	(0.42)	(0.43)	(0.43)
			Panel B: Treatment on the Treated					
Called E2E	11.86***	−7.50***	27.97***	23.62***	20.65***	17.45***	15.08***	5.29***
	(0.82)	(0.22)	(0.65)	(0.75)	(0.78)	(0.80)	(0.81)	(0.81)
Control Mean	48.9	20.3	13.7	26.2	32.9	38.2	42.5	60.2
Observations	64,040	64,040	64,040	64,040	64,040	64,040	64,040	64,040

Notes: The table reports the estimated effect of the intervention on application approval rates, timeliness, and long-term SNAP participation. Outcomes: an indicator for being approved by the 30-day deadline (column 1), number of days before an application received a determination (column 2), indicators for application approvals within the given number of days since submission in 5-day increments (columns 3-7), and an indicator for every receiving SNAP within 150 days of application submission (column 8). Panel A presents intent-to-treat estimates. Panel B presents estimates derived from a two-stage least-squares specification in which an indicator for calling the E2E line is instrumented for by an indicator for treatment status (the treatment-on-the-treated). All specifications include week, day-of-week, and SNAP office fixed effects as well as household characteristics including household size, age, sex, elderly or disabled status, language, income, cash on hand, SSI receipt, stable housing, rent, expedited benefit qualification, and estimated eligibility. Coefficient estimates are reported in days for column 2 and in percentage points (0-100) for all other columns. Parentheses contain heteroskedasticity robust standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: Treatment Effects on Benefit Dollars Received

	(1)	(2)	(3)
Treated	17.00***		
	(1.64)		
Called E2E		32.32***	
		(3.10)	
Ever Received SNAP			611.44***
			(54.91)
Control Mean	96.3	96.3	96.3
Observations	64,040	64,040	64,040

Notes: The table reports the estimated effect of the intervention on SNAP benefit receipt. The outcome is an estimate of the average benefits received per month over the five months following the initial application submission. Benefit amounts are estimated based on household size and the statutory maximum benefit amounts on the date of application. Column 1 presents intent-to-treat estimates. Column 2 presents estimates derived from a two-stage least-squares specification in which an indicator for calling the E2E line is instrumented for by an indicator for treatment status (the treatment-on-the-treated). Column 3 instruments for ever receiving SNAP within 150 days of application submission with treatment status. All specifications include week, day-of-week, and SNAP office fixed effects as well as household characteristics including household size, age, sex, elderly or disabled status, language, income, cash on hand, SSI receipt, stable housing, rent, expedited benefit qualification, and estimated eligibility. Coefficient estimates are reported in percentage points (0-100). Parentheses contain heteroskedasticity robust standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Treatment Effects by Subgroup: Long-term SNAP Participation

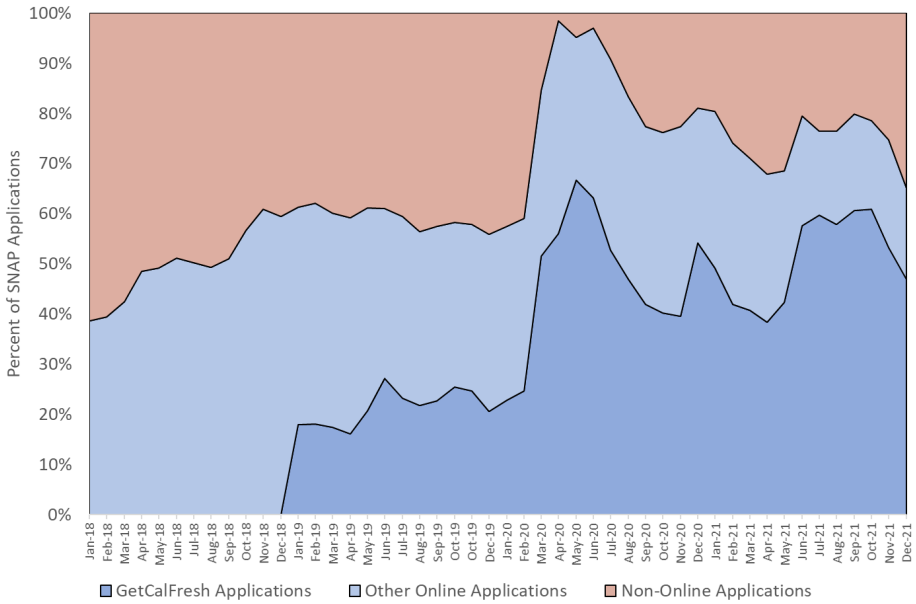
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	1.65***	2.96***	3.15***	2.90***	3.28***	3.02***	0.23	−0.79
	(0.62)	(0.56)	(0.64)	(0.52)	(0.67)	(0.46)	(1.36)	(2.17)
T*Expedited	2.16**							1.86*
	(0.86)							(1.00)
T*Any Income		−0.42						0.33
		(0.86)						(1.21)
T*Any Money on Hand			−0.66					−0.08
			(0.86)					(0.91)
T*Has Job				−0.27				0.16
				(0.90)				(1.26)
T*Stable Housing					−0.83			−0.31
					(0.87)			(0.94)
T*SSI						−2.39*		−1.75
						(1.27)		(1.36)
T*Eligible							2.82**	2.06
							(1.43)	(1.50)
Outcome Mean	60.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2
Observations	64,040	64,040	64,040	64,040	64,040	64,040	64,040	64,040

