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Why Leave Benefits on the Table? Evidence from SNAP

Upjohn Institute Working Paper 18-288

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ABSTRACT

Studies of take up in social insurance programs rarely distinguish between initial enrollment and retention of beneficiaries. This paper shows that retention plays a meaningful role in incomplete take up: despite knowledge of and eligibility for a near-cash public benefit, many participants exit the program rather than complete administrative requirements. Using administrative data on the Supplemental Nutrition Assistance Program (SNAP) for multiple states, I show that over half of entering households exit SNAP within one year of entry. Exits are concentrated in key reporting and recertification months, when participants must submit substantial paperwork in order to remain on the program. Combining administrative SNAP and Unemployment Insurance (UI) records from the state of Michigan, I provide evidence that mechanical eligibility changes cannot explain the extent of program exit. Finally, I demonstrate a substantial effect of administrative requirements on retention by studying the staggered rollout of Michigan's online case management tool, which reduced exits for likely eligible applicants by approximately 10 percent around these key dates.

JEL Codes: H42, I38

Keywords: social insurance, food assistance, program take up, public finance

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Upjohn Institute working papers are meant to stimulate discussion and criticism among the policy research community. Content and opinions are the sole responsibility of the author.

Many households do not enroll in public assistance programs despite being eligible for them. Estimates of take up among eligible households range from 34 percent for Temporary Assistance to Needy Families (TANF), to 67 percent for Medicaid, to 83 percent for the Supplemental Nutrition Assistance Program (SNAP) (Ribar 2014). Yet, cross-sectional studies of take up rarely distinguish between *initial* take up and *retention* in transfer programs. The purpose of this paper is to illustrate the importance of understanding retention in at least one major transfer program, and to test the extent to which policymakers may alter take up through policies that affect retention.

In addition to demonstrating the relevance of specific policy tools, the study of retention helps to distinguish between competing hypotheses on the causes of incomplete take up more broadly. One view argues that incomplete take up is driven by a combination of low levels of information about the benefits in question and low value for these benefits among eligible beneficiaries. In this view, policymakers should primarily dedicate resources to outreach and benefit design. An alternative view posits that incomplete take up is driven by high administrative requirements on the part of beneficiaries, which may be “real” costs or behavioral frictions. In this view, policymakers should dedicate resources to understanding and selectively reducing administrative requirements. In the context of SNAP, this paper provides support for the latter hypothesis: administrative requirements substantively affect take up, even among potential beneficiaries who have experience with the benefit in question and value it at close to its cash equivalent.

Previous efforts to understand retention in public assistance programs have been limited for three reasons. First, much of the existing literature has focused on programs that provide health insurance, in particular the Children’s Health Insurance Program and Medicaid (Dick et al

2002; Sommers 2007; Sommers and Rosenbaum 2011). However, the value of maintaining continuous enrollment in these programs is difficult to measure, especially since retroactive enrollment is often possible and beneficiaries may not even know their coverage has lapsed until they seek medical care. In contrast, the SNAP benefits I study are near-cash transfers that have value to all beneficiaries.¹ Failure to maintain benefits is salient in SNAP, since beneficiaries' Electronic Benefits Transfer (EBT) cards will stop working as soon as enrollment lapses and lost benefits cannot be recovered.

Second, data limitations have slowed down research on retention. Survey data on SNAP participation are notoriously unreliable, with common surveys underreporting participation by 30 percent or more (Meyer and Goerge 2010; Meyer and Mittag 2015). Other data sources, such as the USDA "Quality Control" files, do not have the panel component necessary to study retention (Ganong and Liebman 2017). Moreover, eligibility for SNAP is a complex function of many types of income that cannot be measured precisely in any existing data set. To ameliorate these data issues, I use SNAP administrative enrollment records from multiple states as well as merged Unemployment Insurance (UI) wage records for the state of Michigan. Although these administrative data sources do not allow me to perfectly observe eligibility over time, they do substantially reduce the extent of unobserved eligibility changes.

Third, researchers have found few clean empirical designs to study retention. In the context of SNAP, most existing studies use difference-in-difference designs around state policy changes over long time horizons (Ganong and Liebman 2017; Heflin and Mueser 2010; Pomerleau 2013; Schwabish 2012). While these studies generally support some role for

¹ Hastings and Shapiro (2017) provide evidence that the vast majority of SNAP-eligible households spend more on food than their SNAP benefits cover, implying that even the last dollar of SNAP benefits is considered valuable by consumers.

recertification procedures in explaining incomplete take up, they rely on cross-state aggregates or survey data and require parallel trends assumptions across many states and a long time horizon. This paper complements these studies by using administrative enrollment data and within-state policy changes over a short time horizon.

By ameliorating these issues, I am able to make three distinct contributions. First, I document that retention in SNAP is quite low. In the states for which suitable data exist, typically over 50 percent of new SNAP enrollees drop out of the program within the first year. Exits usually occur at key “reporting” and “recertification” months in which paperwork is required, and usually last for an extended period of time. Second, I provide evidence that many of these exits occur among households that remain eligible. Reported reasons for program exit are overwhelmingly failure to submit paperwork rather than confirmed ineligibility, households with and without earned income have similar rates of program exit, and benefit amounts (which are directly tied to eligibility) change very little among households that do maintain benefits. Explanations that do not involve substantial exit rates among eligible beneficiaries cannot easily account for these facts. Third, I provide quasi-experimental evidence that administrative barriers substantially affect retention, even among households that are very likely to have remained eligible. Using the staggered roll out of online case management in 2009 across Michigan, I find that the ability to monitor benefits and submit paperwork online reduced exits at key dates by about 1.5 percentage points (over 10 percent) among likely eligible beneficiaries. These effects are concentrated among nonelderly adults and at recertification months, when more detailed documentation and an interview is required.

In addition to the papers mentioned above, this work complements a growing literature studying how program design features affect take up among different types of beneficiaries. The

theoretical literature has posited the importance of heterogeneous tastes correlated with unobserved attributes (Nichols and Zeckhauser 1982), program complexity (Kleven and Kopczuk 2011), and dynamic income manipulation (Pei 2017). A small body of empirical work has used fine variation in experiments or quasi-experiments to explore the screening properties of specific program design features (Bettinger et al. 2012; Deshpande and Li 2017; Ebenstein and Stange 2010), although these papers focus on initial take up rather than retention. There is also descriptive evidence suggesting that low retention in SNAP and public housing waiting lists may be partially explained by low-income households moving frequently and therefore missing important mailings (Mills et al. 2014; Waldinger 2018).

The paper will proceed as follows. First, I explain the institutional background of the SNAP program and describe my data sources. I then use data from multiple states to document that retention in SNAP is quite low. The next two sections provide descriptive evidence that many of these exits are among eligible beneficiaries and quasi-experimental evidence that lowering administrative requirements to maintain benefits reduced premature exits. The last section provides a summary and conclusion.

BACKGROUND AND DATA

The SNAP Program

In a given month in 2011, Michigan's SNAP program—formally called the Food Assistance Program (FAP)—served almost 2 million individuals in about 1 million unique households. This represents almost 20 percent of Michigan's population, which is only slightly higher than the nationwide analog: in July 2011, SNAP served about 15 percent of the U.S.

population (Ganong and Liebman 2017). Figure 1 shows Michigan’s total caseload in each month.²

The core aspects of the SNAP program are the same across all U.S. states. Each month, households enrolled in the program get money loaded onto an Electronic Benefits Transfer (EBT) card, which they can use to buy most food items at grocery or convenience stores. Households of a given size may receive a benefit amount up to a maximum monthly benefit that is set at the federal level each fiscal year. However, benefits are reduced as household income rises, so many households receive less than the full benefit amount. To compute benefit amounts, households may first exempt a small amount of income by claiming specific deductions (e.g., for child support or rent). For each dollar of monthly unearned income in excess of those deductions, monthly SNAP benefits fall by 30 cents. For each dollar of monthly earned income in excess of those deductions, monthly SNAP benefits fall by 24 cents. If benefits have not already been reduced to zero, households are ineligible to receive benefits if their gross income (before deductions) is above 130 percent of the federal poverty line or their net income (after deductions) is above 100 percent of the federal poverty line.³ Most state agencies do not independently verify beneficiary income using other agencies’ administrative records, but do require beneficiaries to submit documentation (e.g., W-2s) in order to limit the scope of misreporting. Figure 2 shows benefit amounts in real 2011 dollars for the sample of Michigan households I construct below. While monthly benefits can be as low as \$20 and as high as \$650 for large families, the majority of households receive monthly benefits between \$100 and \$200.

² The SNAP program considers a household to be “a group of people who . . . buy food and prepare meals together” (fns.usda.gov/snap/facts-about-snap). However, elderly and disabled individuals are often able to split into their own separate cases, even if they live with others. In this paper, I use “households” and “cases” as synonyms, so that SNAP households do not necessarily align with living arrangements

³ In practice, the minimum benefit amount is \$16 per month.

Every state also requires beneficiaries to complete a periodic recertification to confirm that they remain eligible for benefits. The specifics of this procedure vary by state, but most nonelderly adults must recertify every 3, 6, or 12 months. Recertification requires extensive paperwork, verification of income and deductions, and some type of interview. States with longer recertification periods often collect slightly less extensive verifications halfway through the beneficiaries' certification period, in a process called mid-certification reporting. In Michigan, where my quasi-experiment takes place, the Department of Health and Human Services (DHHS) mails a mid-certification reporting form to all households with earned income (according to their most recent records) during the fifth month of benefits. The household has two weeks to fill out this form by providing updated household information and proof of income (e.g., pay stubs, child support statements). Failure to return this form before the first of the following month results in the termination of benefits.

In the eleventh month of receiving benefits, Michigan DHHS mails a more extensive recertification form to all households, regardless of earned income. In addition to similar paperwork and income verification, recertification requires a full verification of all deductions (e.g., proof of rent payments or medical bills) and, traditionally, a face-to-face interview at the county DHHS office. This interview is prescheduled for a date in the middle of the month and must be completed before the first of the subsequent calendar month. The interview typically takes slightly less than an hour, not including travel time to each county's DHHS headquarters, and gives the beneficiary a chance to confirm or explain their eligibility along each criterion. While individuals could theoretically request to do the interview by phone or reschedule, discussions with Michigan DHHS officials suggest that this was very rare: the vast majority of households either travelled to DHHS for their originally scheduled interview or failed to

recertify. There are two notable exceptions to these rules. First, cases with very unstable circumstances and no income (e.g., homeless individuals without stable contact information) are sometimes given recertification periods of less than six months (but at least three months) at the case workers' discretion. Second, households in which all members are elderly (60+) or disabled, as judged by DHHS, have longer reporting and recertification periods: they must report in their eleventh month regardless of income and must recertify in their twenty-third month. Households must repeatedly report or recertify at these regular intervals.⁴

Michigan's SNAP program is unique in two other ways that facilitate this analysis. Many states have asset tests for all beneficiaries and/or three-month time limits for nonworking Able-Bodied Adults Without Dependents (ABAWDs in SNAP jargon). From 2005 through 2011, Michigan's SNAP program had neither. This helps to limit the scope of exit due to unobserved eligibility changes in my data.

