Program Recertification Costs: Evidence from SNAP

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Abstract

We document low recertification rates for the Supplemental Nutritional Assistance Program, which we attribute partly to procedural issues associated with the recertification process. Current recipients, who must complete a caseworker interview by recertification month end, are 20 percent less likely to recertify when assigned an interview at the end rather than the beginning of the month. We provide evidence that a substantial fraction of recertification failures appear due to mistakes: the majority of these marginal cases successfully reapply to the program, with larger effects for higher need cases. We estimate costs to participants and administrators created by rigid renewal deadlines.

Researchers have documented low rates of enrollment across a wide variety of social programs, often citing under-awareness of availability, unfamiliarity with eligibility rules, or other application costs as barriers to take-up (Madrian and Shea, 2001; Chetty, Friedman

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and Saez, 2013; Bhargava and Manoli, 2015; Finkelstein and Notowidigdo, 2018). In addition to these initial costs of enrollment, recipients of means-tested programs must document continued eligibility through a periodic recertification process to ensure program integrity. For example, the Supplemental Nutrition Assistance Program (SNAP) requires that recipients submit new income verification documents and complete a caseworker interview by the end of their certification period to maintain program access. Cases that miss the recertification deadline by even one day are terminated from the program. While discontinued recipients may reapply for the program, SNAP "churn" (discontinuation followed by successful reapplication in the subsequent months) has costs for both recipients and program administrators. For example, program participants receive prorated benefits generating substantial stress (Edin et al., 2013), while simultaneously increasing processing costs due to additional administrative workload associated with churn (Mills et al., 2014).

Rigid deadlines for program applications and renewals such as those in the SNAP recertification process are common across many government programs. Open enrollment periods to purchase health insurance through the Affordable Care Act health exchanges are currently only six weeks long. Recipients of Unemployment Insurance must file weekly claims to receive benefits following a strict timetable – late submissions result in the loss of that week's benefits, while repeated missed deadlines lead to case closure. Student loan borrowers face deadlines for aid applications and repayment plan recertification: students that miss the annual application deadline for the Free Application for Federal Student Aid (FAFSA) are ineligible to claim financial aid through the program that year and more than half of students with income-driven repayment plans failed to complete their annual recertification (Miller and Thompson, 2016). In this paper we investigate how the timing of intermediate steps in the SNAP recertification process, coupled with strict deadlines for recertification completion, affect recertification success.

To successfully recertify for CalFresh (California's SNAP program), recipients must complete a recertification interview by the end of the calendar month in which their certification period ends. While recipients may reschedule their interview for any point during the month, the CalFresh office assigns each case an initial interview date that is included in an appointment letter in their recertification packet. Specifically, these initial interview dates are *randomly assigned* across recipients with the same recertification month and staggered throughout the month to smooth caseworker workloads. Regardless of the assigned interview date, all recipients must complete the recertification process by the end of the calendar month. This means that recipients who are assigned a date at the start of the calendar month have more than four weeks to complete their recertification requirements post-interview assignment (such as compiling income documentation or rescheduling a missed interview), while others have as little as a few days.

To determine the effect of interview date on recertification and subsequent outcomes, we analyze a unique administrative data set from the San Francisco Human Services Agency on the universe of roughly 41,000 SNAP recertification cases from November 2014 to November 2016. The data set contains information on recertification date, both initial and rescheduled interviews, recertification outcome, and subsequent reapplications for those who fail to recertify. We link this data to administrative wage earnings data from the Employment Development Department. This data allows us to examine how the timing of the administrative process affects both recertification and churn rates by comparing outcomes for those who were randomly assigned to early versus late initial interview dates.

We document a high rate of recertification failure: 52 percent of all active cases are discontinued from the program at the end of their certification period. We provide evidence that a substantial fraction of these recertification failures appear due to mistakes, rather than changes in eligibility. First, almost half of cases that fail recertification successfully reapply for the program within the next 90 days with many re-entering the program within the first month after the recertification deadline. Second, the wage earnings trajectory of these churn cases is very similar to that of cases that successfully recertified, consistent with a model in which cases fail recertification due to barriers associated with the recertification process rather than ineligibility.

Turning to the effects of interview assignment, our results demonstrate that the assigned interview date has a large and significant impact on recertification success. We estimate that a one-day delay in the assigned interview date decreases the chances of successfully recertifying by one third of a percentage point. In other words, a case that has an initial interview on the 28th day of the month is 9.4 percentage points less likely to recertify than a case that has an initial interview scheduled on the first of the month – a 20 percent decrease in recertification success.

Using data on subsequent reapplications to the program in the year post-recertification, we then consider the effect of interview date assignment on churn and longer-term discontinuances. We find that a one-day delay in the assigned interview date leads to a 0.30 percentage point increase in the likelihood of churning within 90 days of the end of the recertification period – an increase of 8.3 percentage points when comparing cases assigned to an interview at the end of the recertification month versus the first of the month (a 35 percent increase). Furthermore, the probability of being discontinued for at least one year post-recertification increases by 0.05 percentage points per interview day, an increase of 1.3 percentage points over the recertification month (a 6 percent increase).

We estimate that roughly two thirds of the effect of interview assignment on recertification can be explained by differences in interview completion: the likelihood of completing any interview (initial or rescheduled) before the end of the certification period decreases by 0.24 percentage points per interview day delay – suggesting that having additional time to reschedule missed appointments may be an important factor in recertification success. In contrast, we find that interview date assignment has no impact on the likelihood of completing the case's first interview attempt. This suggests that cases do not put in greater effort to complete their initially assigned interview when it occurs later in the month in anticipation of the difficulty of rescheduling under a tight deadline. Consistent with this finding, we find suggestive evidence that additional early alerts (such as missed interview voicemails or text communications) improve recertification success, suggesting that some cases may be inattentive to or completely unaware of the recertification deadline (Karlan et al., 2016).

In terms of welfare implications, we find that the marginal case that fails recertification due to later interview assignment loses an average of almost \$400 in benefits in the year following recertification. The magnitude of this estimate is largely driven by cases that fail recertification and do not reenter the program, though we find significant average benefit losses of roughly \$40 for cases that churn as well. Additionally, administrative costs associated with cases that churn are up to twice as large as for cases that successfully recertify (Mills et al., 2014). This highlights important differences in the distribution of costs associated with recertification failure depending on the post-recertification outcome. Cases that remain off the program long-term suffer large private costs in the form of missed benefits, but create no additional costs to program administrators. In contrast, cases that churn experience smaller private costs, but generate large administrative costs – in fact, we estimate that the administrative costs of processing an additional churn case more than outweigh the cost of providing the prorated benefits missed by these same cases.

We find no evidence of a labor supply response to recertification failure, consistent with the fact that the marginal case that fails recertification due to later interview assignments churns back on to the program. Even among long-term discontinued cases, we observe that half had no wage earnings at all in the year post recertification.

Our results contribute to a growing literature detailing instances in which administrative hassles lead to low rates of initial program enrollment (Sunstein, 2018). Several recent interventions demonstrate that informing likely eligible individuals about program availability leads to significant increases in enrollment (Armour, 2018; Barr and Turner, 2018; Bhargava and Manoli, 2015; Finkelstein and Notowidigdo, 2018; Goldin, Homonoff and Tucker-Ray, 2017). Automatic enrollment, pre-population of application forms, and other types of application assistance have also been shown to significantly increase enrollment across a variety of programs (Madrian and Shea, 2001; Bettinger et al., 2012; Finkelstein and Notowidigdo, 2018). Conversely, increased application costs associated with local program office closures lead to significant decreases in program applications (Rossin-Slater, 2013; Deshpande and Li, 2019).¹

In this paper, we turn our attention away from initial enrollment and toward another potential barrier to participation: program recertification. While the requirements associated with initial application and recertification are often quite similar, there are several reasons to believe that barriers to program participation differ across the two stages. For example, awareness of a program's availability is a key issue for program enrollment, but not for recertification. Similarly, individuals who have already applied for a program at least once are likely to have a better understanding of their eligibility than first time enrollees. Lastly, current participants have demonstrated a past preference for participation, while eligible but unenrolled individuals may have purposely chosen not to participate in the program for a variety of reasons such as stigma (Moffitt et al., 1983; Currie and Grogger, 2001). Our findings contribute to a small, but growing, literature on program recertification that shows that reminders (Castleman and Page, 2016) and flexibility in the recertification process, such as phone interviews or online case management (Ganong and Liebman, 2018; Gray, 2018), can lead to higher rates of participation.²

Our results also contribute to a literature examining the relationship between hassle costs associated with program participation and targeting efficiency. While standard models suggest that application costs improve targeting efficiency (Nichols and Zeckhauser, 1982), behavioral models suggest that these costs are more likely to lead to failed recertification for the neediest households (Bertrand, Mullainathan and Shafir, 2004; Mullainathan and

¹A related literature in the field of public administration demonstrates several instances in which administrative burden, conceptualized as a combination of learning, psychological, and compliance costs associated with interactions with government programs (Moynihan, Herd and Harvey, 2014), impacts program participation (Heinrich, 2015; Herd et al., Forthcoming).