Notes: The table reports the estimated effect of the intervention on long-term SNAP participation by subgroups based on application characteristics. The outcome variable is an indicator for every receiving SNAP within 150 days of application submission. Subgroups include: expedited benefit qualification (column 1), any income in the 30 days (column 2), any cash on hand (column 3), employed (column 4), lives in stable housing (column 5), receives SSI (column 6), and estimated eligible for SNAP based on application characteristics (column 7). Column 8 includes all seven interactions. All specifications include week, day-of-week, and SNAP office fixed effects as well as household characteristics including household size, age and sex of the application submitter, whether the household contains an elderly or disabled member, case language, income in the last 30 days (indicator and dollar amount), any cash on hand (indicator and dollar amount), an indicator for non-job income, whether the household receives SSI, an indicator for being in stable housing, monthly rent, expedited benefit qualification, and estimated eligibility. Coefficient estimates are reported in percentage points (0-100). Parentheses contain heteroskedasticity robust standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix

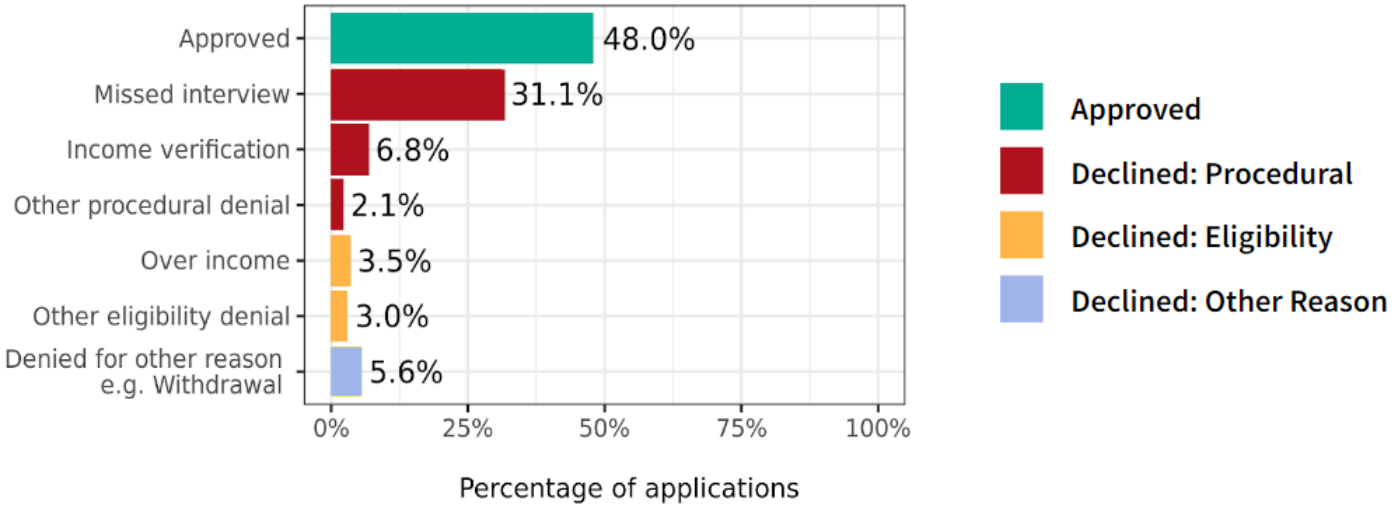
A Additional Figures and Tables

Figure A.1: Los Angeles SNAP Applications by Method



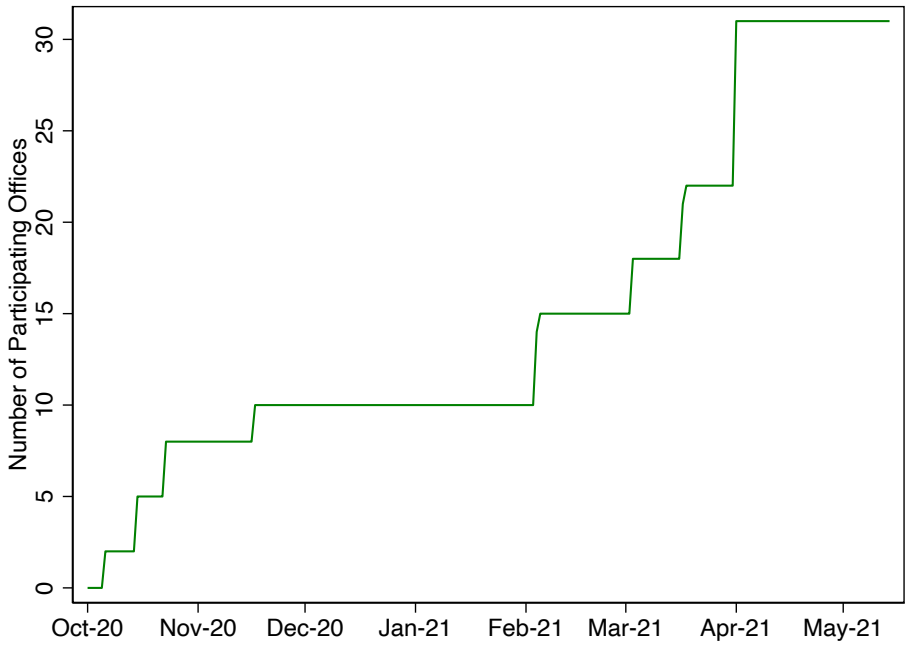
Notes: This figure presents the fraction of SNAP applications in Los angeles County over time that are submitted through GetCalFresh, other online portals, or non-online methods, respectively.

Figure A.2: Pre-Intervention Applications Outcomes



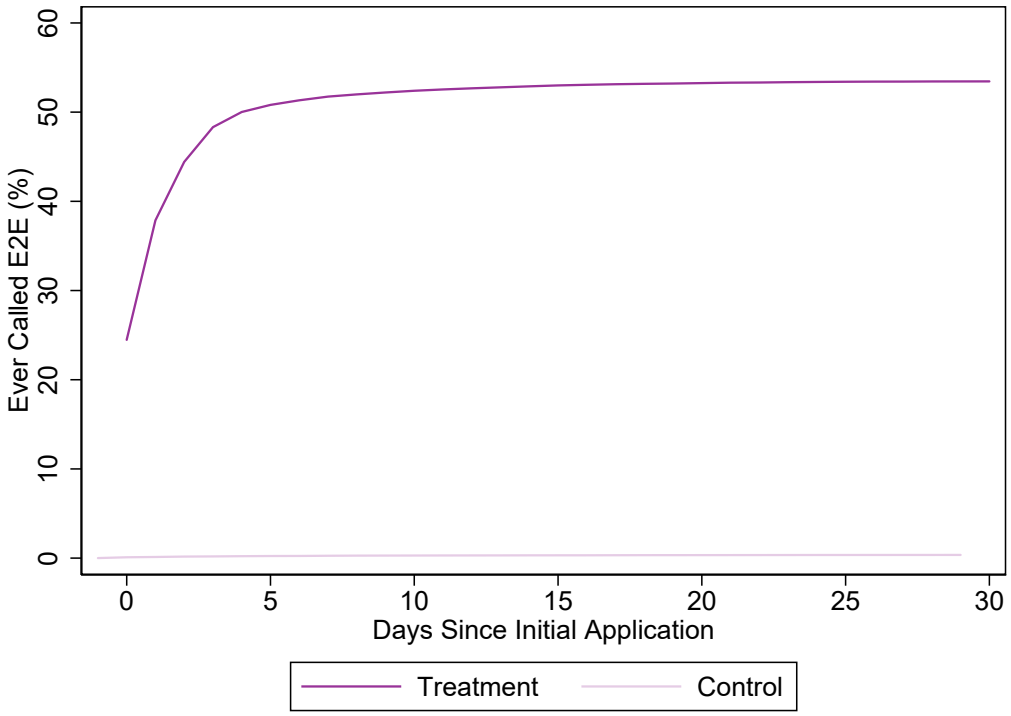
Notes: Outcomes and denial codes for applications submitted to Los Angeles County in Q2: 2019, one year prior to the study period.