Michigan Data

My primary data set consists of linked SNAP and UI administrative data from the state of Michigan. The SNAP data contain a payment record for every individual on the program in every month of participation between January 2005 and November 2011. The data also contain information on participation, household structure, demographics, benefit amounts, and a unique identifier that can be used to track the same individual across multiple spells or cases. I link this file to quarterly UI wage records for every individual on a SNAP case, spanning from 2005Q1 through 2010Q3. To construct the total quarterly earnings associated with a SNAP case, I

⁴ In Michigan, elderly or disabled households with non-SSA and non-SSI income are also on a 12-month recertification schedule. However, only 6 percent of elderly or disabled households have any earned income in the UI records. I consider all cases with only elderly or disabled individuals to be on a 24-month recertification schedule as a reasonable approximation.

aggregate earnings from all jobs for all individuals aged 18 or older on a SNAP case in that month.

I classify each SNAP case into one of three categories: (1) ABAWDs are cases consisting entirely of nondisabled individuals aged 18–59, (2) parents are cases consisting of one or more adults aged 18–59 together with one or more children aged 17 or below, and (3) elderly/disabled are cases consisting entirely of individuals either aged over 60 and/or classified as disabled. Since the SNAP data do not include an indicator for disability status, I use linked administrative data from Michigan’s Medicaid program (formally, the Medical Assistance program) and consider a beneficiary to have a disability if they are blind, disabled, or otherwise receiving Medicaid through the Supplemental Security Income program. Over 99 percent of case-month observations fall into one of these three categories.⁵

I then divide each household’s history of SNAP participation into distinct spells, defined as periods of contiguous monthly SNAP participation. Unfortunately, case identifiers in the raw data sometimes change across months due to data storage conventions. To follow a case over time, I identify individuals marked as the case head in the raw data and follow their participation over time, linking nonheads to that case using within-month case identifiers. This technique will falsely consider a household to have left the program when a case head leaves or becomes a nonhead while other household members continue on. In practice, case heads identify households remarkably well, in part because there is only one adult in almost 80 percent of cases in my sample. Individuals who first enter the data as a case head remain as case heads in 98 percent of participating months, while individuals who first enter the data as nonheads become heads in less

⁵ Case months that do not fall into one of these three categories are usually either cases consisting of one 17-year-old or cases where elderly beneficiaries have chosen to join cases with nonelderly adults.

than 3 percent of participating months.⁶ I further allay concerns about following case heads by corroborating my descriptive results with administrative data from six other states, for which I follow case identifiers instead of case heads.

I consider a SNAP spell to have started or restarted if a case head begins receiving SNAP benefits after two months of nonparticipation.⁷ Since my data start on January 1, 2005, my sample therefore consists of households that started a new spell on or after March 1, 2005. Because I ignore cases that are ongoing at the beginning of 2005, my sample is substantially smaller in early years relative to later years, as illustrated in Figure A1. I consider a SNAP spell to have ended when the case head stops receiving SNAP benefits for one full calendar month or longer. The decision to ignore within-month churn is helpful both for data reasons and to focus on costlier forms of program exit, but it is worth noting that within-month churn is reasonably common (Mills et al. 2014).⁸

Table 1 summarizes the characteristics of the sample. The sample captures 1.1 million households over almost 1.5 million unique spells. It consists of half ABAWDs, one-third parents, and one-sixth elderly/disabled cases. Benefit amounts are generally largest for parents and smallest for elderly/disabled households. Over the whole sample, about one-third of case-months include an individual with UI-covered earnings.

⁶ In the rare scenario when two original case heads join the same case, I choose to end the spell of the case head that entered my sample later and drop the whole case if the case heads joined SNAP at the same time.

⁷ This method is intentionally conservative, as it will not start a new spell after a single-month gap in participation. This helps to ensure that I do not mistakenly record new spells due to data entry errors, but also excludes some legitimate spells from my sample. This choice does not drive my results: gaps between participation are longer than one month for 90 percent of exits (see Figure 4), and all results are robust to using only each case's first spell.

⁸ The data do not include an indicator for within-month churn, and estimating churn using single-month dips in benefit amounts would create measurement error in my exit variable.

USDA Data

As a second source of data, I use SNAP administrative records for 2011–2012 for six other states.⁹ The data were created for a study conducted by the Urban Institute (Mills et al. 2014) and generously provided to me by USDA’s Food and Nutrition Services (FNS). These records provide comprehensive monthly case-level data on every SNAP participant that appeared at any point in fiscal year 2011 (October 2010 through September 2011). The data then follow each case in this sample through December 2012. To maintain comparability to the Michigan data, I restrict the USDA sample to households that began participating in SNAP between December 2010 and September 2011 after two or more months of nonparticipation. Unlike the data from Michigan, the USDA data do include pre-constructed case categories and report monthly earned and unearned income directly from case records.¹⁰ However, the USDA data also include a much shorter panel and are not linkable to other administrative records.

In many respects, the case composition in each of these states is very similar to the case composition in Michigan: ABAWDs are generally the most common category, the majority of participating households have no earned income, and in most states about one-third of cases facing recertification exit for one or more months. Appendix Table A1 provides more detail on each state’s sample.

THE LEVEL OF RETENTION IN SNAP

I first show that retention is low across many states’ SNAP programs. Figure 3 shows survival curves for SNAP enrollment in Michigan by following each household for 24 months

⁹ These states are Florida, Idaho, Illinois, Maryland, Texas, and Virginia.

¹⁰ These income sources are not substitutes for independent UI wage records, since they only reflect income changes that beneficiaries report to SNAP administrators.

after their first enrollment in my sample window. The solid black line shows the percent of households that are enrolled at each month relative to their entry month, while the dotted red line shows the percent that have *continuously* remained enrolled in the program since entry. In Michigan, over half of SNAP entrants exit at some point within their first year, and over 40 percent of SNAP entrants are not on the program at their one-year anniversary. There are some exits in the first few months since entry, owing to a mix of households self-reporting substantial changes to household structure or income (as is legally required) and some households with very unstable circumstances given special, short recertification periods. However, exits are heavily concentrated in the sixth month, when households with earnings must complete mid-certification reporting, and the twelfth month, when most households must complete recertification.

Figure 4 splits the sample into ABAWDs, parents, and elderly/disabled cases, showing the fraction of each group that remains on the SNAP program continuously since their initial entry into my sample.¹¹ ABAWDs and parents exit at higher rates than the disabled/elderly, likely due to a combination of having more frequent eligibility changes and shorter recertification periods. Parents are especially likely to exit at six months, since many parents work (see Table 1) and therefore must complete mid-certification reporting, while ABAWDs are especially likely to exit at twelve months. Appendix Table A2 shows the characteristics of cases that stay or exit at recertification, reporting, or in a given interior month. While cases that exit do have higher earnings and smaller benefits than cases that stay, these differences are modest: the majority of households that exit at recertification have no earned income, and average benefits of exiting households are about \$200 per month.

¹¹ This figure characterizes cases based on their category at program entry, in order to prevent compositional changes from affecting the series.

These magnitudes are not unique to Michigan. Using the supplemental USDA data from FY2011, I construct series analogous to Figure 4 for each of the six available states. Figure 5 shows the probability of continuous survival for each category of beneficiaries in Virginia, which has SNAP policies similar to those in Michigan.¹² As in Michigan, the majority of ABAWDs and parents in Virginia exit within one year, as do a sizable fraction of elderly/disabled households. Appendix Figures A2–A6 show similar figures for the other states. While specific policies and magnitudes vary by state, in all states exits are common and are usually concentrated at reporting and recertification months. In all states, ABAWDs have the highest rate of exit, while elderly/disabled households have the lowest.

When households exit, they usually do not return to the program promptly. Revisiting the data from Michigan, Figure 6 considers all instances in which a household exits and plots how many months pass before that case returns to the sample. Among cases that leave the program for a full calendar month or longer, just under 10 percent of them leave for a single month. Over 50 percent leave the program for a full year or longer. Since this paper is primarily concerned with lasting exits from the program rather than (noisier) short-term churn, my subsequent baseline specifications consider exits that last for three months or longer.

I also plot hazard rates of program exit during reporting and recertification months. To calculate hazard rates, I consider all cases with continuous monthly benefits until reporting or recertification, where I impute reporting and recertification months by a case's current household structure and UI-covered quarterly earnings.¹³ I then calculate what fraction of these cases have

¹² Like Michigan, Virginia in 2011 had 12-month recertification for most cases and 24-month recertification for elderly or disabled cases without earnings. Unlike Michigan in my sample period, Virginia did have an asset test in 2011.

¹³ While the raw data from my six state sample explicitly mark recertification months, the data from Michigan do not.

no recording SNAP benefits for three subsequent months. Figure 7 shows these hazard rates over time for my sample of Michigan beneficiaries. In a given month, between 15 and 25 percent of households facing recertification exit for 3+ months, while between 10 percent and 20 percent of households facing reporting exit for 3+ months.

In sum, retention in SNAP is consistently low across years, states, and types of cases. However, it is not clear whether exits are primarily due to program requirements that deter eligible beneficiaries, or whether exits are a symptom of the program effectively shedding beneficiaries who have become ineligible since their last contact with SNAP administrators. In the next section, I provide evidence that exits are not purely due to changes in households' eligibility.

EVIDENCE OF EXITS AMONG ELIGIBLE BENEFICIARIES

I next provide evidence that a high fraction of exits in SNAP are among eligible beneficiaries, implying that low retention is not simply a symptom of periodically screening out ineligible beneficiaries. Given the eligibility criteria described above, reliably predicting eligibility at the household level would require accurate, linked data on many disparate sources of income and expenses. To my knowledge, no such data source exists. However, my administrative data sources allow me to produce three pieces of novel evidence that are difficult to reconcile with a simple eligibility story. Taken together, this evidence suggests that a substantial fraction of exiting households remain eligible for benefits.

Most Exits Are Due to Missed Deadlines

I first document that the main reason for case closure is not explicit ineligibility, but rather because households did not complete the necessary procedures to recertify. Two states in

my USDA sample, Virginia and Idaho, include indicators for the reason each case was closed. I convert these codes into reasons implying missed deadlines, reasons implying ineligibility, and other or missing reasons. For each month of a SNAP spell, I plot the hazard rate of subsequently exiting SNAP for three months or longer by reason. Figure 8 shows this figure for Virginia, while Appendix Figure A7 shows this figure for Idaho. For both states, exits are concentrated around reporting and recertification periods, and the vast majority of cases cite missed deadlines rather than determined ineligibility. While it is possible that some households may choose not to complete the recertification process because they know they have become ineligible, my next two pieces of evidence suggest that this is not likely to be the case.

Likely Eligible Households Exit at High Rates

As a second piece of evidence for frequent exits among eligible beneficiaries, I show that restricting my sample of Michigan SNAP beneficiaries to those that likely remained eligible has little effect on exit rates at recertification. Figure 9 shows the hazard rate of exits at recertification for Michigan households with less than \$100 of UI-covered earnings in the quarter in which they recertify, and less than \$100 of UI-covered earnings in the following quarter.¹⁴ Hazard rates of households with consistent negligible UI-covered earnings are almost identical to hazard rates of other households.

I also construct a sample of beneficiaries who are especially likely to have remained eligible around reporting or recertification, which I use as my primary sample in the quasi-experiments in the next section. This sample consists of households with heads aged 25 or over (to avoid students who only use SNAP during the school year), benefit amounts greater than \$50

¹⁴ Earnings and benefit amounts are inflated to real 2011 dollars using the monthly Consumer Price Index. Because I only observe household composition for active SNAP cases, I construct next quarter's household earnings by assuming that household structure remains constant.

just prior to reporting or recertification, and quarterly earnings changes from the UI data that would not have fully eliminated the household's benefits.¹⁵ Approximately 60 percent of cases satisfy these criteria. Figure 10 shows the hazard rates for households inside and outside of this sample. Exit rates for households that satisfy this reasonably restrictive "likely eligible" criteria are at most a few percentage points lower than in the full sample, and still lie consistently within 10–20 percent of all potential recertifiers.