²A related literature shows that shorter certification periods are associated with lower SNAP enrollment (Currie and Grogger, 2001; Kabbani and Wilde, 2003; Ribar, Edelhoch and Liu, 2008; Ganong and Liebman, 2018). In a slightly different context, Hastings and Shapiro (2018) use these certification periods as an exogenous source of variation in timing of exit from the SNAP program.

Shafir, 2013; Deshpande and Li, 2019). We estimate the effect of the initial interview date assignment on recertification by case characteristics and find that the effects of interview assignment are largest for cases with children, cases with higher benefit amounts, and cases that have received SNAP benefits for 5 or more years. These results are consistent with a model in which application costs screen out *more* needy households in line with several prior empirical findings on heterogeneity in response to barriers to program take-up (Currie and Grogger, 2001; Bhargava and Manoli, 2015; Deshpande and Li, 2019), while standing in contrast to others (Alatas et al., 2016; Finkelstein and Notowidigdo, 2018).

This paper is organized as follows. Section I reviews the institutional background on SNAP recertification. Section II describes the recertification and interview assignment process. Section III describes the data sources used in the empirical analysis. Section IV presents estimates of the impact of initial interview date assignment on recertification and subsequent outcomes. Section V discusses possible mechanisms. Section VI describes the welfare implications of later interview date assignments. Section VII concludes.

I. Institutional Background

The Supplemental Nutritional Assistance Program (SNAP) is the largest nutritional assistance program in the United States, serving over 42 million individuals at an annual cost of \$69 billion (Congressional Budget Office, 2018). The program provides monthly food vouchers to low-income households via Electronic Benefits Transfer (EBT) cards with an average monthly benefit of \$126 per person (CBPP, 2018). The program is federally funded but administered by the states who are responsible for determining eligibility and distributing benefits.

SNAP is a means-tested program meaning that all recipients are subject to income eligibility requirements determined by the state.³ To ensure that individuals receiving SNAP are

 $^{^{3}}$ In California, for example, eligibility requirements are based on two income tests: gross household income must be below 200% of the federal poverty line (FPL) and net income must be below 100% FPL. However, many households are only subject to the gross income test including those with only 1-2 members

eligible for program benefits, recipients must complete a recertification process at the end of each certification period. Certification periods are typically between six and twelve months long, though the exact length varies by state and household composition.⁴ Additionally, Able-Bodied Adults Without Dependents (ABAWD) may be subject to work requirements to maintain eligibility.⁵

To successfully recertify, households must complete the following three steps in any order by the end of the recertification period. First, households must fill out and submit a recertification application. This form elicits detailed information on household composition, income, and expenses to determine eligibility and benefit amount. Second, households must complete a scheduled interview, either in-person or over the phone, with a SNAP caseworker. Finally, households must submit documents (e.g., pay stubs) to verify income and other household circumstances described in the recertification application.

Cases that fail recertification, either due to ineligibility or by not completing one of the steps of the recertification process, are terminated from the program at the end of the certification period. Discontinued cases may reapply for the program at any time by completing the initial application process (rather than the streamlined recertification application). However, enrollment is not retroactive – benefits are prorated from the time the case is discontinued until the date that the new application is successfully processed and may be received with a delay. This suggests that even short exit spells could result in substantial benefit losses; for example, a household of four could lose up to \$200 in benefits in just one week.

⁽⁸⁵ percent of our sample) or recipients of other means-tested programs such as Temporary Assistance for Needy Families (TANF). Additionally, due to the high rent in San Francisco, the net income test is less likely to be binding as a result of these earnings disregards. Elderly or disabled individuals are also subject to slightly less restrictive eligibility requirements.

⁴For example, households in which all residents are either elderly or disabled may receive a longer certification period of up to 24 months, though the state agency must have contact with the household at least once every twelve months. Conversely, households with "unstable" circumstances who are determined to be likely to become ineligible in the near future may be assigned to certification periods as short as one month.

⁵ABAWDs, defined as individuals between the ages of 18 to 49 who are unemployed but not disabled and who do not have any dependent children, are limited to three months of eligibility in any given 36-month period or subject to work requirements. Importantly for this paper, all counties in California operated under a waiver of the ABAWD work requirements for the duration of our study period.

II. CalFresh Recertification and Interview Assignment Process

In 2016, CalFresh – California's SNAP program – served over two million households at an annual cost of seven billion dollars. The majority of recipients must recertify for the program every twelve months.⁶ Households must submit the recertification application, along with accompanying income verification, and complete an interview with a caseworker. The intention of the interview is to provide a touch-point for cases to receive assistance from caseworkers in completing their recertification form and collecting the verification documentation.

The timing of the recertification process is as follows. Consider a case whose certification period ends in June 2016. All certification periods end on the last day of the calendar month so in our example, recertification must be completed by June 30, 2016. The recertification process begins with a Notice of Expiration of Certification (CF-377.2) which is generated and sent to all households 45 days before the end of the certification period (on May 15, 2016 in our example). This notice informs households that the end of their certification period is approaching, briefly details the recertification steps, and informs them that they will be receiving a detailed recertification packet and interview assignment in the mail.⁷ Households that have opted in to receive text or email updates also receive a communication within the next few days informing them that their certification period is ending. Case workers then assign each case an initial interview date to take place within the first four weeks of June. Around the third week of May, case workers send out the Recertification, Reauthorization, and Renewal (RRR) packets.⁸ These packets contain the recertification form (CF-37), an

⁶Additionally, most households in California must complete a shorter semi-annual report called the SAR-7. Unlike the annual recertification, this interim reporting requirement does not include a caseworker interview, hence we focus only on annual recertification cases in this paper.

⁷See Appendix Figure 1-3 for an example of this form and other forms used in the recertification process.

⁸Almost three quarters of the packets in our sample were sent between the 17th and 23rd of the month prior to the end of the certification period. While there is no formal policy regarding the order in which these packets are sent out, discussions with caseworkers suggested that packets for cases assigned to early interview dates were distributed earlier than those with later interview dates – indeed, our data reveals that cases assigned to interview dates in the first two weeks of the month were sent their packet an average of 2.5 days earlier than cases assigned to interviews in the third and fourth weeks (see Appendix Figure 4 for a distribution of sent dates for early versus late interview dates). While these differences are small, we include specifications that control for packet sent date.

interview appointment letter (CF-29C), and several other unrelated forms (such as voter registration forms).⁹ The appointment letter contains information on the initial interview date assignment, the time of day (either morning or afternoon), and whether the appointment is a phone or in-person interview.¹⁰ The letter also provides information on how to reschedule the interview if the assigned time or date is inconvenient for the recipient. Recipients may reschedule their interview or complete an on-demand walk-in interview at the SNAP offices at any time during the recertification month.¹¹ If an interview is missed or not completed, households receive a notice of missed interview (CF-386) and a voicemail instructing them to contact a case worker to reschedule their interview before the end of their certification period.

In San Francisco, the county in which our study takes place, program administrators *randomly assign* the initial interview date which is included in the appointment letter, staggering the interviews throughout the recertification month to smooth caseworker workload. The interview assignment process is as follows. Caseworkers are given the full list of cases whose certification period ends in the following month. These cases are grouped by case language and appointment type (phone or in-person).¹² Cases are sorted within group by Case ID number and, subsequently, caseworkers repeatedly append the list of available interview dates¹³ to cases until all cases are assigned an initial interview date.¹⁴

⁹Households must provide detailed information on the income and expenses for all household members, along with income verification, for the calendar month prior to the end of the certification period (May 2016 in our example). See http://www.cdss.ca.gov/cdssweb/entres/forms/English/CF37.pdf for a copy of the Recertification, Reauthorization, and Renewal form.

¹⁰Cases that provided a phone number on the initial application or subsequent case updates are assigned phone interviews; all other cases are assigned an in-person interview at the local SNAP office.