Figure A.3: Number of Participating Offices Over Time



Notes: This figure presents the number of SNAP offices included in the experiment over time.

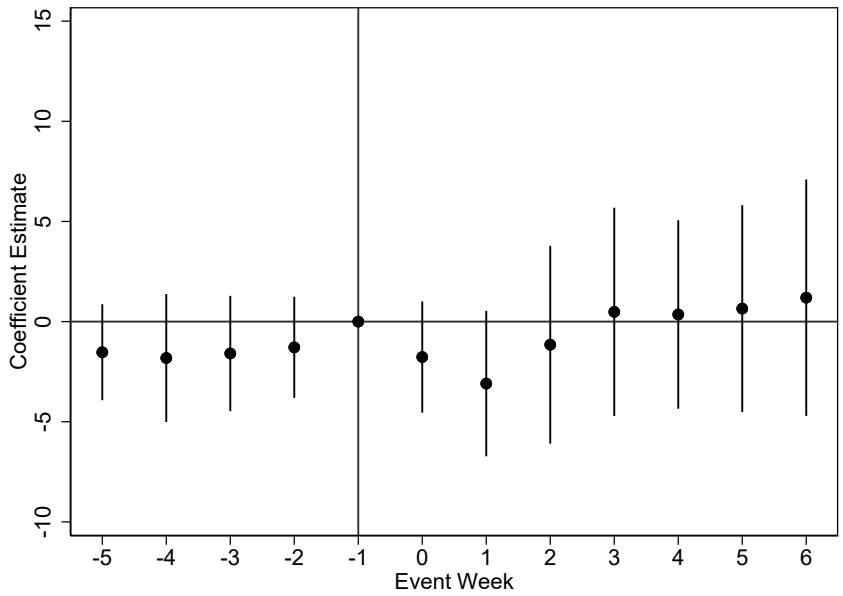
Figure A.4: Ever Called E2E by Days Since Application



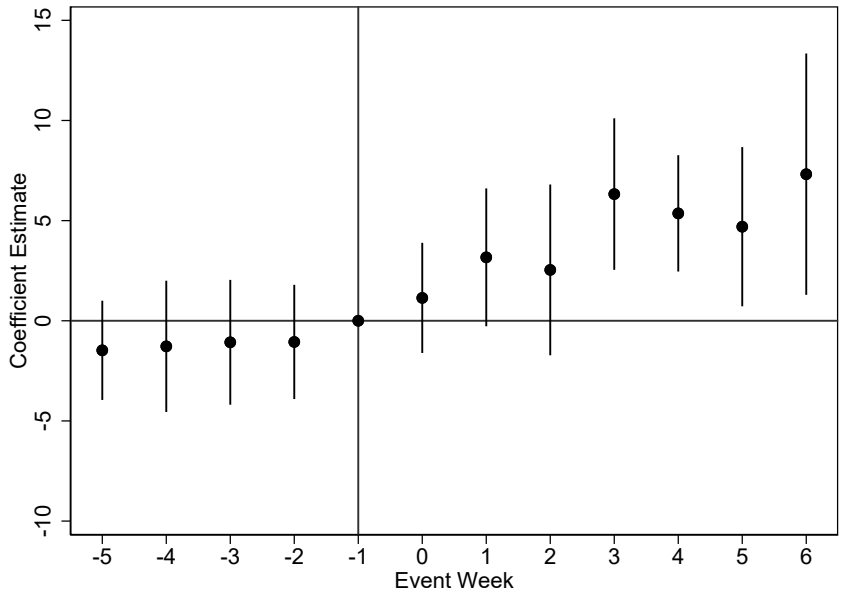
Notes: This figure presents the fraction of applicants who had ever called the E2E line by days since initial application submission separately for treatment and control groups.