While changes in earnings do not easily explain high exit rates, factors that I do not observe in the data may also affect eligibility. Some events, such as moving out-of-state or death, cause sudden disqualifications rather than changes in benefit amounts. However, these changes are rare. Data from the March Current Population Survey (CPS) suggest that just under 3 percent of households below the poverty line have moved from a different state in the past year. Less than 1 percent of SNAP case heads in my Michigan sample die within one year after entry.

Benefit Amounts Change Little for Those Who Stay

More common unobserved factors that may disqualify households from SNAP are unearned income changes, changes to deductions (e.g., rent or child support), and changes to household structure. All of these affect benefit amounts incrementally rather than triggering sudden ineligibility. Therefore, if changes of this nature are common among SNAP beneficiaries, they should induce benefit changes for SNAP households that successfully recertify.

The third piece of evidence suggesting substantial exits among the eligible is the fact that benefit changes among continuing beneficiaries are very small. Figure 11 shows a histogram of

¹⁵ In particular, I calculate the change in UI-covered quarterly earnings since the household was last required to enter, report, or recertify. I then estimate the change in monthly earnings by dividing quarterly earnings changes by three. I keep the household in my sample only if the estimated monthly earnings change would not have reduced their SNAP benefits to below \$10 according to the 24 percent tax on earned income.

benefit changes (as a percent of benefits before recertification) for households that successfully recertify, using pooled data from all six states in my USDA records. Among households that successfully recertify, most have the same or higher benefit amounts, while only a small fraction of recertifiers experience substantial benefit decreases. This suggests that unobserved changes in income and deductions play a very limited role in explaining low retention. Appendix Figure A8 shows that similar results hold in Michigan, while Figure A9 shows that similar results hold among households that leave for one to three months at recertification. Even if the factors determining benefit amounts tend to change little within a given year, it is possible that exits are concentrated among households with low benefit amounts (who are therefore on the margin of eligibility). Appendix Figure A10 shows that this is not the case in Michigan: exits are common even for households with substantial benefits at stake.

While I am unable to precisely estimate the percent of eligible beneficiaries that exit the SNAP program, these three pieces of evidence are difficult to reconcile with a story in which almost all exits are simply due to eligibility changes. Instead, this evidence suggests that a substantial fraction of eligible beneficiaries exit the SNAP program at reporting and recertification periods. In the following section, I present quasi-experimental evidence that changes to recertification procedures can have substantial effects on the number and composition of retained beneficiaries.

THE EFFECT OF ADMINISTRATIVE REQUIREMENTS

So far, this paper has documented low retention in the SNAP program, even among households that remain eligible for substantial near-cash benefits. This evidence suggests that spreading information about a social insurance program and offering benefits that participants

value would not be sufficient to generate near-complete take up. This section offers an alternative policy tool by showing quasi-experimental evidence that reducing administrative requirements for beneficiaries can meaningfully increase program retention.

In particular, I study the staggered rollout of an online case management tool in Michigan throughout 2009. This tool reduced the hazard rate of exit at reporting or recertification by about 10 percent among my likely eligible sample. Effects are concentrated among nonelderly adults and are driven by lower exits in recertification months rather than in reporting months. The latter fact suggests that logistical hassles of interviews and collecting nonstandard documentation were larger barriers than the time cost of paperwork.

Today, the “Bridges” online case management system allows users to apply for SNAP, recertify, check the status of their benefits, change personal information, find their case worker’s contact information, or read letters from DHHS at any time on the Internet. The ability to perform these tasks online at any time may substantially reduce the frequency of errors during the reporting or recertification process.

Michigan DHHS rolled out the first iteration of this system incrementally throughout the state from August 2008 through August 2009, with most rollouts occurring between March and August 2009. Figure 12 shows the schedule of the rollout, which occurred in different sections of the state in sequence: most of western Michigan had online capabilities in March, rural northern Michigan in May, southeast Michigan in June, and Wayne County (Detroit) in August.¹⁶

I denote calendar month by t , the month of local website introduction by T , and the relative month since local website introduction by k . To measure effect on the hazard rate of exits at reporting of recertification, I pool all reporters and recertifiers in my

¹⁶ The expanded pilot counties released the online interface through late January and early February 2009. My empirical specification assigns the date of introduction as January 2009 for these counties.

sample, collapse individual level data to the county-month level, and run the following regression on counties c in month t :

$$ExitRate_{ct} = \mu_c + \mu_t + \sum_{k=-6}^6 \gamma_k 1(t = T + k)_{ct} + \beta X_{ct} + e_{ct}$$

I cluster standard errors at the county level. In my main specifications, the vector of control variables X_{ct} includes household group shares; shares for the race and gender of the household head; and cubic polynomials in the county unemployment rate (from BLS Local Area Unemployment Statistics), mean household quarterly earnings, mean benefit amounts, mean age, and mean household size.¹⁷ The specific choice of controls matters very little for my results. I also group relative months $k \leq -6$ or $k \geq 6$, thereby restricting pretrends and causal effects outside of a six-month rolling window around the policy change.¹⁸

Figure 13 plots the coefficients γ_k and 95 percent confidence intervals for $k \in [-5,5]$. The baseline hazard rate of exits for 3+ months among the likely eligible sample is 10.8 percent. The point estimates suggest that the online interface reduced these hazards by just over 1 percentage point, or approximately 10 percent.¹⁹

To understand the channels through which the online interface reduced program exit, I examine heterogeneity in this effect across multiple dimensions. Figure 14 plots γ_k after

¹⁷ I cut outliers with more than \$10,000 in quarterly earnings, more than \$1,000 in monthly benefits, aged over 100 years, or with more than 10 household members.

¹⁸ While the specific window I choose affects my results very little, some restriction is necessary to avoid collinearity arising from the fact that $T = t - k$. I select to restrict relative month coefficient outside of a six-month rolling window around the policy change as a compromise between the benefits of a longer rolling window (a more flexible specification) and a shorter rolling window (which yields more precise estimates of calendar month coefficients).

¹⁹ For completeness, Appendix Figure A11 shows results of the same regression with the hazard rate of exits for 1+ month on the left-hand side. These coefficients display a distinct spike in relative month $k = -1$, reflecting a pattern in the raw data that may be due to data collection issues when transferring to the new online system. This provides an additional reason to consider exits for 3+ months in my baseline specifications. However, comparing the pre- and postperiod hazard rates in Figure A11 still suggests the 1 percentage point (just under 10 percent) effect that we see in baseline specifications.

restricting the sample to reporting or recertification months, respectively. The effect comes entirely from reduced exits at recertification, suggesting that logistical issues play a large role in program exit over and above the time costs of paperwork. Appendix Figure A12 shows that the effect comes entirely from large reductions in exits among nonelderly adults (ABAWDs and parents). I find no evidence that effect sizes depend on household income or previous experience with the program (Appendix Figures A13 and A14).

CONCLUSION

Despite a long literature studying take up of transfer programs, very little research has been dedicated to understanding retention in these programs. In addition to providing specific policy tools to affect take up, credible studies of program retention can yield insights about the causes of incomplete take up.

This paper shows that retention is a meaningful margin of take up in its own right: many households that remain eligible for substantial near-cash benefits nevertheless exit the program when faced with logistically difficult recertification procedures. I show this in three steps. First, I document that retention is low in the SNAP program across many states and household types. In Michigan, for example, over 50 percent of newly entering households exit the program for one month or longer within the first year of participation, while 40 percent are not on the program at their one-year anniversary of entry. Second, I provide evidence that low retention in SNAP is not only a result of changes in eligibility. Rejected recertifications are almost always denied because of incomplete applications rather than ineligibility, households with low and consistent UI-covered earnings still exit at high rates, and patterns of benefit levels suggest that changes in other eligibility-relevant factors are modest. Third, I show that the staggered rollout of online

case management in Michigan reduced the hazard rate of program exit at key dates by approximately 10 percent for likely eligible beneficiaries. Effects were concentrated among ABAWDs and parents at recertification, suggesting that logistical hurdles serve as a greater barrier than the time cost of paperwork.

These findings highlight that low retention in social programs—even among the eligible—is a widespread phenomenon with implications for take up. As administrative data linkages continue to proliferate, developing a deeper understanding of program retention and its implications will be an exciting direction for future research.

REFERENCES

- Bettinger, Eric P., Bridget Terry Long, Philip Oreopoulos, and Lisa Sanbonmatsu. 2012. “The Role of Application Assistance and Information in College Decisions: Results from the H&R Block Fafsa Experiment.” *Quarterly Journal of Economics* 127(3): 1205–1242.
- Deshpande, Manasi, and Yue Li. 2017. “Who Is Screened Out? Application Costs and the Targeting of Disability Programs.” NBER Working Paper No. 23472. Cambridge, MA: National Bureau of Economic Research.
- Dick, Andrew W., R. Andrew Allison, Susan G. Haber, Cindy Brach, and Elizabeth Shenkman. 2002. “Consequences of States’ Policies for SCHIP Disenrollment.” *Health Care Financing Review* 23(3): 65–88.
- Ebenstein, Avraham, and Kevin Stange. 2010. “Does Inconvenience Explain Low Take-Up? Evidence from Unemployment Insurance.” *Journal of Policy Analysis and Management* 29(1): 111–136.
- Ganong, Peter, and Jeffrey Liebman. 2017. “The Decline, Rebound, and Further Rise in SNAP Enrollment: Disentangling Business Cycle Fluctuations and Policy Changes.” Harvard University Working Paper. Cambridge, MA: Harvard University.
- Hastings, Justine S., and Jesse M. Shapiro. 2017. “How Are SNAP Benefits Spent? Evidence from a Retail Panel.” NBER Working Paper No. 23112. Cambridge, MA: National Bureau of Economic Research.

- Heflin, Colleen, and Peter Mueser. 2010. "Assessing the Impact of a Modernized Application Process on Florida's Food Stamp Caseload." University of Kentucky Center for Poverty Research Discussion Paper Series No. DP2010-01. Lexington, KY: University of Kentucky.
- Kleven, Henrik Jacobsen, and Wojciech Kopczuk. 2011. "Transfer Program Complexity and the Take Up of Social Benefits." *American Economic Journal: Economic Policy* 3(1): 54–90.
- Meyer, Bruce D., and Robert M. Goerge. 2010. "The Analysis of Food Stamp Program Participation with Matched Administrative and Survey Data." University of Chicago working paper. Chicago: University of Chicago.
- Meyer, Bruce D., and Nikolas Mittag. 2015. "Using Linked Survey and Administrative Data to Better Measure Income: Implications for Poverty, Program Effectiveness and Holes in the Safety Net." Upjohn Institute Working Paper No. 15-242. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Mills, Gregory, Tracy Vericker, Heather Koball, Kyle Lippold, Laura Wheaton, and Sam Elkin. 2014. "Understanding the Rates, Causes, and Costs of Churning in the Supplemental Nutrition Assistance Program (SNAP)." Washington, DC: U.S. Department of Agriculture.
- Nichols, Albert L., and Richard J. Zeckhauser. 1982. "Targeting Transfers through Restrictions on Recipients." *American Economic Review* 72(2): 372–377.
- Pei, Zhuan. 2017. "Eligibility Recertification and Dynamic Opt-In Incentives in Income-Tested Social Programs: Evidence from Medicaid/CHIP." *American Economic Journal: Economic Policy* 9(1): 241–276.
- Pomerleau, Kyle. 2013. "Caseloads and the Waiver of Face-to-Face Interviews." PhD Dissertation, Georgetown University.
- Ribar, David. 2014. "How to Improve Participation in Social Assistance Programs." IZA World of Labor: Evidence-Based Policy Making No. 104. Bonn: Institute for the Study of Labor, pp. 1–8. doi: 10.15185/izawol.104 (accessed June 19, 2018).
- Schwabish, Jonathan A. 2012. "Downloading Benefits: The Impact of Online Food Stamp Applications on Participation." Paper presented at the fall research conference of the Association for Public Policy Analysis and Management, held in Baltimore, MD, November 8–10.
- Sommers, Benjamin D. 2007. "Why Millions of Children Eligible for Medicaid and SCHIP Are Uninsured: Poor Retention Versus Poor Take-up." *Health Affairs* 26(5): w560–w567.