¹¹Administrators at the SNAP offices in San Francisco report that all cases that place a request to reschedule before the end of the certification period are granted a rescheduled interview, even on the last day of the recertification month.

¹²The San Francisco SNAP office offers interviews in six languages: English, Spanish, Chinese (Cantonese and Mandarin), Vietnamese, Tagalog, and Russian. Unsupported languages are served by staff without multilingual skills, using external translation services.

¹³The list of available interview dates excludes weekends, holidays, and the last two days of the calendar month with fewer interviews scheduled on the first day of the month to address increased call volumes associated with discontinuation of benefits. In-person interviews do not meet on Fridays. Lastly, the list adjusts for non-major language (Vietnamese, Tagalog, and Russian) caseworker availability.

¹⁴In four months of our study period, the sorting process resulted in cases with low Case ID numbers receiving earlier interview dates. While Case ID is not a meaningful variable in and of itself, it is correlated

Figure 1 presents a graph of the distribution of initial interview dates for the recertification cases in our study population (described in Section III). The distribution is approximately uniform across the first three weeks of the month with fewer interviews scheduled after the 23rd of the month. This is largely due to the fact that interviews were not scheduled after the 24th during the first few months of our study period, but also partly due to a larger number of holidays falling at the end of the calendar month.

Regardless of when a case's initial interview is scheduled, all households must complete the recertification process by the last day of the calendar month of their certification period. While interviews can be rescheduled for any time within the recertification month, only 3 percent of households reschedule their interview prior to the randomly assigned interview date. Therefore, most households that are assigned an initial interview date at the beginning of the month have over four weeks post-interview to complete the process – for example, to reschedule a missed interview, fix errors in the recertification application, or gather valid income verification – while cases that are assigned an interview at the end of the month may only have a few days.

III. Data

Our sample population is comprised of the universe of SNAP cases in San Francisco County scheduled for recertification between November 2014 and November 2016.¹⁵ The core sample of recertification packets includes 45,952 recertification events for 34,360 unique households. The data include the case's recertification month and the date the recertification packet was sent which are then are merged with data on whether or not recertification was successful or whether the case was discontinued from the program. We then combine our sample with data containing information on all interviews scheduled with the SNAP office, including both

with the date on which the case first joined a California Human Services Agency assistance program; therefore, our regressions control for fixed effects for the year in which the case joined the program. The inclusion of this variable or, alternatively, the exclusion of these months does not substantively alter our results.

¹⁵We focus on households that are current SNAP recipients but that are not currently receiving CalWorks, California's TANF program. We make this data restriction since the recertification interview assignment process differs for those cases in order to better align the recertification process for the two programs.

interviews initially assigned by the SNAP office as well as interviews that were rescheduled by the program participant. Importantly, the data set also includes the date on which the interview was assigned, allowing us to determine the randomly assigned initial interview date. The data include the date and time of all scheduled interviews and whether the interview was successfully completed. We also obtain data on all walk-in appointments, as cases can complete an on-demand interview by visiting a SNAP office. Records on the submission of recertification forms and verification documents, such as income verification documents were not available.

We exclude recertification cases that were inconsistent with administrative guidelines for scheduling interviews. For example, we exclude cases that were sent a recertification packet but were not assigned a caseworker interview,¹⁶ as well as cases in which the first interview was assigned in the recertification month or before the 13th of the month prior to the end of the recertification month.¹⁷ We also drop cases that were not conducted in one of the three major case languages in San Francisco (English, Spanish, and Chinese), since the interview assignment process is constrained by staff availability for non-major languages. Finally, we exclude a small number of cases whose interviews were scheduled less than seven days after the recertification packets were sent. This leaves us with a final sample of 41,082 recertification cases across 31,174 unique households.

To examine the effect of initial interview assignment on post-recertification outcomes, we merge our sample to data on all subsequent SNAP applications through October 2017. This data allows us to follow the recertification cases in our sample for a year after the end of the certification period. From this data, we are able to determine whether a case that failed recertification rejoined the program within the following months (i.e., churned), or if the recertification process ended in a longer-term discontinuance from the program.

¹⁶The majority of these (roughly 1,800) cases occurred during the first six months of our sample period during a time when recertification interviews were waived for households in which all adults are elderly or disabled without income (http://www.cdss.ca.gov/lettersnotices/EntRes/getinfo/acl/2013/13-58.pdf).

¹⁷Recertification interviews occur in the recertification month, but are typically scheduled around the 15th of the prior month. Deviations from this schedule suggest that the interview assignment may not have followed the typical random assignment process.

We then link identifiers for all individuals associated with a recertification case to administrative data from the Employment Development Department (EDD). This data set contains individual wage earnings information in each quarter provided by employers for all individuals associated with a case for a year after the end of the certification period. While caseworkers have access to this data source, the data is provided with a lag and so EDD data is not used as part of the recertification intake process to assess eligibility.

The data also include detailed demographic data on the case and the head of household. These data include information that is required as part of the initial SNAP application process and is updated through prior recertifications or semi-annual reporting such as household size, number of children, and zip code. The data also contains information from administrative sources on each case's SNAP participation history including the number of days the household had been on SNAP, the initial enrollment date, and the current monthly benefit amount. Lastly, the data include information about the head of household including date of birth, gender, ethnicity, and citizenship status.

Finally, we collected data on receipt of text and email communications sent to households that opted in to this voluntary program. While these communications were used throughout our study period, San Francisco only began collecting individual-level data on texts and email for recertification cases due in October 2015 and after.

IV. Results

A. Descriptive Statistics

i. Demographics and Randomization Checks

Table 1 presents summary statistics of the demographics of our study population. Since our study focuses on the county of San Francisco – a large, urban city – a few characteristics of our population are worth comparing to the population of SNAP households nationwide. First, the average size of the households in our population is somewhat smaller than the

average SNAP household – 1.6 people versus the national average of 2.0 people. Relatedly, just under one third of households in our sample had any children, while 43 percent of SNAP households have at least one child nationwide. San Francisco SNAP households are more racially diverse (with an especially high proportion of Asian heads of household), more likely to be headed by a non-US citizen, and more likely to receive the maximum SNAP benefit than SNAP households nationwide (FNS, FY2015).

Columns 2 and 3 of Table 1 present means of the same demographic characteristics for cases with early initial interview dates (between the 1st and 13th of the month) versus late interview dates (between the 14th and 29th of the month), respectively. The average demographic make-up of households initially assigned to early versus later interview dates are quite similar. Column 4 presents results from a test for equality of means between these groups and shows that the differences for most characteristics are small and not statistically significant, suggesting that interview date assignment was not correlated with observed case demographics. Two exceptions are citizenship and long-term SNAP receipt – cases assigned to interview dates later in the month were slightly more likely to be US citizens and long-term SNAP recipients than those assigned to earlier dates; however, these differences disappear when controlling for the randomization characteristics (month, interview type, and case language).

ii. Recertification Outcomes

Table 2 presents summary statistics on various outcomes related to the recertification process. We observe a very high rate of recertification failure – only 48 percent of cases successfully recertified. This may suggest that a large fraction of cases were deemed ineligible for SNAP; alternatively, cases may have remained eligible, but did not complete one or many of the steps necessary to recertify. For example, we find that only three-quarters of our sample completed a caseworker interview (either their assigned interview or a rescheduled interview) by the recertification deadline.¹⁸ However, ineligible cases may have chosen not to take the time complete an interview if they knew they were ineligible, making it difficult to draw conclusions about eligibility from this statistic.

However, data on post-recertification outcomes suggests that at a sizable portion of our cases appear likely to have been eligible at the time of recertification. Specifically, we find that over half of cases that fail recertification reapply for SNAP within the next 90 days and that the vast majority of these reapplications (93 percent) are approved, yielding a 90-day churn rate of 46 percent. In other words, roughly one quarter of the cases in our sample failed recertification and were discontinued from the program, but were deemed eligible within the following months. Figure 2 shows that 78 percent of cases that churn within 90 days of recertification do so within the first month, many within the first week. These estimates are consistent with, but somewhat larger than estimates from a recent USDA report (Mills et al., 2014).¹⁹

While these cases eventually reenter the program, enrollment is not retroactive. This means that cases that are discontinued from the program because they miss the recertification deadline receive prorated benefits even when they successfully reapply shortly after. Among the cases that churn within 90 days, the average case is discontinued from the program for 20 days and experiences an average benefit loss of just under \$150 dollars.