Figure A.5: Event Study for Introduction of E2E on SNAP Approval Rates

(a) Control Group

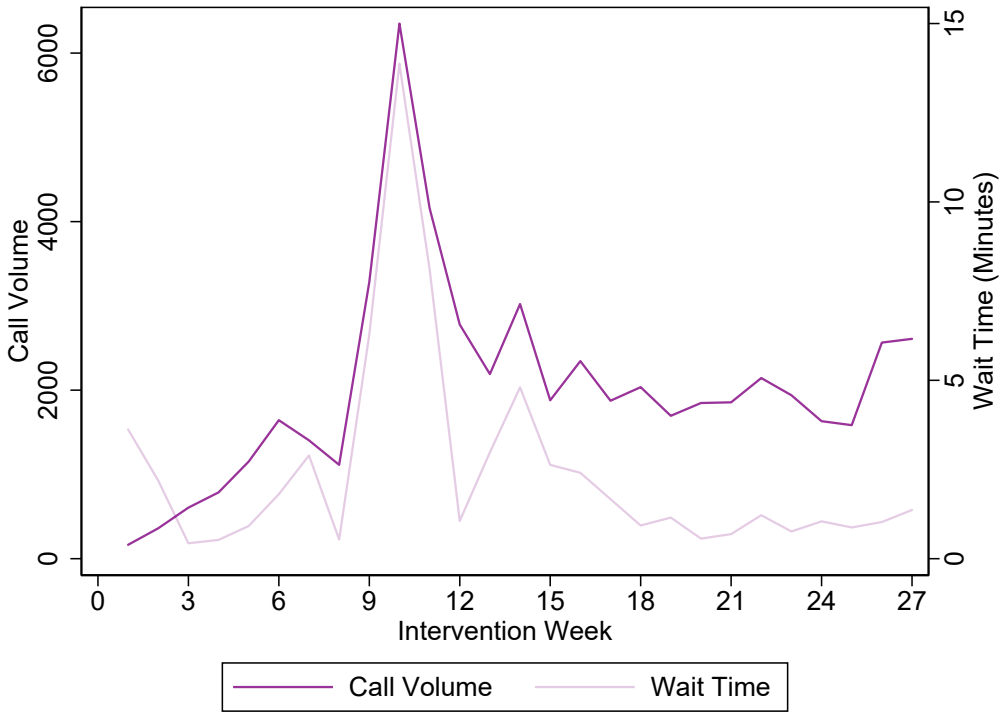


(b) Treatment Group



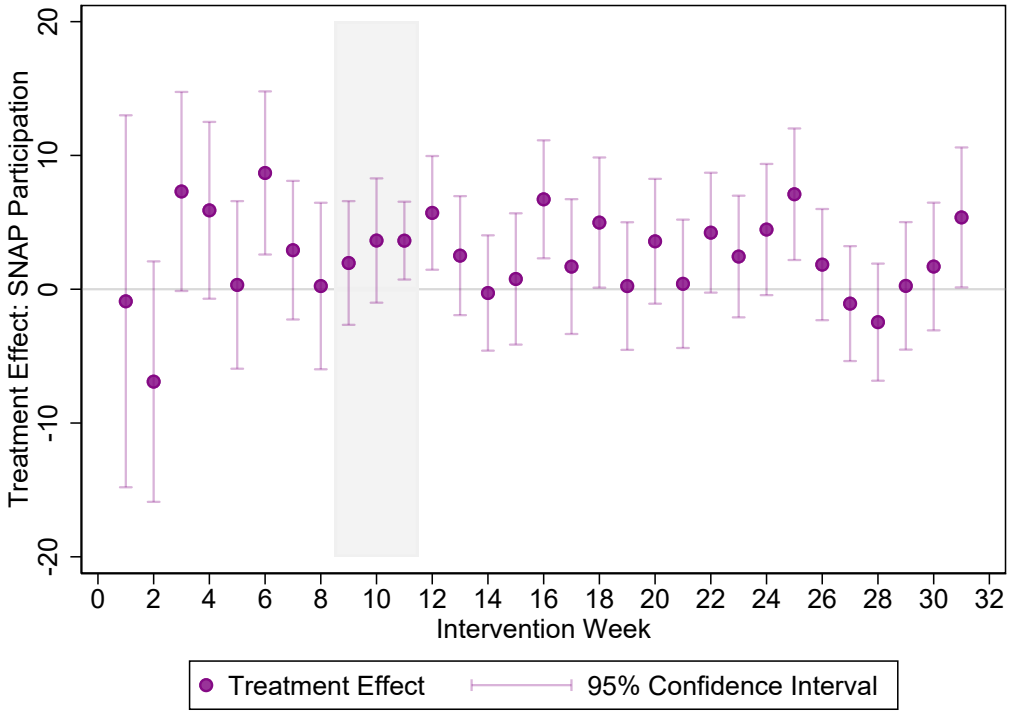
Notes: The figure presents an event study estimating the effect of E2E introduction on application approval rates using office-level roll-out. Panel A estimates effects on control group members and Panel B estimates effects on treatment group members. Data include all GetCalFresh applications between August 1, 2020 and May 15, 2021. Coefficient estimates are reported in percentage points (0-100). Bars denote the 95% confidence interval. Standard errors are clustered by office.