Sommers, Benjamin D., and Sara Rosenbaum. 2011. "How Changes in Eligibility May Move Millions Back and Forth between Medicaid and Insurance Exchanges." *Health Affairs* 30(2): 228–236.

Waldinger, Daniel. 2018. "Targeting In-Kind Transfers through Market Design: A Revealed Preference Analysis of Public Housing Allocation." PhD Dissertation, MIT Department of Economics. Cambridge, MA: Massachusetts Institute of Technology.

Figure 1 Michigan SNAP Caseload

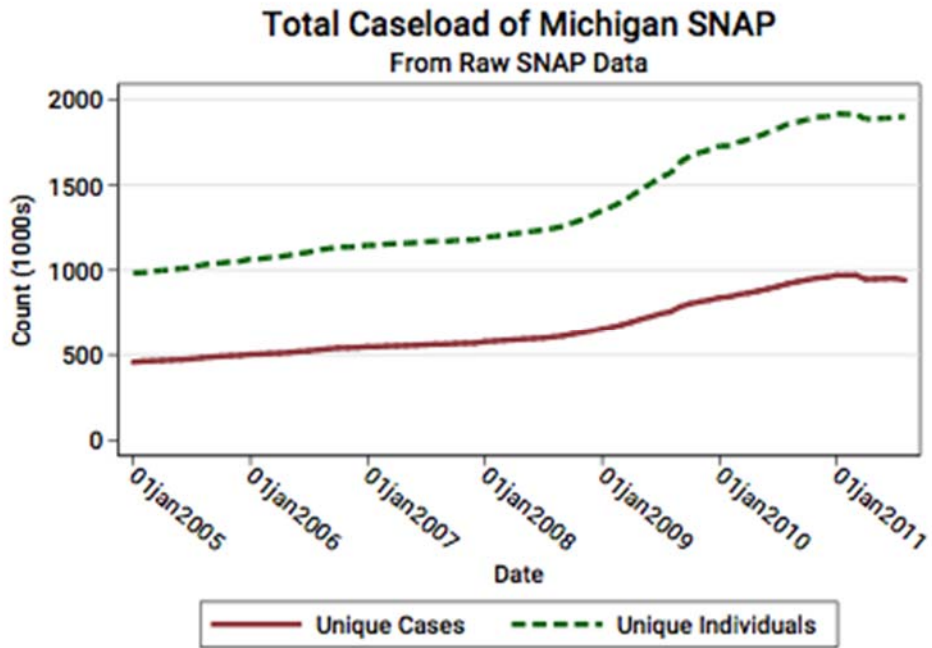


Figure 2 Monthly Benefit Amounts in Michigan SNAP

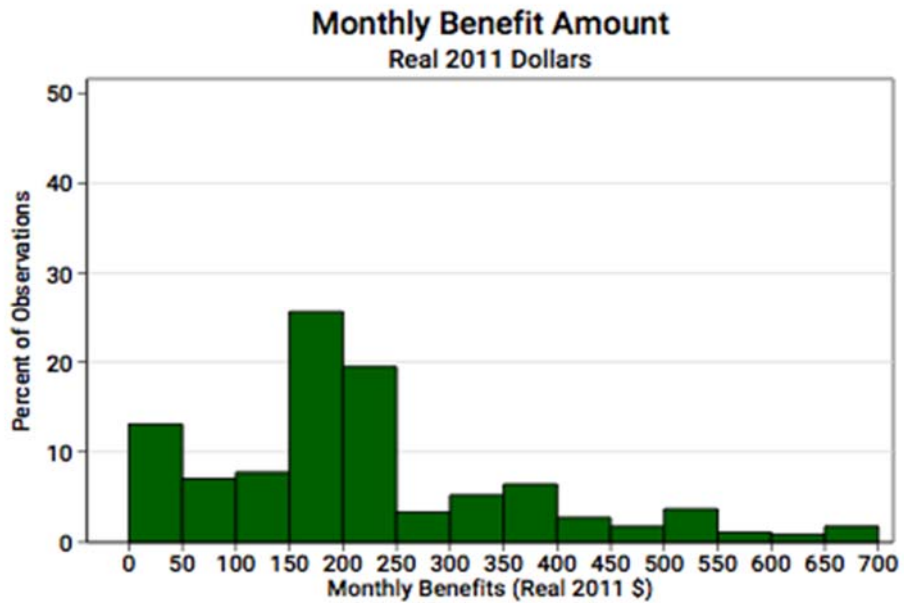


Figure 3 Retention in Michigan SNAP

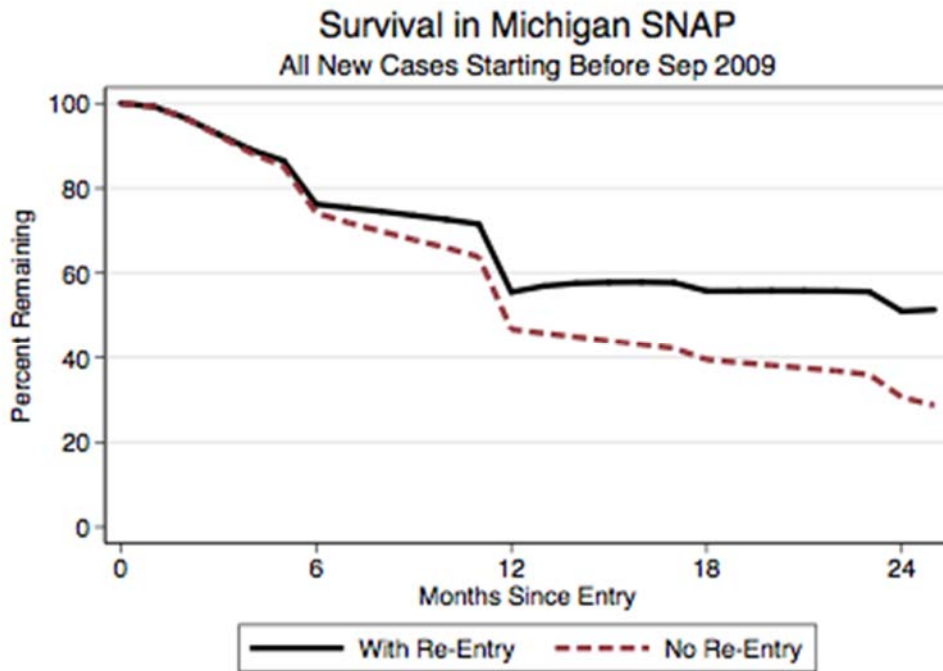


Figure 4 Retention in Michigan SNAP by Household Type

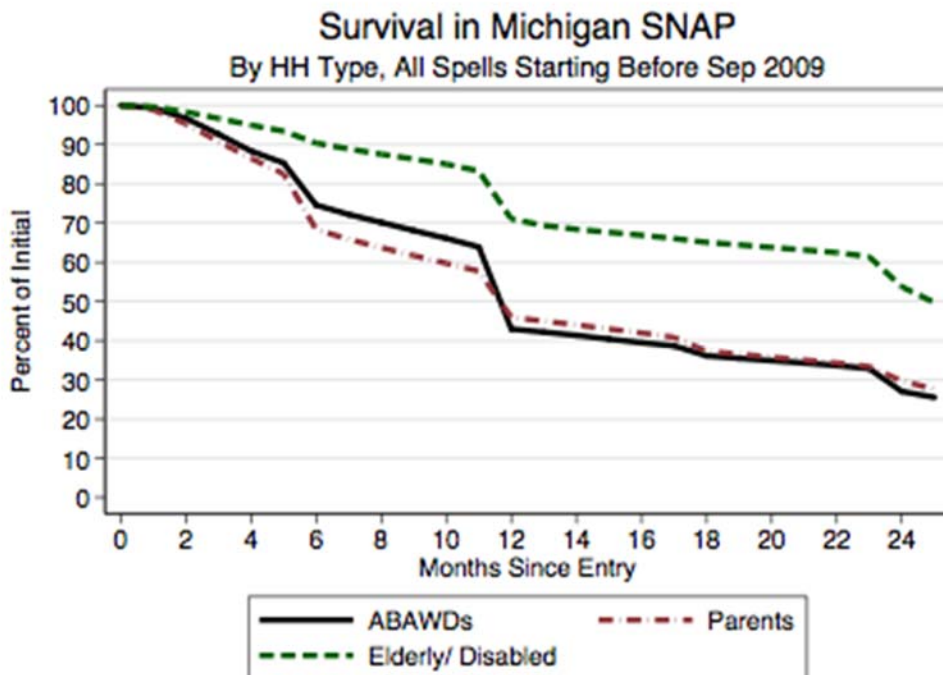


Figure 5 Retention in Virginia SNAP by Household Type

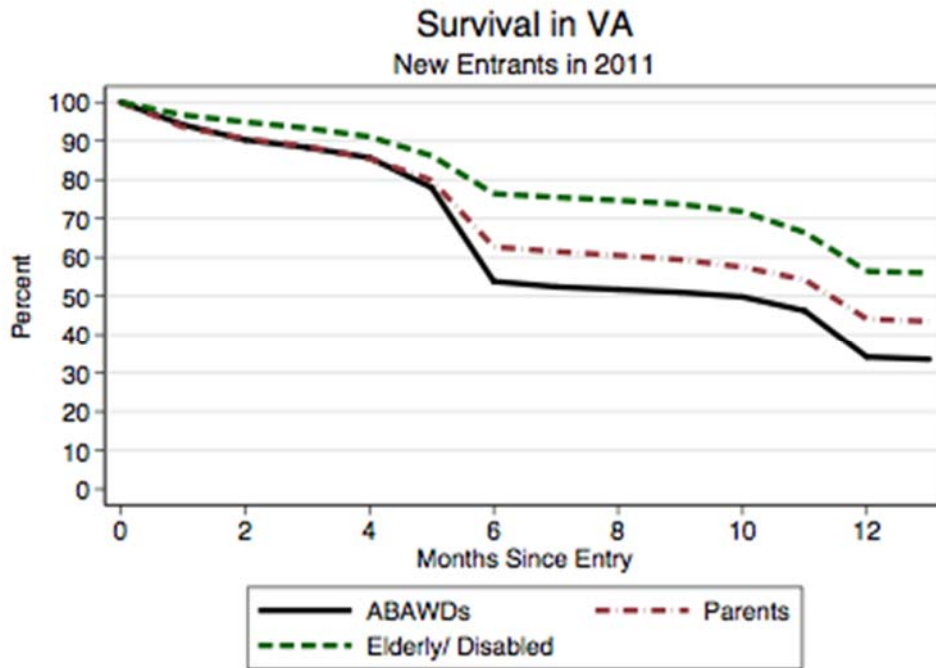


Figure 6 Number of Months between Exiting and Regaining to Benefits

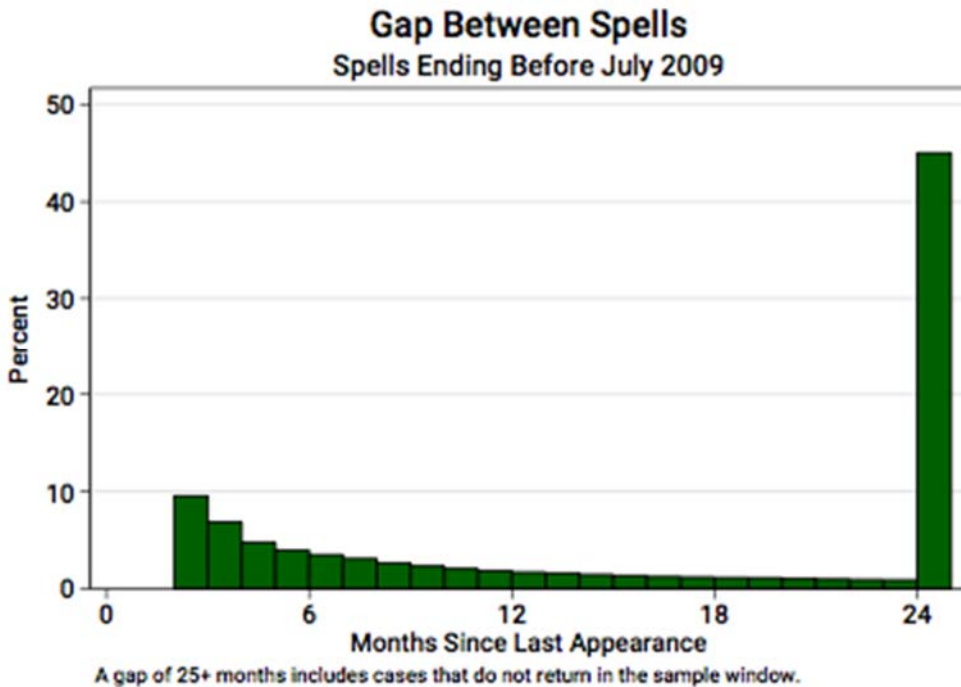


Figure 7 Hazard Rate of Exits at Recertification and Reporting