While roughly half of recertification failures churn back on to the program within the three months post-recertification, the other half are discontinued from the program for considerably longer. Roughly six percent of all cases fail recertification, do not churn, but reenter the program within a year post-recertification. The average case remains off the program for just over six months. Finally, 22 percent of all recertification cases are what we will refer

¹⁸Interview completion does not include a determination of eligibility. So while interview completion is necessary to complete recertification, it is not sufficient.

¹⁹This report estimated the proportion of SNAP households who exit the program but successfully rejoined within the next four months and found a churn rate between 17 and 28 percent across six states. These estimates considered any program exit, not just recertification failure, but found that the vast majority of program churn occurred during months in which households were required to recertify for the program or submit interim reporting. Gray (2018) focuses on longer-term program exits (of one calendar month or longer) in Michigan and finds that over half of SNAP entrants exit the program within the year.

to as "long-term discontinued," meaning that they failed recertification and remained off the program for at least a year.

iii. Eligibility Estimates

If all cases that failed recertification did so because they were deemed ineligible, we would not expect that interview assignment would have any effect on recertification. However, determining eligibility for cases that do not complete the recertification process is challenging, even with third-party administrative wage data. For example, one main limitation of using this data to estimate eligibility is that it only includes wage income. While no case in our sample receives TANF, they may receive other types of non-wage income, such as selfemployment income or Social Security.²⁰ Nevertheless, we use quarterly EDD wage earnings data to provide suggestive evidence that a substantial fraction of recertification cases appear eligible.

Column 1 of Table 3 presents the fraction of recertification cases with wage earnings below 200 percent FPL (the SNAP gross income limit in California), below 130 percent FPL, and the proportion of cases with no wage earnings at all. We find that 94 percent of recertification cases have average monthly wage earnings below the gross income limit in the recertification quarter and 87 percent have earnings below 130 percent FPL. Finally, of all of our recertification cases, two-thirds have no wage earnings at all. So while many of our cases may have a substantial amount of unearned income, it would require a *change* in that unearned income since the last certification to disqualify a case with no wage earnings, which may be less likely for certain programs such as Social Security.²¹

Columns 2 through 4 repeat these estimates for cases that recertified, churned, or were long-term discontinued, respectively. We find that the wage earnings in the quarter of

 $^{^{20}}$ Data on current SNAP recipients in San Francisco suggests that only 3 percent of cases report self-employment income.

²¹Nonetheless, there may be unreported changes to household composition or the case may have moved. However, calculations from the California Department of Social Services (CDSS) suggest that only 2 percent of cases that exit SNAP in San Francisco in a recertification month appear on SNAP in a different county the following month.

recertification for cases that successfully recertified and those that churned are very similar – 97 percent of cases that recertify have average monthly wage earnings below the gross income limit versus 96 percent for cases that churn. Similarly, the fraction of cases with no wage earnings in the recertification quarter are each roughly 68.5 percent for both cases that recertify and cases that churn. Figure 3 plots the average quarterly earnings of three groups (recertifiers, churners, and long-term discontinuances) in the recertification quarter and the four quarters post-recertification. This figure tells a similar story: the average earnings of recertifiers and churners are nearly identical.

In contrast, long-term discontinued cases are less likely to have average monthly wage earnings below the gross income limit than cases that recertified – 86 versus 97 percent. Figure 3 shows that average quarterly earnings for long-term discontinued cases are almost twice as large as those for cases that recertified. Nonetheless, we still find that a large fraction of these long-term discontinued cases have no wage earnings in the recertification quarter (58 percent), while just under half have no earnings at all in the post-recertification year. Using similar data from Michigan, Gray (2018) estimates that roughly half of SNAP cases that exit the program for over a month are still eligible for the program. Therefore, it is possible that a large fraction of our long-term discontinued cases have maintained eligibility as well.

Taken together, while it is possible that cases that churn were ineligible for SNAP in their recertification month, a potentially more plausible story is that these cases (as well as some long-term discontinued cases) failed recertification due to procedural issues such as failing to complete a caseworker interview or to submit sufficient income verification by the recertification deadline.

B. Effect of Interview Assignment on Recertification

The statistics in Table 2 show that recertification success rates are very low, with one possible explanation being that elements of the administrative process of recertification may be difficult for participants to complete. This section looks at the effect of one of the components of the recertification process – the initially assigned interview date – to determine its effect on recertification success.

Figure 4 plots the relationship between the recertification success rate and the initial interview day assignment.²² Cases assigned to an initial interview on the first or second of the month have a recertification rate of 51 percent, while cases assigned to interview dates on the last two possible assignment dates have only a 43 percent recertification rate. The figure suggests that this gap in recertification success is not solely driven by cases assigned to interviews at the very end of the month, but rather there is an approximately linear downward trend in the probability of recertifying.

We use the following econometric model to estimate the impact of initial interview day assignment on recertification:

$$Y_{it} = \alpha + \gamma Interview Day_{it} + \beta x_{it} + \theta z_i + \varepsilon_{it} \tag{1}$$

where Y_{it} is an indicator for whether case *i* successfully recertified in month *t*, *InterviewDay*_{it} is the randomly assigned interview calendar day, x_{it} is a vector of case characteristics used in the randomization process, and z_i is a vector of demographic characteristics.²³

Table 4 presents the results. Column 1, which includes no controls, suggests that a one-day delay in the initially assigned interview reduces the likelihood of recertifying by 0.30 percentage points. The inclusion of recertification month fixed effects (column 2) and all case characteristics used in the interview randomization process (column 3), respectively, slightly increases the magnitude of our point estimate. Column 4 – our preferred specification – includes additional household demographic controls and finds that a one-day delay in the

²²Recertification rates in this figure are demeaned by interview assignment randomization group; however, raw means of recertification rate yield very similar graphs.

²³Randomization group characteristics are recertification month by case language by interview type. Demographic controls include case-level characteristics such as household size, presence of children, and time on the program (years since initial SNAP application fixed effects and an indicator for receiving SNAP for 5 or more years), as well as head-of-household characteristics including sex, age, race, and citizenship.

initially assigned interview reduces the likelihood of recertifying by 0.34 percentage points. This implies that a case that is assigned an initial interview on the 28th of the month is 9.4 percentage points less likely to recertify than a case assigned an interview on the first of the month – a 20 percent decline in recertification success off the mean.

We perform a few additional robustness checks on our specification. Almost 10,000 cases had multiple recertifications during our sample period. Since initial interview assignment is independent across years, we can identify the effect of interview assignment on recertification within case by including household fixed effects. Column 5 reports these results and shows that the inclusion of these fixed effects imply a slightly more pronounced relationship between initial interview day assignment and recertification success: each one-day delay in assigned interview leads to a 0.45 percentage point decrease in the likelihood of recertifying. While it is encouraging that our estimates are robust to the inclusion of household fixed effects, it is important to note that to appear twice in our data set, a case must have eventually successfully recertified. Therefore, these estimates should not necessarily be interpreted as the effect of interview assignment for the overall population.

As mentioned in Section II, we observe a correlation between interview assignment and the recertification packet sent date: cases with assigned interviews in the first half of the recertification month receive their recertification packets an average of 2.5 days earlier than those with interview dates assigned in the second half of the month. Column 6 controls for the day on which the recertification packet was sent to the household and shows only a small decrease in the effect of interview assignment relative to column 4.²⁴

Lastly, to account for potential non-linearities in the effect of interview day on recertification success, column 7 presents results from the following specification:

$$Y_{iwt} = \alpha + \sum_{w=2}^{4} \theta_w Interview Week_{iwt} + \beta x_{it} + \gamma z_i + \varepsilon_{iwt}$$
(2)

²⁴Since the packet sent date was not separately randomly assigned from the interview date, we do not include it in our main specification. Therefore, to the extent that receiving a recertification packet earlier increases recertification success, our estimates should be interpreted as the the effect of receiving an earlier interview date combined with receiving a recertification packet a few days earlier on average.

where InterviewWeek_{iwt} indicates that case *i* in recertification month *t* was assigned an initial interview in calendar week *w* where $w \in \{2, 3, 4\}$.²⁵ The results confirm that the likelihood of recertifying monotonically decreases with interview date assignment. Cases with initial interviews in the second, third, and fourth weeks of the month are 1.2, 3.9, and 7.1 percentage points less likely to recertify relative to cases with initial interviews in the first week of the month. These estimates are not only statistically significantly different from the recertification rate of those with initial interviews in the first week, but they are also significantly different from each other.