Figure A.6: Call Volume and Wait Times by Intervention Week



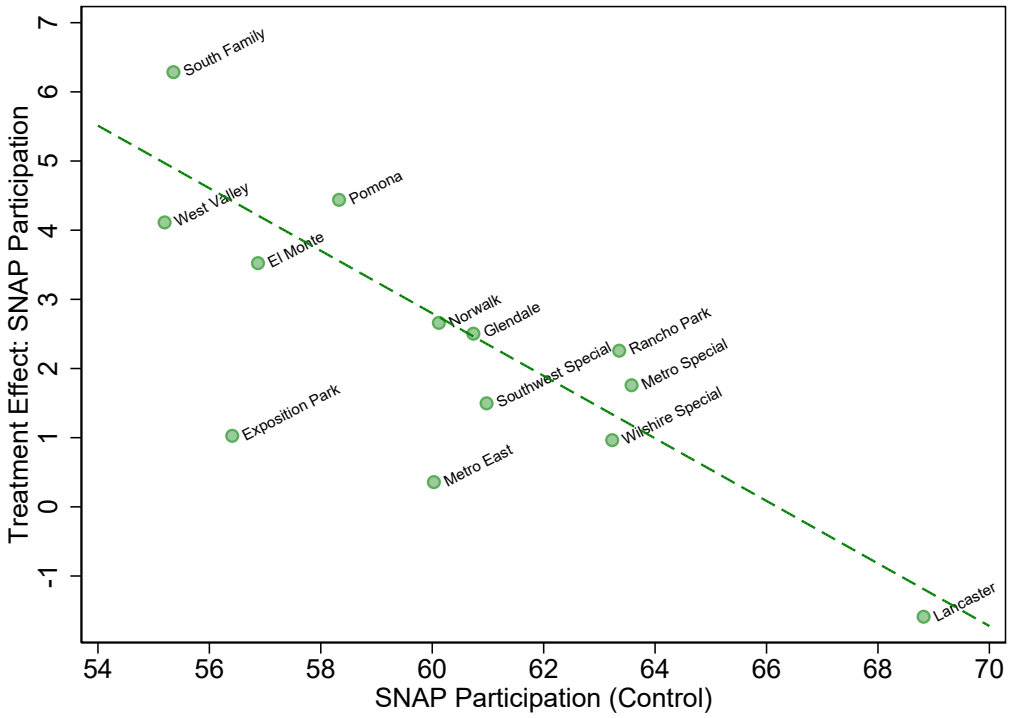
Notes: The figure presents the number of call to the E2E line and the average wait time by intervention week.

Figure A.7: Treatment Effect on Approval Rate by Intervention Week



Notes: The figure displays the estimated intent-to-treat effect of the intervention on SNAP participation by application submission week. Week 1 is the first week of the intervention which started on October 6, 2020. Weeks 9 through 11 (shaded in gray) are the weeks surrounding the date on which pandemic Unemployment Insurance expansions were set to expire (December 26, 2020), though these expansions were ultimately extended. The outcome is an indicator for ever having participated in SNAP within 150 days of application submission. Coefficient estimates are reported in percentage points (0-100). Bars denote the 95% confidence interval derived from heteroskedasticity robust standard errors.