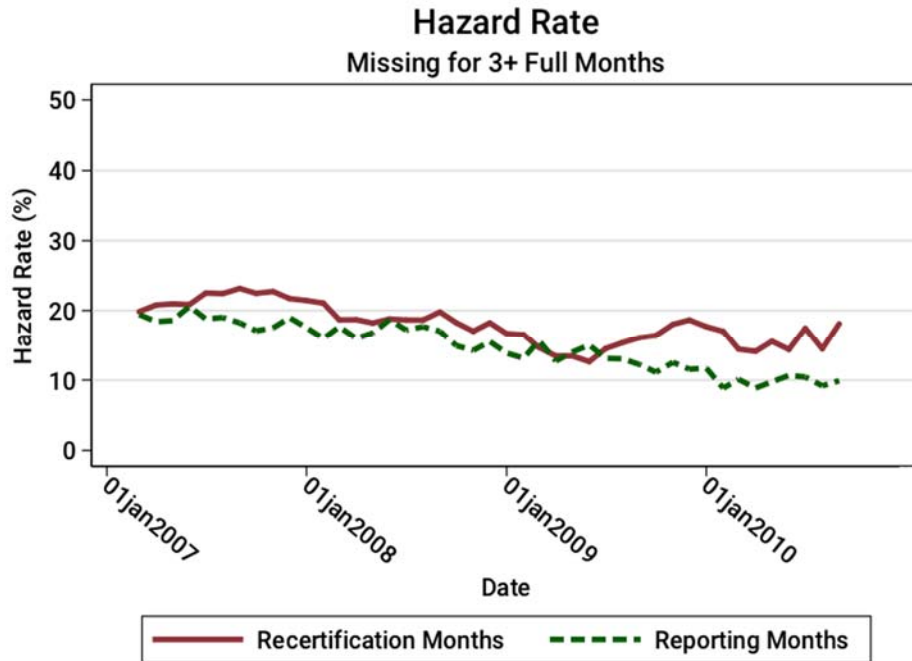


Figure 8 Hazard Rate of Exit for 3+ by Reason, Virginia

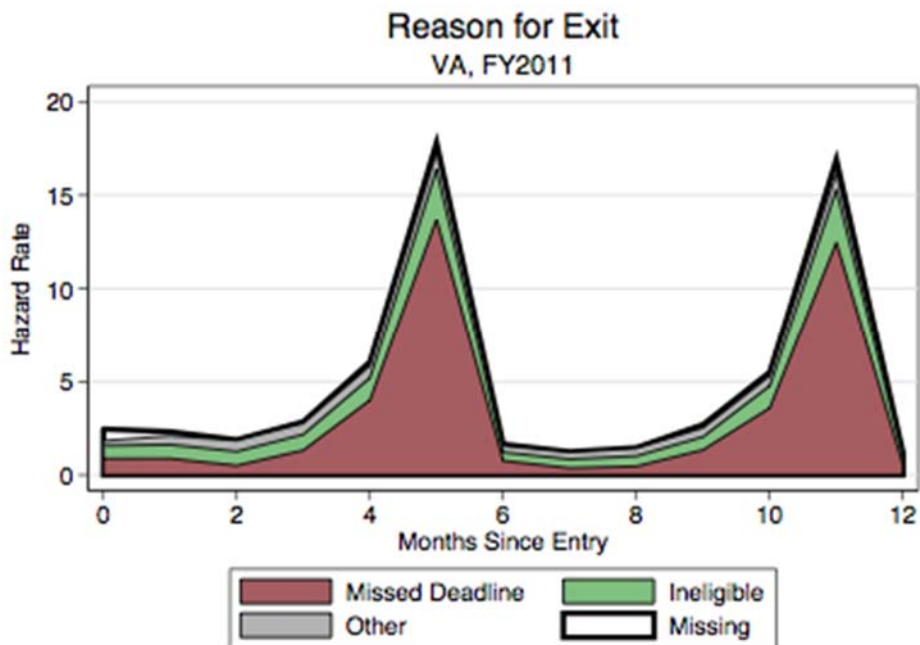


Figure 9 Hazard Rates at Recertification, Low Earners

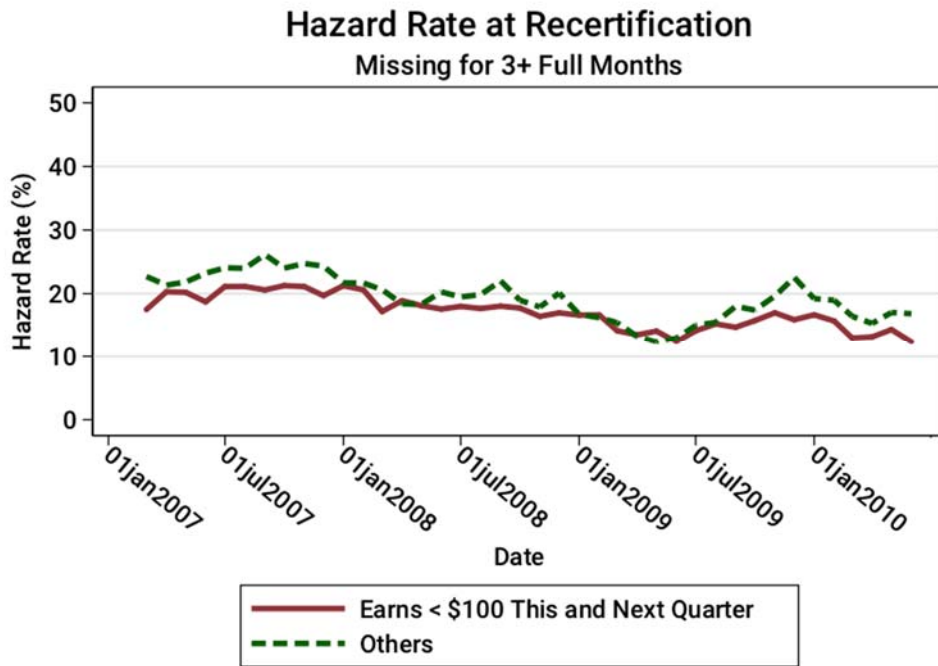


Figure 10 Hazard Rates at Recertification, Likely Eligible Sample

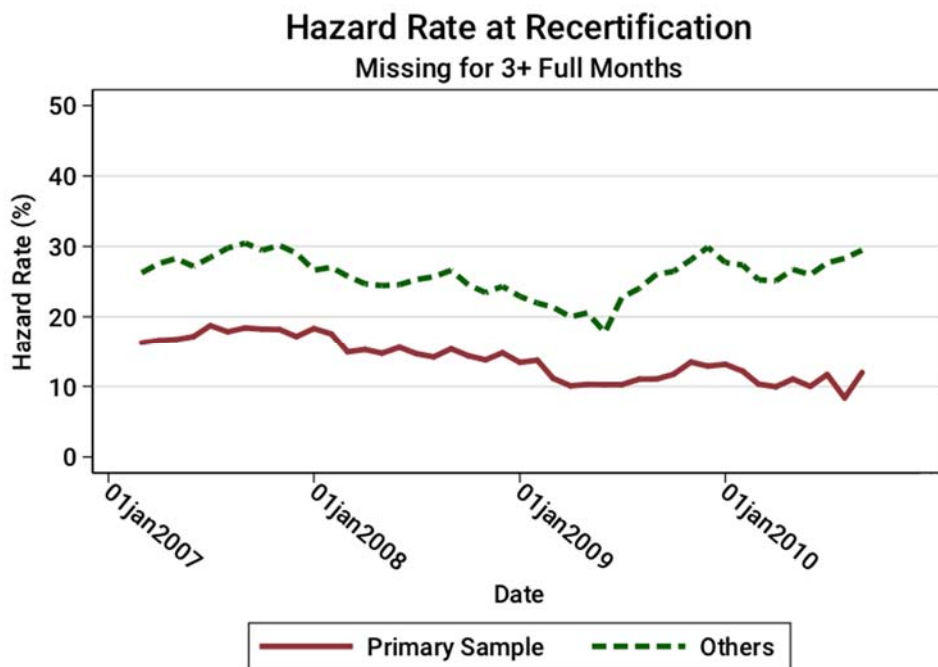


Figure 11 Benefit Changes Among Successful Recertifiers, USDA States

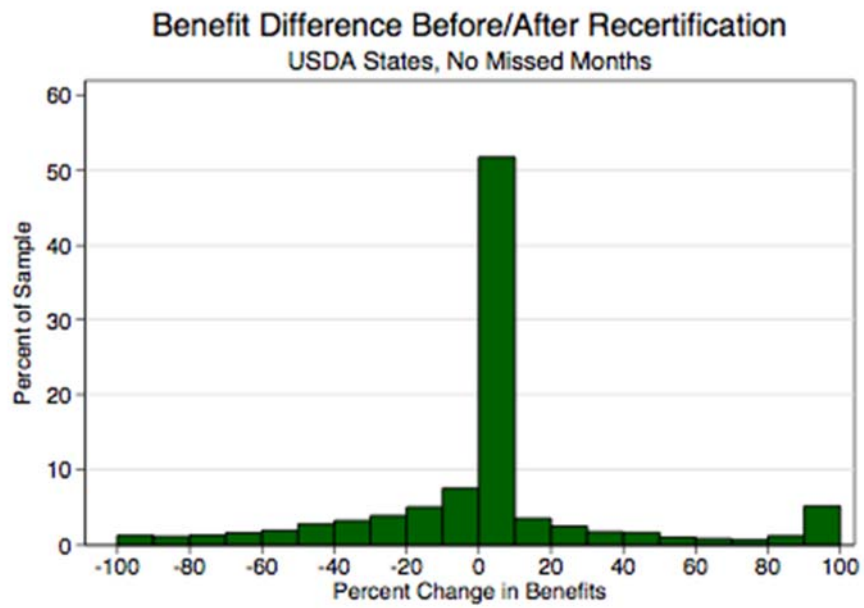


Figure 12 Rollout of Michigan's Online Case Management System

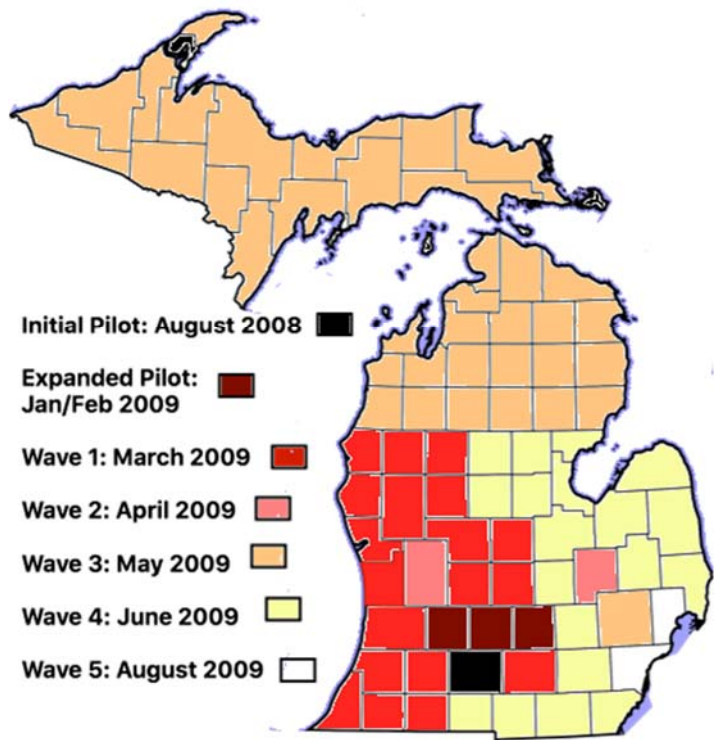


Figure 13 Effect of Online Case Management on Exit Hazards

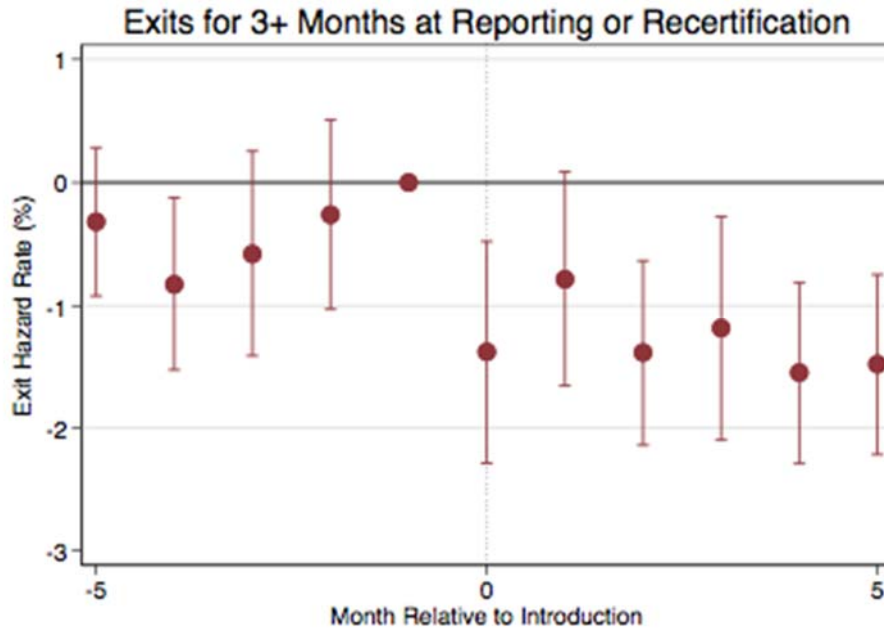


Figure 14 Effect of Online Case Management on Reporting vs Recertification

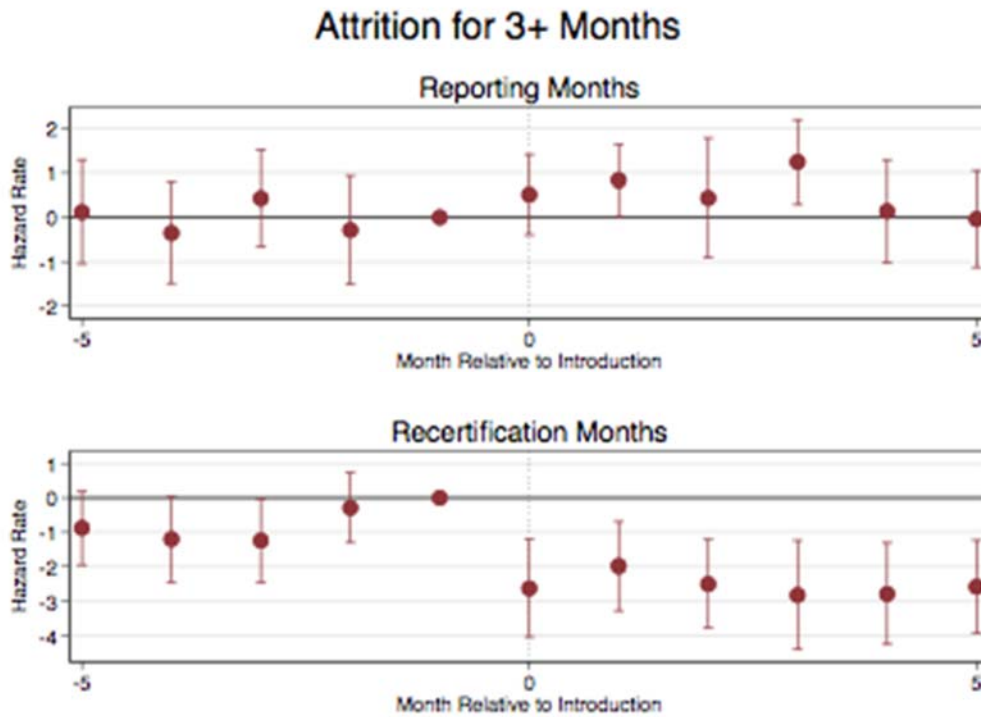


Table 1 Michigan Sample Characteristics

	All	ABAWDs	Parents	Elderly/ Disabled
Percent of observations	100	50	35	15
Unique cases (000s)	1,104	653	323	121
Unique spells (000s)	1,478	842	483	144
Average case size	1.9	1.2	3.4	1.1
Percent with one member	57.2	86.6	0	92.5
Percent with female head	59.8	42.8	84.7	58.0
Percent with white head	63.9	61.2	68.5	62.4
25th percentile benefit amount (2011 \$)	134	140	218	49
75th percentile benefit amount (2011 \$)	301	203	510	187
Percent with earnings	37	34	56	6
Average quarterly earnings (conditional on positive, 2011 \$)	3,452	2,611	4,206	1,856

NOTE: Table 1 reports characteristics for my sample of Michigan SNAP enrollees over all enrolled months. The sample includes all households that enter Michigan's SNAP program after March 2005 after two or more months of nonparticipation from entry until November 2011. Reporting and recertification are imputed using each household's entry month, household structure, and UI-covered earnings. Earnings statistics only use data up to October 2010, after which UI data is unavailable. Earnings and benefit amounts are inflated to January 2011 dollars using the monthly urban Consumer Price Index. The section titled "Michigan Data" in the text contains more details about the sample