C. Reapplications, Churn, and Long-term Discontinuance

The costs of recertification failure induced by interview date assignment depend on if and when the cases that failed recertification rejoin the program. This section uses data on applications to SNAP in the months following recertification to determine the effect of interview date assignment on post-recertification outcomes. Figures 5a and 5b plot the relationship between the initial interview day assignment and the 90-day churn rate or the proportion of cases that are long-term discontinued, respectively. Table 5 presents the results from the model described in equation (1) for three post-recertification outcomes: reapplication, churn, and long-term discontinuance.

Column 1 presents estimates of the impact of interview day assignment on the likelihood of reapplying within 90 days of the recertification deadline. These are cases that fail to recertify, but reapply for the program within a few months of being denied. The results show that for each one-day delay in the initial interview date, cases are 0.30 percentage points more likely to reapply for SNAP within 90 days. Given that Table 4 shows that a one-day delay in initial interview assignment decreases the likelihood of recertifying by 0.34 percentage points, this suggests that the majority of households that fail recertification due to interview date assignment reapply shortly thereafter. Furthermore, the majority of these

 $^{^{25}}$ This specification excludes the 335 recertification cases that were assigned an initial interview date on the 29th. Including them in the fourth interview week does not qualitatively change our results.

reapplications were successful. Column 2 considers the effect of interview date assignment on whether a case churned. We find that the 90-day churn rate also increases by 0.30 percentage points per interview day delay. In other words, cases assigned an initial interview day on the 28th are 8.3 percentage points more likely to churn than a case with an interview day on the first of the month – a 35 percent increase.

While the summary statistics in Table 1 show that the SNAP program experiences a very high reapplication rate in the months after recertification, just under half of cases that failed recertification do not reenter the program within the year following recertification. If all long-term discontinued cases are indeed ineligible, we would not expect that interview date assignment would have an impact on the recertification success of these cases. However, it is possible that some of the long-term discontinued cases are eligible for the program, but chose not to reapply, either due to confusion about their own eligibility or due to the costs associated with the reapplication process, suggesting that interview assignment may impact these cases as well. Column 3 shows that interview date assignment had a small but statistically significant effect on long-term discontinuances: each interview day delay leads to a 0.05 percentage point increase in the likelihood of being discontinued from the program for at least a full year post recertification. This suggests that cases that are assigned to an interview on the 28th to fail recertification and remain off the program for at least a year – a 6 percent decrease.

Overall, our results suggest that the majority of cases that fail recertification due to later interview assignments churn back on to the program. Nonetheless, a significant fraction of these marginal cases remain off the program for a year or more, causing them to miss out on substantial benefits (roughly two thirds of our sample receives the maximum monthly benefit of \$194 per person). Section VI investigates the costs associated with later interview assignments for both churners and long-term discontinuances.

D. Effect of Interview Assignment by Case Characteristics

In this section, we estimate whether the effect of later interview date assignment varies based on demographic characteristics associated with higher marginal utility from recertification. Specifically, we estimate the effect of the assigned interview date on recertification by case characteristics that are likely to be associated with need.

Nichols and Zeckhauser (1982) present a model in which hassles associated with program application (or in our case, recertification) can improve program targeting by screening out high-ability individuals or those with lower marginal utility from program benefits (who may be either eligible or ineligible) since these individuals have a higher opportunity cost of time. Alatas et al. (2016) finds empirical support for this theory: in-person application for a conditional cash transfer program in Indonesia led to better targeting efficiency relative to automatic enrollment. Closely related to our context, Finkelstein and Notowidigdo (2018) find that information about application assistance for SNAP increased take-up, but reduced targeting efficiency – enrollees receiving application assistance were more likely to receive lower monthly benefits and were in better health than those in the control group.

In contrast, Deshpande and Li (2019) present an alternative version of the model in Nichols and Zeckhauser (1982) in which application costs are negatively correlated with ability. They show that if application costs are related to cognitive costs, rather than time costs, then the results reverse and application costs worsen targeting efficiency. Several papers show empirical support for this model: Currie and Grogger (2001) find that singleparent households are disproportionately affected by shorter SNAP recertification periods, Bhargava and Manoli (2015) show that simplifying EITC notices increases take-up among the very poor, and Deshpande and Li (2019) find that program office closures lead to disproportionately large decreases in applications for disability insurance from low-education applicants and those with moderately severe conditions. These empirical findings are also consistent with literature from behavioral economics which suggests that poverty or other forms of scarcity increase cognitive load leading to difficulties making financial decisions (Bertrand, Mullainathan and Shafir, 2004; Mullainathan and Shafir, 2013).

We estimate heterogeneity in the effect of interview date assignment by interacting InterviewDay from equation (1) with case characteristics plausibly associated with need. Specifically, our model takes the following form:

$$Y_{it} = \alpha + \gamma Interview Day_{it} * CaseCharacteristic_{it} + \eta Interview Day_{it}$$
(3)
+ $\mu CaseCharacteristic_{it} + \beta x_{it} + \theta z_i + \varepsilon_{it}$

where Y_{it} is an indicator for recertification success, $InterviewDay_{it}$ is the randomly assigned interview calendar day, $CaseCharacteristic_{it}$ is a characteristic of the recertification case (including presence of children, long-term SNAP receipt, language, and benefit amount), x_{it} is a vector of case characteristics used in the randomization process, and z_i is a vector of additional demographic characteristics.²⁶

Table 6 presents the results of this analysis separately by case characteristic subgroup. Column 1 shows that the effects of interview date assignment on recertification success is almost twice as large for households with children versus those without children. Specifically, for each one-day delay in interview day assignment, households with children are 0.48 percentage points less likely to recertify, while households without children are only 0.27 percentage points less likely to recertify. We find similar effects for cases that have been on SNAP for more than 5 years – the effect of later interview assignments on recertification success for long-term SNAP recipients is roughly 50 percent larger than for cases that have received SNAP for fewer than 5 years. We find that households with higher monthly benefit amounts are more likely to be affected by interview assignment (column 3), though we find no effect on the likelihood of receiving the maximum benefit amount (column 4). The direction of the point estimate suggests that interview assignment has a larger impact on cases that

²⁶Case characteristics are estimated based on information provided to the SNAP offices as of the last reporting period (most likely at the semi-annual reporting period six months prior to the recertification month).

report a primary language other than English (column 5), though we cannot statistically distinguish the effect of interview day on recertification success for English-speaking versus non-English speaking households.²⁷

V. Mechanisms

A. Interview Completion

One pathway by which interview assignment may impact recertification success is through interview completion. Cases with earlier interview date assignments may be more likely to complete an interview for a variety of reasons. For example, cases that miss their initial interview appointment have more time to reschedule for another date before the end of the certification period if their original interview date was early in the month, while cases with later assignments may be unable to find an alternative interview date before the recertification deadline.

Column 1 of Table 7 estimates the effect of initial interview date assignment on the likelihood of completing any interview (assigned or rescheduled) before the recertification deadline. We find that a one-day delay in interview assignment is associated with a 0.24 percentage point decrease in completing any interview by the recertification deadline and that this relationship appears approximately linear (Figure 6a). Recall that Table 4 shows a 0.34 percentage point decrease in recertification success per interview day delay. This suggests that roughly two thirds of the effect of interview assignment on recertification success can be explained by interview completion and that additional time to reschedule a missed appointment may play a significant role in completing this step of the recertification process. While we do not have data on income verification or submission of the recertification application, our results show that just under a third of the effect of interview day assignment on recertification must be due to failure of one of these other components of the recertification.

²⁷We focus on case-level characteristics in this analysis, but additionally perform the same analysis for characteristics of the head of household. We find no differences in response to interview assignment by head of household race, gender, age, or citizenship.

process.

One possibility is that households fully anticipate the difficulty of rescheduling an interview later in the month, but intentionally miss interviews earlier in the month when the marginal cost of delay is lower. If cases are responding optimally to the anticipated future costs of rescheduling, we would expect that the likelihood of completing the *first* interview attempt will increase if the date is closer to the end of the certification period. For example, suppose a case has an unanticipated conflict with the assigned interview date. If the interview is at the beginning of the month, the case may strategically choose to miss the interview and reschedule later in the month; however, if the interview is at the end of the month, the case may prioritize completing the scheduled interview in spite of the conflict.

Column 2 of Table 7 finds a small and not statistically significant effect of interview day assignment on completing the first interview attempt.²⁸ Figure 6b shows that the linear specification is not masking a spike in completion among cases with very late assignments, but rather that the relationship between completion and assigned date appears relatively flat. While our data is not equipped to test between different models of decision-making, this result suggests that cases do not anticipate the relationship observed in column 1, possibly due to overconfidence in the ease of rescheduling (Camerer and Lovallo, 1999; Moore and Healy, 2008) or to under-awareness of or inattention to the assigned interview date altogether (Karlan et al., 2016).