Figure A.8: Long-term SNAP Participation: Treatment Effect vs. Baseline Rate by Office



Notes: This figure plots the coefficient estimating the effect of the intervention on ever receiving SNAP in the 150 days post-application submission (y-axis) versus the control mean for the same outcome (x-axis) for each SNAP office. Analysis excludes offices with fewer than 1,000 observations.

Table A.1: Treatment and Control Group Messages

Treatment	**Control**
[Name], the county has received your application! You can complete your interview by calling xxx-xxx-xxxx. Hours: M-F 7:30am-7:30pm, Sat 8:00am-4:30pm. The sooner you complete your interview, the sooner you may get your benefits.	Hi [Name], We sent your CalFresh application to Los Angeles County! Your county should call you within 10 days for your interview. The call may come from a blocked/unlisted phone number. Make sure to pick up ALL calls.

Notes: This figure presents the text included in the electronic communications sent via GetCalFresh by experimental group. "xxx-xxx-xxxx" is replaced by a unique virtual phone number for each applicant in our treatment message.

Table A.2: Sample Characteristics and Balance Test

	Overall	Treatment	Control	p-value
Demographics				
Household Size	1.70	1.71	1.68	0.00
Age	37.4	37.4	37.4	0.76
Female	0.60	0.60	0.59	0.22
Elderly or Disabled	0.17	0.17	0.17	0.70
English	0.85	0.85	0.86	0.37
Income & Expenses				
Any Income in 30 Days	0.45	0.45	0.45	0.65
Income 30 Days ($)	710	711	707	0.66
Any Money on Hand	0.55	0.55	0.56	0.45
Money on Hand ($)	999	1,003	990	0.86
Any Non-Job Income	0.17	0.17	0.17	0.79
Receives SSI	0.10	0.10	0.10	0.23
Stable Housing	0.60	0.60	0.59	0.25
Rent or Mortgage ($)	768	767	773	0.77
Application Characteristics				
Estimated Eligible	0.90	0.90	0.91	0.75
Expedited	0.53	0.53	0.53	0.23
Observations	64,711	48,524	16,187	

Notes: This table presents summary statistics of baseline characteristics included in the submitted application for the full sample (column 1), the treatment group (column 2), and the control group (column 3). Column 4 presents the p-value associated with a test for equality of means from columns 2 and 3. These application characteristics include: household size, age and sex of the application submitter, whether the household contains an elderly or disabled member, case language, income in the last 30 days (indicator and dollar amount), any cash on hand (indicator and dollar amount), an indicator for non-job income, whether the household receives SSI, an indicator for being in stable housing, and an estimate of monthly rent. From the information included in the self-reported application, GetCalFresh estimates whether the applicant appears eligible for SNAP and if they qualify for expedited (emergency) benefits.

Table A.3: Summary Statistics: Calls Data

	Treatment	Control	Overall	p-value
Individual Data				
% Ever called	53.02	0.47		0.00
% Ever called (over 5 min)	46.22	0.41		0.00
Among callers:				
Number of calls	1.80			
Longest call (min)	31.68			
Total minutes on E2E call	37.52			
County-Level Data				
Average call time (min)			20.19	
Average wait time (min)			2.52	
Observations	48,524	16,187		

Notes: This table presents summary statistics regarding calls to the E2E line. Individual-level statistics on call rates are presented separately for treatment group (column 1) versus control group (column 2) members along with the p-value associated with a test for equality between the two means (column 3). The table also includes statistics on the number of calls and average call length among treated callers and county-level statistics on average call and wait times.

Table A.4: Caller Characteristics

	(1) Called E2E	(2) Did Not Call	(3) p-value
Household Size	1.70	1.73	0.00
Age	37.63	37.25	0.01
Female	0.60	0.60	0.93
Elderly or Disabled	0.16	0.18	0.00
English	0.85	0.86	0.39
Any Income (30 Days)	0.43	0.47	0.00
Income Past 30 Days	659	767	0.00
Any Money on Hand	0.55	0.56	0.29
Money on Hand	1081	914	0.02
Has Non-Job Income	0.17	0.16	0.23
Receives SSI	0.10	0.11	0.00
Stable Housing	0.61	0.58	0.00
Rent or Mortgage	790	740	0.03
Expedited	0.56	0.49	0.00
Estimated Eligible	0.92	0.89	0.00
Observations	25,725	22,799	

Notes: This table presents summary statistics of case characteristics separately for treatment group members who called the E2E line (column 1) versus those who did not (column 2). Column 3 presents the p-value associated with a test for equality of means from columns 1 and 2. Case characteristics include: household size, age and sex of the application submitter, whether the household contains an elderly or disabled member, case language, income in the last 30 days (indicator and dollar amount), any cash on hand (indicator and dollar amount), an indicator for non-job income, whether the household receives SSI, an indicator for being in stable housing, and an estimate of monthly rent. From the information included in the self-reported application, GetCalFresh estimates whether the applicant appears eligible for SNAP and if they qualify for expedited (emergency) benefits.