Appendix Figures

Figure A1 Michigan SNAP Sample

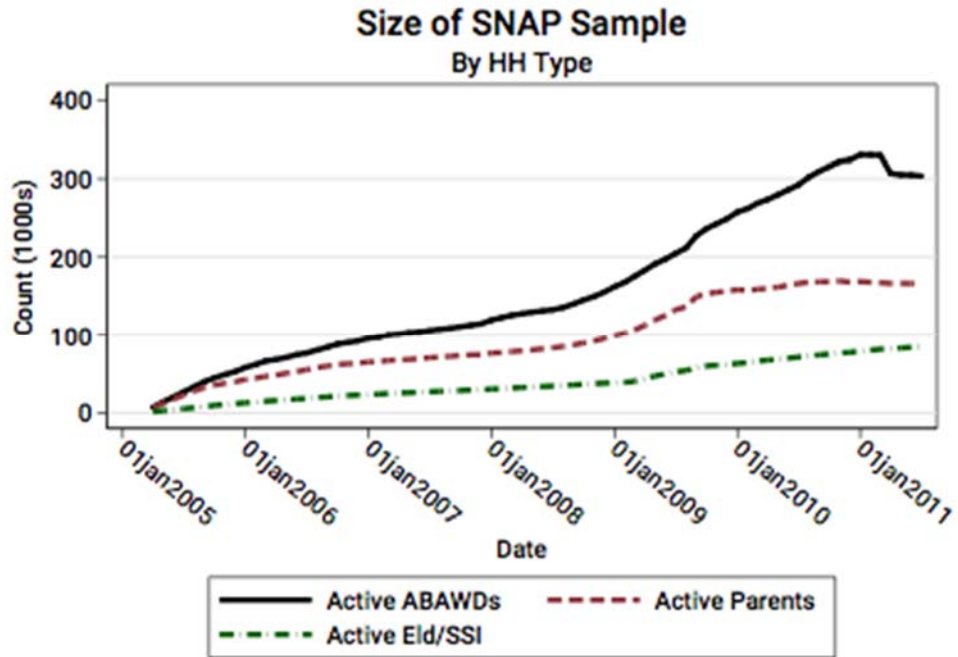


Figure A2 Retention in Florida SNAP

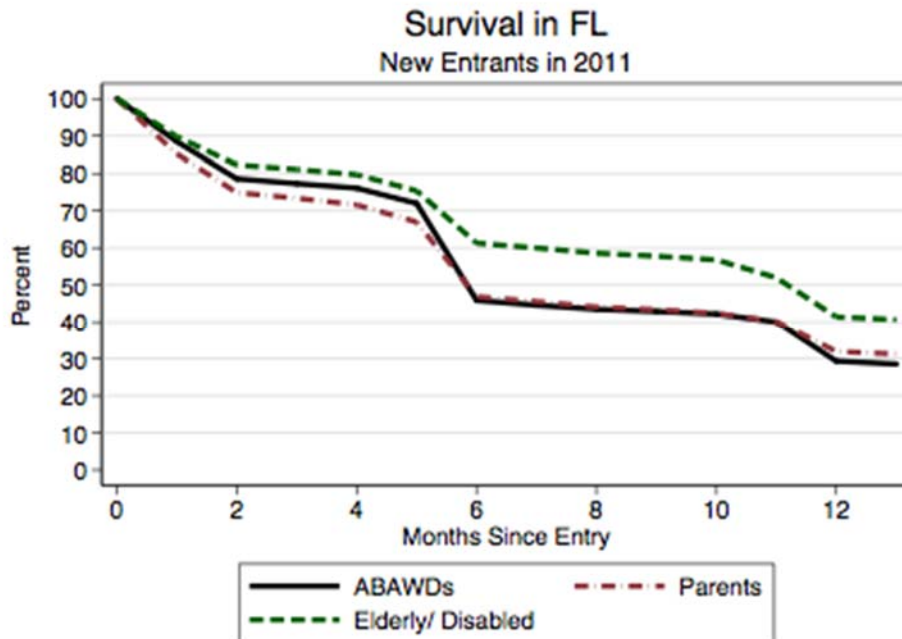


Figure A3 Retention in Idaho SNAP

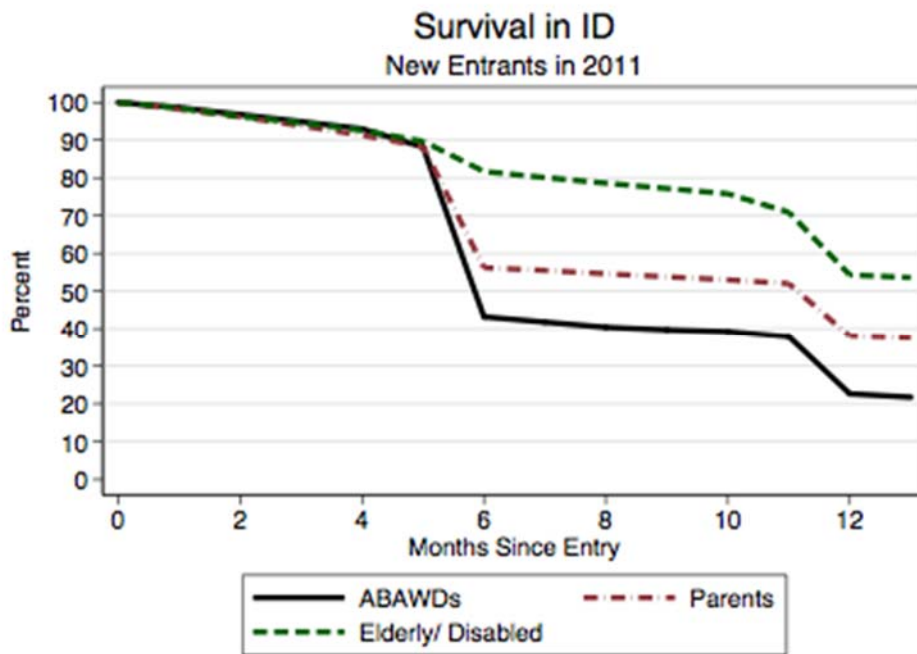


Figure A4 Retention in Illinois SNAP

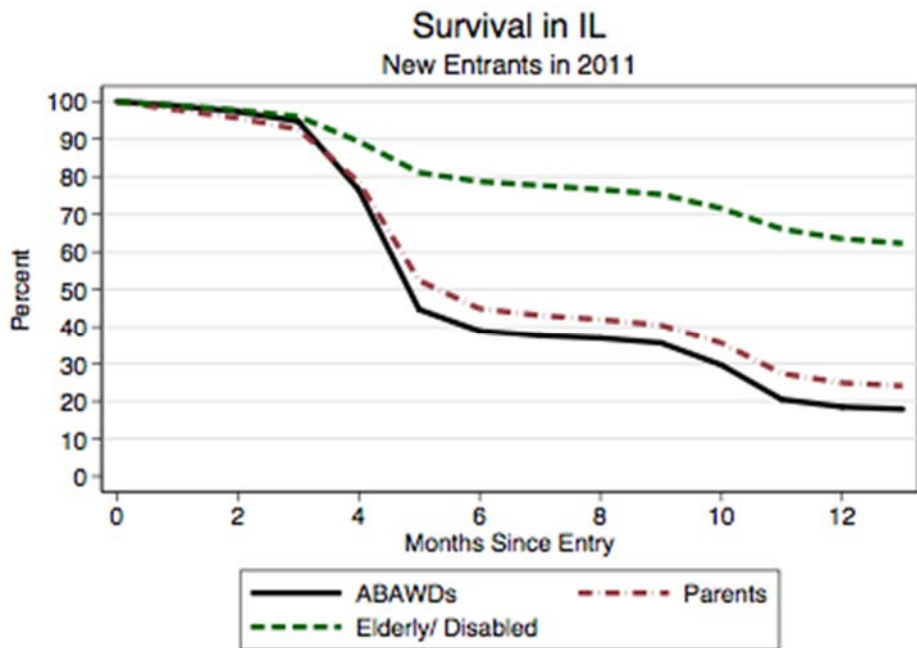


Figure A5 Retention in Maryland SNAP

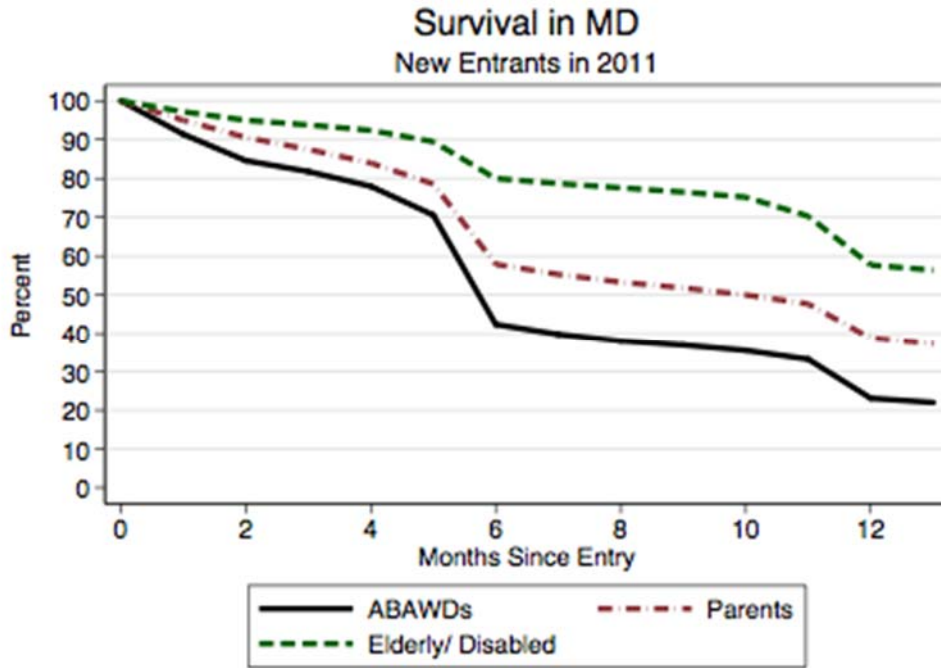


Figure A6 Retention in Texas SNAP

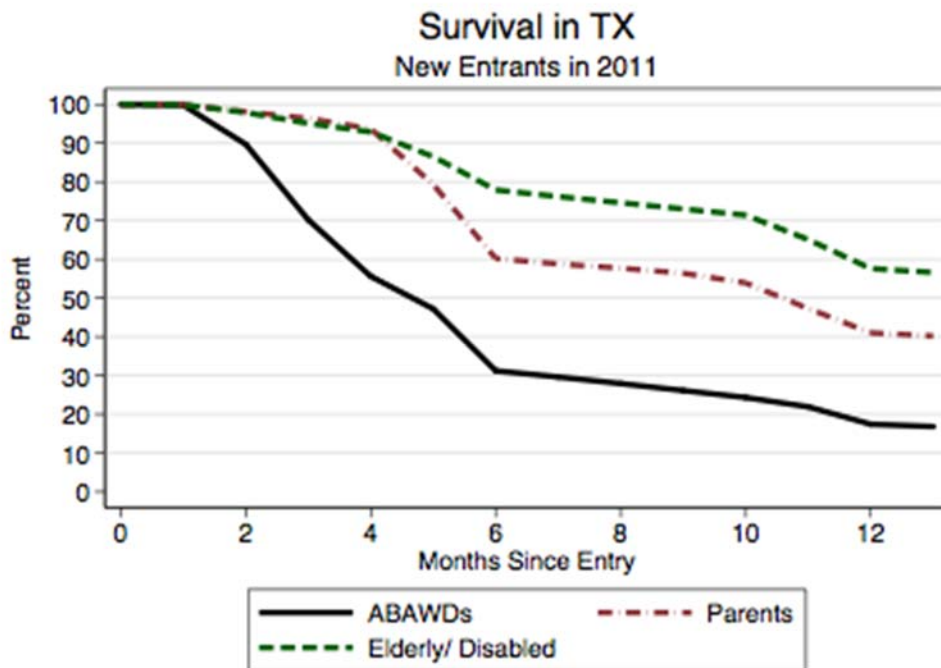


Figure A7 Hazard Rate of Exit for 3+ Months by Reason, Idaho

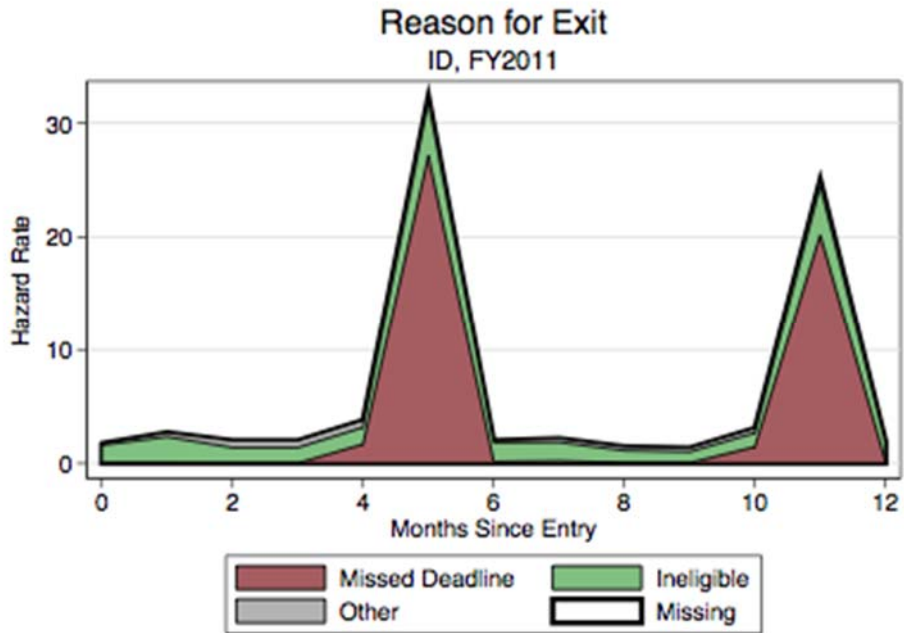


Figure A8 Small Benefit Changes for Stayers in Michigan

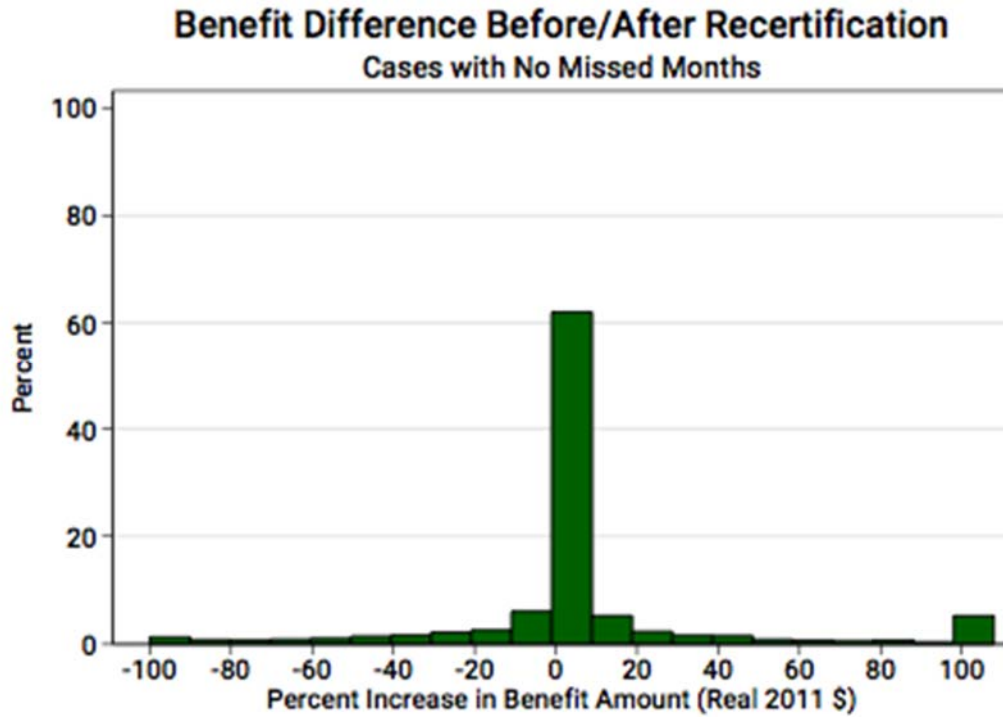


Figure A9 Small Benefit Changes for Churners in (Pooled) USDA States

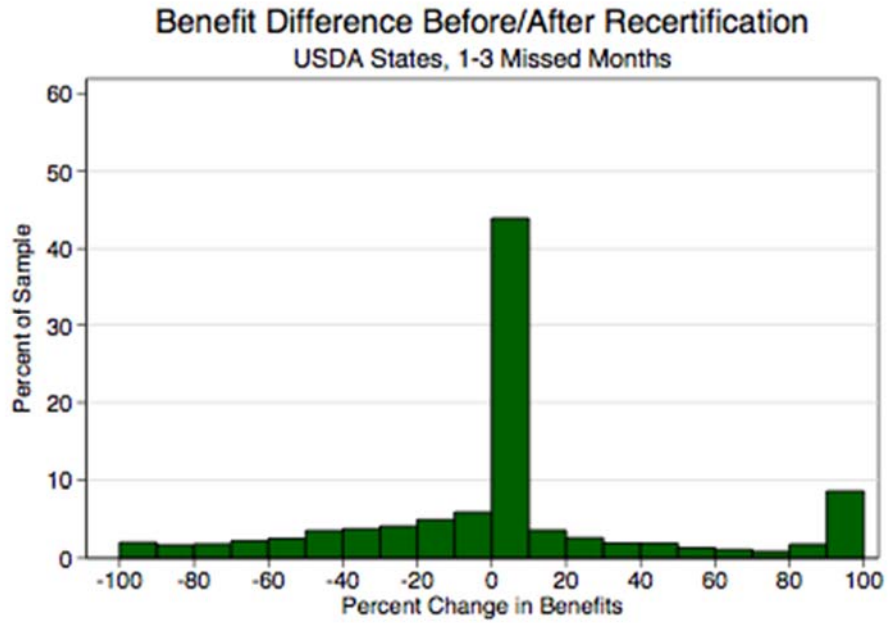


Figure A10 Hazard Rates of Exit at Recertification, by Benefit Amounts

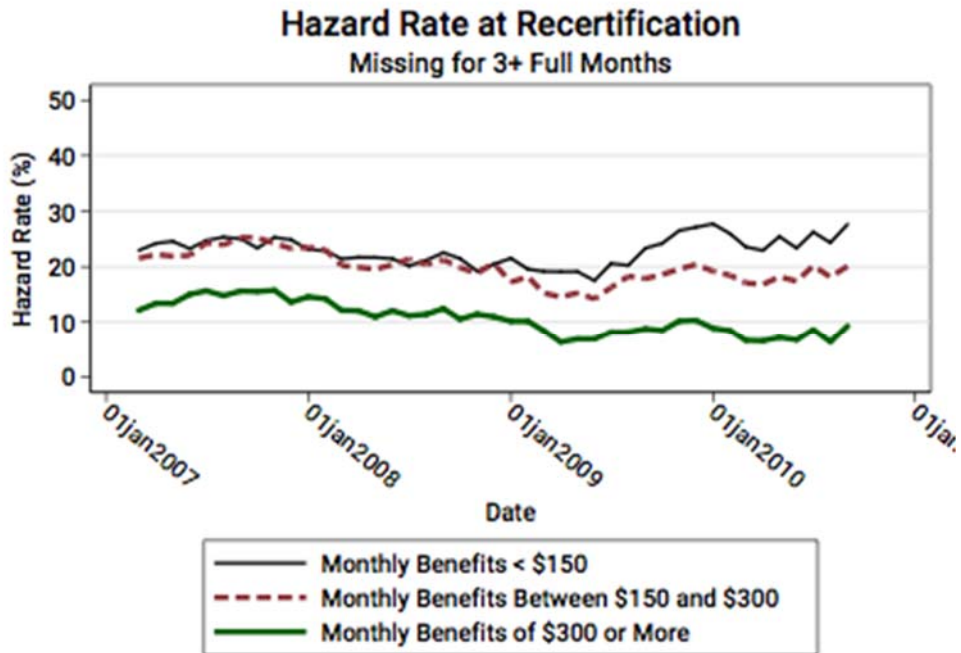


Figure A11 Effect of Online Interface on Exits for 1+ Month

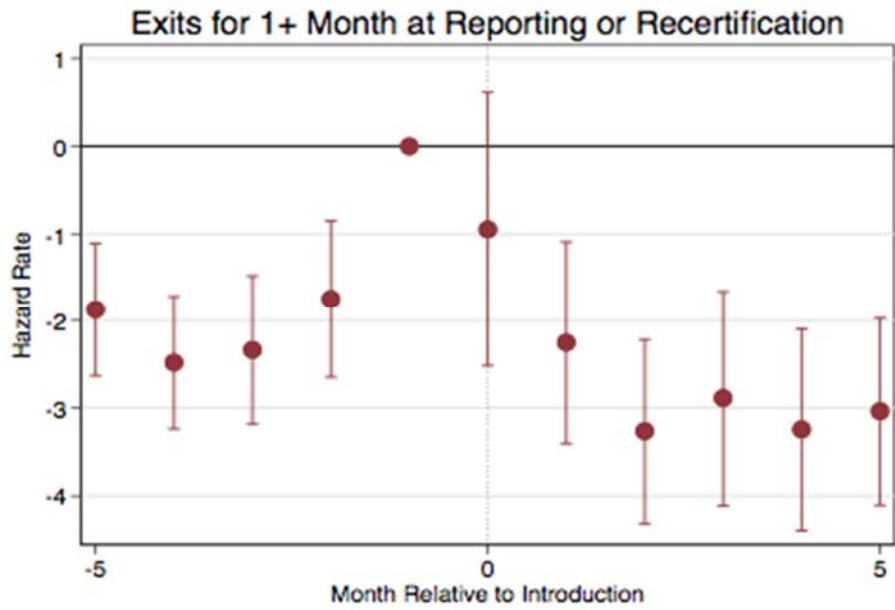


Figure A12 Effect of Online Interface, by Household Type

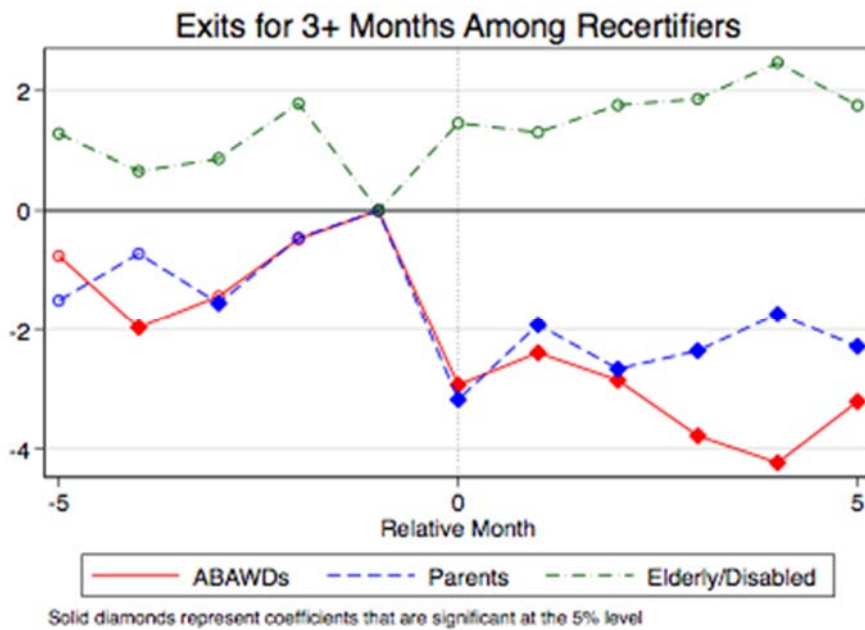


Figure A13 Effect of Online Interface, by Household Earnings



Figure A14 Effect of Online Interface, by Program Experience



Appendix Tables

Table A1 FNS Sample Characteristics

	FL	ID	IL	MD	TX	VA
Unique cases (000s)	591.2	36.1	233.3	109.9	647.9	117.4
Percent ABAWDs	52	42	41	32	24	43
Percent parents	16	35	31	29	49	35
Percent elderly/disabled	29	19	25	35	20	18
Percent alone	65	53	58	60	42	56
25th percentile benefit amount	124	167	153	106	118	146
75th percentile benefit amount	229	367	330	279	367	342
Percent with earnings	26	36	19	27	38	30
Average monthly earnings (conditional on positive)	1,121	1,001	1,082	1,207	1,141	981
Percent with unearned income	42	37	49	48	42	41
Average monthly unearned income (conditional on positive)	789	763	863	810	757	720
Percent leaving at recertification	36	38	56	33	36	23