B. Awareness and Reminders

One potential mechanism by which early interview assignments may affect recertification is by informing or reminding households that the end of their certification period is approaching. While all cases are sent their recertification packets well in advance of the period end, households who do not receive or do not review the materials may be unaware that they are

²⁸For most cases, the first appointment is their initial interview assignment. However, for the three percent of cases that rescheduled their interview prior to the initially scheduled date, this outcome considers that rescheduled appointment instead.

due for recertification. For these households, assigned interview appointments may be an alternative way to alert them about the upcoming process.

While all households that missed their assigned interview receive a notice of missed interview (CF-386) in the mail, cases that are assigned to a phone interview (rather than an in-person interview) also receive a voicemail asking the individual to call and reschedule the appointment.²⁹ These voicemails may be a key alternative communication tool to inform cases that the recertification process has begun. If so, earlier appointments, which allow for more time to complete the recertification steps (such as rescheduling a missed interview or collecting income verification documents) after the alert, would be particularly helpful for phone interviews.

By the same logic, cases that receive additional communications about the recertification process may not rely as heavily on missed interview notifications as a reminder. As mentioned in Section II, cases have the option of signing up to receive text and email communications from the program office about their case status with just under one third of cases enrolling for at least one of the two communications. These communications included a reminder about the recertification process that notifies cases when the recertification packet has been sent to the case's address.³⁰ If cases with early interview dates are more likely to recertify because they are reminded about the process earlier, then text and email reminders should moderate the influence of interview day assignment on recertification success by providing the same information through an alternative channel.

Table 8 provides suggestive evidence about whether caseworker interviews serve as a reminder about the recertification process. This table provides estimates from an alternative

²⁹Cases are defaulted into a phone interview if they have provided the SNAP office with a valid phone number. Eighty one percent of cases in our sample are assigned a phone interview rather than an in-person interview.

³⁰Specifically, text communications state: "Case $\langle \# \rangle$: Your CalFresh Renewal packet has been mailed. To avoid stopping your benefits please complete the forms or contact your county worker right away." Email communications state: "Case $\langle \# \rangle$: This is $\langle \text{County Agency} \rangle$. This is a reminder that your Certification period will end on $\langle \text{month/day/year} \rangle$. If you want to keep getting your benefits without a break; you must also complete an interview with the county and turn in any proof of income, expenses, or other information before the end of your certification period listed above."

version of the model in equation (3) that interacts communication type (phone, text, or email) with interview day. This specification allows us to determine whether the effects of interview assignment are larger for phone interviews as well as whether interview assignment impacts recertification even for those receiving these additional reminders.

Column 1 shows that while earlier interview assignments lead to higher rates of recertification success for face-to-face interviews, the effects are twice as large for phone interview cases. Column 2 shows that interview date assignment has a smaller impact on cases that opted in to receive text messages. Specifically, cases that sign up to receive text reminders are 0.38 percentage points less likely to recertify for each one-day delay in interview date assignment versus 0.25 percentage points for those who received text communications, though this difference is not statistically significant. We do not find any significant differences in the effect of interview date assignment for cases that receive email communications.

While assignment to a phone interview is not random and participation in the text program is voluntary with far from universal take-up,³¹ this evidence is at least directionally consistent with the reminder story described above – early interviews are particularly helpful for cases that receive missed interview voicemails and that text messages partially mitigate the negative effects of late interviews.

C. Learning

While many cases have experience with the recertification process, cases that are new to SNAP may be less aware of the timing of the process or the difficulty involved in completing the various recertification steps. Earlier interview assignments may be particularly important for inexperienced cases since interview appointments may provide information that the deadline is approaching or because caseworkers convey helpful information about the steps necessary for recertification that may only be useful if the recipient has sufficient

 $^{^{31}}$ As mentioned above, roughly one third of cases signed up to receive at least one of the two types of communications with 24 percent enrolling in text communications and 18 percent enrolling in email communications. Households that signed up for these communications were more likely to be younger, childless, and English-speaking.

time before the end of the certification period. If inexperience with recertification is driving our estimates, we would expect that the effect of interview assignment should attenuate as households learn to navigate the recertification process over time.

To explore this hypothesis, we exploit the panel structure of our data to determine if experience with the program mitigates the effect of interview assignment on recertification. Since our data set spans two years of recertification cases, we observe two recertifications for many cases in our sample. Specifically, we are interested in cases that experience both their first and second recertification during our study period. Since initial interview date assignment in the first recertification period is independent of assignment in the second period, we are able to compare the effect of interview assignment on the outcome of a case's first recertification experience (when many parts of the process may be unfamiliar) to its effect on the second recertification.

Table 9 considers the 1,209 cases who experience both their first and second recertification process during our study period.³² Columns 1 and 2 estimate the effect of interview day on recertification success separately for the first and second recertifications, respectively. In contrast to the learning hypothesis described above, the estimates show that the effect of interview date assignment on recertification success is similar in magnitude for the first and second recertification, though the estimates are imprecise.

VI. Welfare Implications

Recertification failure induced by later interview assignment is associated with several costs including lost benefits to participants, additional workload for program administrators, and the fiscal externalities associated with labor supply responses. This section estimates several of these costs to determine the welfare consequences of the timing of interview assignments.

 $^{^{32}}$ Note that for a case to be observed twice in our data, the case needs to have successfully completed its first recertification or churned shortly after failing recertification. While this selection criteria could lead to a subsample of cases with very high rates of recertification success for the first recertification, that does not prove to be the case: only 62 percent of this sample successfully completed their first recertification compared to a success rate of 50 percent for the second recertification.

i. Participants

To measure the cost of lost benefits to households that failed recertification, we employ an instrumental variables analysis in which we estimate the effect of recertification failure on prorated benefit dollars instrumenting for recertification failure with interview date assignment. Our estimate of prorated benefit dollars scales the number of missed benefit days in the year post recertification by the case's monthly benefit amount in the month prior to recertification failure. Cases that successfully recertified are determined to have zero missed benefit days. Column 1 of Table 10 considers prorated benefits for all cases (both churners and long-term discontinued cases), while column 2 considers only lost benefits associated with cases that churn. Specifically, the outcome in column 2 is defined as the benefit dollars lost between the end of the case's recertification period and the date on which the reapplication was approved for cases that churn within 90 days and zero for all other cases.

The results in Table 10 show significant losses in benefits – recertification failure induced by later interview assignment leads to an average loss in annual benefits of \$377. These losses are largely driven by cases that remain off the program for an extended period of time; however, we also observe average decreases in benefits of \$37 for cases that churn back on to the program. While the losses to churners are smaller in magnitude, qualitative interviews demonstrate that benefit loss associated with recertification failure creates considerable stress for SNAP recipients regardless of subsequent reapplication success (Edin et al., 2013). Additionally, research suggests that SNAP recipients experience decreases in caloric intake and experience nutrition-related health shocks (Shapiro, 2005; Seligman et al., 2014) at the end of the monthly benefit cycle when when many households have exhausted their monthly benefits (Castner and Henke, 2011). This suggests that even short-term benefit gaps may generate substantial externalities for SNAP recipients and their communities.³³

³³Additionally, this intramonth cyclicality in benefit availability is associated with increases in crime and disciplinary infractions (Carr and Packham, 2019; Gennetian et al., 2016).

ii. Program Administrators

Program administrators face costs associated with processing applications, largely in the form of additional caseworker hours – for example, Finkelstein and Notowidigdo (2018) estimate a public cost of processing a new SNAP application of close to \$300. However, in the case of recertification, caseworkers must attempt to contact *all* recertification cases which incurs administrative costs for every case regardless of the recertification outcome. Additionally, cases that fail recertification, but reapply shortly after, create additional administrative costs associated with processing new applications that are more in-depth than those in the recertification process. Mills et al. (2014) estimates that the administrative burden associated with cases that churn, is twice as large as that for cases that successfully recertify costing program administrators an additional \$80 for each case that churns.³⁴ So while policies that induce new initial applications increase administrative costs of the program, preventing cases from churning decreases administrative costs.