Table A.5: Effect of Intervention on SNAP Participation Outcomes, No Controls

			Approved by Day					
	Approval Rate	Days to Determination	Day 5	Day 10	Day 15	Day 20	Day 25	Day 150
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Intent to Treat								
Treatment	6.01***	−3.79***	13.67***	11.86***	10.44***	8.83***	7.64***	2.66***
	(0.45)	(0.13)	(0.34)	(0.41)	(0.43)	(0.44)	(0.45)	(0.44)
Panel B: Treatment on the Treated								
Called E2E	11.46***	−7.22***	27.38***	23.04***	20.06***	16.90***	14.59***	5.06***
	(0.86)	(0.24)	(0.66)	(0.79)	(0.82)	(0.84)	(0.85)	(0.84)
Control Mean	48.7	20.3	13.7	26.1	32.8	38.0	42.4	60.0
Observations	64,711	64,711	64,711	64,711	64,711	64,711	64,711	64,711

Notes: The table reports the estimated effect of the intervention on application approval rates, timeliness, and long-term SNAP participation. Outcomes: an indicator for being approved by the 30-day deadline (column 1), number of days before an application received a determination (column 2), indicators for application approvals within the given number of days since submission in 5-day increments (columns 3-7), and an indicator for every receiving SNAP within 150 days of application submission (column 8). Coefficient estimates are reported in days for column 2 and in percentage points (0-100) for all other columns. Parentheses contain heteroskedasticity robust standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: Effect of E2E Roll-out on SNAP Approval Rates

	Control	Treated
	(1)	(2)
E2E Rolled Out	−1.60	4.49***
	(1.38)	(1.34)
Outcome Mean	51.2	52.4
Observations	127,976	157,678

Notes: The table reports the estimated effect the staggered roll-out of E2E by SNAP office on SNAP approval rates using the Callaway and SantAnna (2021) difference-in-differences estimator. Data include all GetCalFresh applications between August 1, 2020 and May 15, 2021. Column 1 estimates the effect on control group members by dropping treated applications from the analysis, while column 2 estimates the effect on treatment group members by dropping controls. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Treatment Effects by Office: Long-term SNAP Participation

	(1) Estimate	(2) Standard Error	(3) p value	(4) Control Mean	(5) N
El Monte	3.64	1.58	0.02	56.9	5,162
Exposition Park	1.10	3.30	0.74	56.4	1,186
Glendale	2.19	1.54	0.15	60.7	5,201
Lancaster	−1.98	2.35	0.40	68.8	2,080
Metro East	−0.03	2.17	0.99	60.0	2,758
Metro Special	1.63	1.19	0.17	63.6	8,392
Norwalk	2.69	1.92	0.16	60.1	3,537
Pomona	4.66	1.50	0.00	58.3	5,723
Rancho Park	2.25	1.63	0.17	63.4	4,524
South Family	6.40	1.42	0.00	55.4	6,503
Southwest Special	1.66	1.33	0.21	61.0	7,143
West Valley	4.32	2.73	0.11	55.2	1,792
Wilshire Special	0.86	3.27	0.79	63.2	1,154

Notes: The table reports the estimated effect of the intervention on long-term SNAP participation by SNAP office (column 1). Column 2 contains heteroskedasticity robust standard errors and column 3 contains the associated p-value. Column 4 presents the control group mean. The outcome variable is an indicator for every receiving SNAP within 150 days of application submission. All regressions include week, day-of-week, and SNAP office fixed effects as well as household characteristics including household size, age and sex of the application submitter, whether the household contains an elderly or disabled member, case language, income in the last 30 days (indicator and dollar amount), any cash on hand (indicator and dollar amount), an indicator for non-job income, whether the household receives SSI, an indicator for being in stable housing, monthly rent, expedited benefit qualification, and estimated eligibility. Coefficient estimates are reported in percentage points (0-100).