NOTE: Table A1 reports characteristics of each state's USDA sample across all active enrollment months between December 2010 and November 2012. For my purposes, the USDA sample includes all households that entered SNAP between December 2010 and September 2011 after nonparticipation for two or more months. Benefit amounts and income are in nominal terms due to the short time frame. The section titled "USDA Data" in the text contains more details about the sample.

Table A2 Characteristics of Stayers vs Exiters

	Stay at recert.	Leave at recert.	Stay at reporting	Leave at reporting	Stay at interior	Leave at interior
Percent of observations	78	22	83	17	97	3
Percent ABAWDs	48	68	36	43	54	53
Percent parents	44	28	45	45	34	42
Percent elderly/disabled	8	5	19	13	11	5
Average case size	2.1	1.7	2.2	2.2	1.9	2.1
Average benefit amount (2011 \$)	258	192	231	164	211	218
Percent with earnings	37.5	45.1	82.7	88.5	41.9	55.9
Average quarterly earnings (conditional on positive, 2011 \$)	3,232	4,589	3,444	4,936	3,372	4,494
Percent with earnings next quarter	37.8	40.2	72.8	79.2	42.6	48.0
Average next quarter earnings (conditional on positive, 2011 \$)	3,431	4,916	4,015	5,314	3,887	5,581

NOTE: Table A2 reports characteristics of those who leave or stay at key dates in the Michigan sample, taken across all relevant months. The sample includes all households that enter Michigan's SNAP program after March 2005 after two or more months of nonparticipation from entry until November 2011. Reporting and recertification are imputed using each household's entry month, household structure, and UI-covered earnings. Earnings statistics only use data up to October 2010, after which UI data is unavailable. Earnings and benefit amounts are inflated to January 2011 dollars using the monthly urban Consumer Price Index. The section titled "Michigan Data" in the text contains more details about the sample.