This highlights an interesting difference in the distribution of costs for the two groups of cases that fail recertification – long-term discontinued cases and churners. Eligible cases that fail recertification and remain off the program incur substantial private costs in the form of missed benefits, however, they do not generate any additional costs for program administrators. In contrast, cases that churn suffer smaller losses in benefit receipt, but generate large costs to program administrators. In fact, our estimates suggest that the cost of providing the prorated benefits to households that churn are more than fully offset by a decrease in administrative costs associated with processing churn applications.

iii. Other Fiscal Externalities

An additional cost highlighted in the literature relates to the fiscal externalities generated by labor supply responses to the program. For example, Hoynes and Schanzenbach (2012)

³⁴In San Francisco's SNAP offices, an internal study estimated that 12 percent of all case work is spent processing churn cases.

find that the roll-out of SNAP led to decreases in employment and number of hours worked. Using our EDD wage data, we estimate the effect of interview assignment on wage earnings in the year after recertification. Table 11 shows that the lower recertification rates associated with later interview assignments do not translate to significant changes in annual earnings in the year post recertification (column 1) nor the likelihood of earning any wage income in the post-recertification year (column 2) – in fact, the point estimates suggest that later interview assignments are associated with decreases in wage earnings, though the estimates are imprecise. This is somewhat unsurprising given that the majority of cases that failed recertification due to later assignments reentered the program shortly after. However, we also find that among our long-term discontinued cases, 49 percent had no wage earnings at all in the year following their failed recertification.

V. Conclusion

We document low rates of recertification success for the SNAP program and provide evidence that a substantial fraction of these recertification failures appear due to mistakes – almost half of these failures reenter the program within months of the recertification deadline. While these cases eventually regain program access, the effects of the rigid deadline for SNAP recertification are not without costs: recipient benefits are prorated and processing costs for administrators are doubled.

Extrapolating these findings to different policy contexts yields more or less extreme consequences depending on the flexibility of the policy. For example, while SNAP recipients who fail recertification may reapply for the program at any time, students who miss the FAFSA renewal deadline are ineligible for financial aid until the following year. In contrast, while Medicaid recipients must complete a periodic recertification process (Pei, 2017), the program provides retroactive enrollment allowing eligible individuals to re-enroll at the time they are receiving medical care. Our results suggest that incorporating flexibility or minimizing reapplication costs may decrease costs associated with program integrity policies. We demonstrate that strict deadlines coupled with late initiation of the recertification process significantly increase the likelihood of failure. We find that cases assigned to initial interview dates at the beginning of the recertification month are 20 percent more likely to recertify than cases assigned to interviews at the end of the month. The vast majority of the cases that fail recertification as a result of interview assignment successfully reapply for the program within the 90 days post-recertification, though we also find a smaller but significant effect of interview assignment on the likelihood of remaining off the program for over a year.

One simple policy implication resulting from our analysis is to shift the period in which caseworker interviews take place earlier in the recertification process. While current federal law requires that SNAP recipients must complete a caseworker interview to recertify, the scheduling and timing of these interviews is not federally regulated. Extrapolating our results to the 20 million SNAP cases nationwide suggests that shifting the interview period two weeks earlier would lead to over 800,000 fewer cases that churn each year.

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Figure 2: Number of Churn Cases by Days since Recertification Deadline





Figure 3: Quarterly Wage Earnings by Recertification Outcome

Source: quarterly wage data from the Employment Development Department. "Recertified" refers to cases that successfully recertified. "Long-term Discontinued" refers to cases that failed recertification and remained off of the program for the year post-recertification. "Churned" refers to cases that failed recertification, but successfully reapplied within 90 days of the recertification deadline.

Figure 4: Recertification Rate by Initial Interview Day



Note: Recertification rate demeaned by randomization group. The size of the circles indicate the relative number of observations per calendar day. The dashed line is a linear best fit from regressing an indicator for recertification success on the assigned interview day.





Note: rates demeaned by randomization group. The size of the circles indicate the relative number of observations per calendar day. The dashed line is a linear best fit from regressing an indicator for churn or long-term discontinuation on the assigned interview day. "Churn" refers to cases that failed recertification, but successfully reapplied for the program within 90 days. "Long-term discontinued" refers to cases that failed recertification.



Figure 6: Interview Completion by Initial Interview Day

Note: interview completion rates demeaned by randomization group. The size of the circles indicate the relative number of observations per calendar day. The dashed line is a linear best fit from regressing an indicator for interview completion on the assigned interview day. "Any interview" refers to completion of either the assigned or rescheduled interview before certification period end. "First interview" refers to completion of the initially assigned interview or, for the three percent of cases that rescheduled their interview prior to the initially scheduled date, this outcome considers that rescheduled appointment.

	Full Sample	Early Interview	Late Interview	prob>F
		(1st to 13th)	(14th to 29 th $)$	
	(1)	(2)	(3)	(4)
Case Characteristics				
Household Size	1.55	1.55	1.55	0.975
Any Children (%)	32.1	32.4	31.9	0.284
Non-English Speaking $(\%)$	30.7	31.0	30.4	0.159
Max SNAP Benefits $(\%)$	63.2	63.1	63.2	0.828
SNAP 5+ Years (%)	25.0	24.2	25.8	0.001
Head of Household Demographi	cs			
Female $(\%)$	46.3	46.0	46.5	0.322
Age	42.6	42.6	42.6	0.998
US Citizen (%)	77.0	76.5	77.5	0.023
Non-White $(\%)$	78.9	78.9	78.9	0.902
N	41,082	21,051	20,031	

Table 1: Demographic Characteristics by Interview Assignment

Test for equality of means between cases with early versus late initial interview assignment.

Data on head of household characteristics is missing for a portion of our data.

Statistics on head of household race exclude the 3,240 cases for which ethnicity is unknown.

Table 2: Summary Statistics of Recertification O	Outcomes
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	Full Sample
Recertification Process Outcomes	
Completed First Attempted Interview	67.8
Completed Any Interview	76.3
Recertified	48.3
Post-Recertification Outcomes	
Reapplied	25.5
Churned	23.6
Discontinued (90 days-12 months)	5.7
${ m Discontinued} \ (12 \ { m months}+)$	22.4
N	41,082
Households	31,174

This table reports the sample means for each outcome as a fraction of the full sample.

"Reapplied" refers to cases that failed recertification, but reapplied

for the program within the next $90~{\rm days.}$

"Churned" refers to cases that failed recertification, but successfully

reentered the program within the next $90~\mathrm{days.}$

"Discontinued" refers to cases that failed recertification

and did not reenter the program for at least $90~\mathrm{days}.$

	Full Sample	Recertified	Churned	Long-term Discontinued
	(1)	(2)	(3)	(4)
${ m Earnings} < 200\% { m ~FPL}$	94.0	97.5	96.3	85.2
${ m Earnings} < 130\% { m FPL}$	86.9	92.1	90.0	74.7
No Wage Earnings	65.6	68.6	68.3	57.8
Ν	41,082	19,835	9,702	9,207

Table 3: Quarterly Wage Earnings in the Recertification Quarter

Source: Employment Development Department quarterly wage earnings data.

Data are in the quarter of recertification and include only wage earnings.

"Churned" refers to cases that failed recertification but reentered the program within 90 days.

"Long-term discontinued" refers to cases that failed recertification and did not reenter the program within the year post recertification.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Interview Day	-0.297***	-0.352***	-0.342***	-0.337***	-0.448***	-0.292***	
	(0.033)	(0.033)	(0.032)	(0.031)	(0.116)	(0.038)	
Interview Week 2							-1.16*
							(0.616)
Interview Week 3							-3.85***
							(0.626)
Interview Week 4							-7.14***
							(0.723)
RRR Month FE		Х	Х	Х	Х	Х	Х
Case Controls			X	Х	Х	Х	Х
Demographics				X	Х	Х	Х
Household FE					Х		
Sent Date						Х	
Mean of DV	48.3	48.3	48.3	48.3	48.3	48.3	48.3
Ν	41,082	41,082	41,082	41,082	41,082	41,082	40,745

Table 4: Effect of Interview Date Assignment on Recertification Success

Standard errors clustered at the case level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Outcome: indicator for successfully recertifying.

Case controls are recertification month by case language by interview type (phone vs in-person). Demographic controls are household size, years since initial application, indicators for long-term SNAP receipt and presence of children as well as head of household sex, age, citizenship, and ethnicity.

Table 5: Effect of Interview Assignment on Reapplications, Churn, and Long-term Discontinuances

	Reapply	Churn	Long-Term Discontinued
	(1)	(2)	(3)
Interview Day	0.300***	0.297***	0.047*
	(0.029)	(0.028)	(0.027)
Mean of DV	25.5	23.6	22.4
Observations	$41,\!082$	41,082	41,082

Standard errors clustered at the case level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Outcome: indicator for failing recertification and reapplying (columns 1), failing recertification and churning within 90 days (columns 2), or failing recertification and not rejoining the program within the year after the recertification deadline (column 3).

Controls: randomization group, household size, any children, long-term SNAP receipt, years since initial application, and head of household sex, age, citizenship, and ethnicity.

Table 6: Effect of Interview Assignment on Recertification Outcomes by Subgroup

Subgroup:	Any Children (1)	Long-term SNAP (2)	Benefit Amt (\$100s) (3)	$\begin{array}{c} \text{Max Benefit} \\ (4) \end{array}$	$\operatorname{ESL}(5)$
Interview Day	-0.271***	-0.294***	-0.206***	-0.374***	-0.314***
	(0.037)	(0.036)	(0.062)	(0.050)	(0.037)
DayXSubgroup	-0.204***	-0.155**	-0.058**	0.058	-0.077
	(0.066)	(0.069)	(0.024)	(0.062)	(0.067)
DV Mean	48.3	48.3	48.3	48.3	48.3
Ν	41,082	41,082	41,082	41,082	41,082

Standard errors clustered at the case level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Outcome: indicator for successfully recertifying.

Subgroups: indicator for any children (column 1), received SNAP for 5+ years (column 2), prior year monthly benefit amount in hundreds of dollars (column 3), case received the maximum benefit amount (column 4), case language is not English (column 5).

Controls: randomization group, household size, any children, long-term SNAP receipt,

years since initial application, and head of household sex, age, citizenship, and ethnicity.

	Any Interview	First Interview
	(1)	(2)
Interview Day	-0.235***	0.017
	(0.022)	(0.025)
Mean of DV	76.3	67.8
Observations	41,082	41,082

Table 7: Effects of Interview Assignment on Interview Completion

Standard errors clustered at the case level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Outcome: indicator successfully completing the first scheduled interview (column 1) and successfully completing the any interview by the recertification deadline (column 2). Controls: randomization group, household size, any children, long-term SNAP receipt, years since initial application, and

head of household sex, age, citizenship, and ethnicity.

	Phone (1)	Text (2)	$\begin{array}{c} \text{Email} \\ (3) \end{array}$
Interview Day	-0.157**	-0.377***	-0.338***
	(0.064)	(0.045)	(0.043)
Interview Day X Phone	-0.022***		
	(0.073)		
Interview Day X Text		0.132	
		(0.091)	
Interview Day X Email			-0.042
			(0.101)
DV Mean	48.3	48.3	48.3
Observations	41,082	$23,\!448$	$23,\!448$

Table 8: Effect of Interview Assignment on Recertification by Communication Alert

Standard errors clustered at the case level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

"Phone" is an indicator for being assigned to a phone interview rather than in-person.

"Text" and "Email" are indicators for participating in the voluntary text or email program. Outcome: indicator for successfully recertifying.

Controls: randomization group, household size, any children, long-term SNAP receipt, years since initial application, and head of household sex, age, citizenship, and ethnicity.

	First Recertification	Second Recertification
	(1)	(2)
Interview Day	-0.189	-0.254
	(0.199)	(0.181)
DV Mean	61.9	50.0
Observations	1,209	1,209

Table 9: Effect of Interview Assignment on First vs. Second Recertification

Standard errors clustered at the case level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Outcome: indicator for successfully recertifying.

Controls: randomization group, household size, any children, long-term SNAP receipt, years since initial application, and head of household sex, age, citizenship, and ethnicity. Sample limited to the 1,209 households who experienced their first and second recertification during our sample period.

Table 10: Effect of Interview Assignment on Missed Benefit Dollars

	Full Sample	Churners
	(1)	(2)
Recertification Failure	377.02^{*}	37.02**
	(216.48)	(20.98)
DV Mean	655.14	34.87
Observations	41,077	41,076

Standard errors clustered at the case level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

IV regression instrumenting for recertification failure with assigned interview day.

Outcome: number of missed benefit days in the year post recertification * monthly benefit amount in the month prior to recertification failure.

Column 1 includes the full sample (churners and long-term discontinued), while

Column 2 considers only churners (cases that do not churn have a value of zero).

Controls: randomization group, household size, any children, long-term SNAP receipt,

years since initial application, and head of household sex, age, citizenship, and ethnicity.

Table 11:	Effect of	Interview	Assignment of	on	Post-Recertification	Earnings
			0			()

	Annual Earnings	Any Earnings
	(1)	(2)
Interview Day	-1.91	-0.01
	(8.82)	(0.030)
DV Mean	8,104	44.12
Observations	41,082	41,082

Standard errors clustered at the case level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Outcome: annual wage earnings in the year post recertification (column 1) and an indicator for having any wage earnings in the year post recertification (column 2). Controls: randomization group, household size, any children, long-term SNAP receipt, years since initial application, and head of household sex, age, citizenship, and ethnicity.

Appendix Figure 1: Notice of Expiration of Certification



- 1. Your CalFresh Certification period will end on 06/30/2016.
- If you want to keep getting your benefits without a break; you must file an application no later than the 15th day of the last month of the certification period. You must also complete an interview with the county, and turn in any proof of income, expenses, or other information before the end of your certification period listed above.
- If you have a one-month or two-month certification period, contact your worker for when your application needs to be turned in.
- 4. You will get a separate letter with an interview appointment date and time. Call your worker right away if you do not get the appointment letter within 10 days of this notice. Your appointment letter will tell you if you have a phone interview or if you have to come into the office for your interview.

Appendix Figure 2: Recertification Appointment Letter

STATE OF CALIFORNA - HEALTH AND HUMAN SERVICES AGENCY

LALIFORNIA DEPARTMENT OF SOCIAL SERVICES

CALFRESH RECERTIFICATION APPOINTMENT LETTER

	Cate:	05/18/2016
	Case Number:	
	Casse Narwa:	
	Wicriver Name:	Food Assistance
San Francisco	Worker Number,	VENK
	Worker Telephone:	(415) 558-1001
	Address:	1235 Mission ST
		San Francisco CA 94103-2705

getting CalFreeh banefits. This is your appointment letter for your interview.

X You have a telephone CalFresh recertification interview appointment. If you prefer to be interviewed in person, please call the county at the number above for an appointment.

APPOINTMENT DATE:	APPOINTMENT TIME:
06/01/2016	8:00 AM - 12:30 PM
YOUR PHONE NUMBER:	ALTERNATIVE PHONE NUMBER:

We will call you at the number provided above. If the number is not correct, you must call us and provide a number where you can be reached for your interview. It is very important that we are able to reach you. You may also want to provide an alternative phone number where you can be reached. County phone numbers may be blocked. If your phone does not accept blocked numbers, you may miss the phone call for your telephone interview, and your benefits may be delayed. If your phone deels not accept blocked numbers, you may miss the phone call for your interview. Call the county at the number above or go to the office address listed above to reschedule your interview.

You have a lace-to-face CalFreah recertification interview appointment.

APPOINTMENT DATE:	APPOINTMENT TIME:		
COUNTY OFFICE NAME:			
COUNTY OFFICE ADDRESS:	CITY:	STATE:	ZIP CODE:

Appendix Figure 3: Missed Interview Letter

COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA HEALTH AND HUMAN SERVICES AGENCY CALIFORNIA DEPARTMENT OF SOCIAL SERVICES

Notice Date	: 06/01/2016
Case Name	:
Case Number	
Worker Name	: Food Assistance
Worker Number	: VBNK
Telephone	: (415) 558-1001
Worker Hours	: 8:00 AM- 12:00 PM, 12:00 PM - 5:00 PM
24Hour Information	:
Address	: 1235 Mission ST
	San Francisco CA 94103-2705

Questions? Ask your Worker.

State Hearing: If you think this action is wrong, you can ask for a hearing. The back of this page tells how. Your benefits may not be changed if you ask for a hearing before this action takes place.

You were scheduled for an interview on 06/01/2016, but you did not keep this appointment. If you still want CalFresh benefits, please contact your worker to schedule another interview.

You must complete your interview with us by 06/30/2016.

You must be interviewed in order for us to determine your eligibility for CalFresh benefits. If you do not complete an interview, you will not be able to get CalFresh benefits.

If you have any questions or want more information, please contact your worker.



Appendix Figure 4: Recertification Packet Sent Day

Note: Early interview assignments are defined as those scheduled from the first to the thirteenth of the recertification month.

