



**The First-Time
Homebuyer Education
and Counseling
Demonstration:
Early Insights**



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The First-Time Homebuyer Education and Counseling Demonstration: Early Insights

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Disclaimer


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Foreword

The U.S. Department of Housing and Urban Development (HUD) has sought for nearly 40 years to measure the impact of pre-purchase counseling. Although a substantial amount of research has been done on homebuyer counseling and education, many studies have suffered from methodological and resource constraints and have failed to provide a definitive assessment of counseling's impact. Researchers and Congress have been calling for a large-scale randomized experiment for a long time.

In preparation for designing and implementing such an experiment, HUD's Office of Policy Development and Research published an overview of the housing counseling industry in 2008 (Turnham, Herbert, and Rodger, 2008) and completed small-scale outcome evaluations of both pre-purchase (Turnham and Jefferson, 2012) and foreclosure (Jefferson et al., 2012) counseling in 2012. In 2014, HUD successfully launched a large-scale, randomized experiment to assess the impact of homebuyer education and counseling reliably for a diverse sample of over 5,800 low-, moderate-, and middle-income prospective first-time homebuyers in 28 U.S. metropolitan areas.

This report, *The First-Time Homebuyer Education and Counseling Demonstration: Early Insights*, presents the preliminary findings from early stages of this effort. Like most firsts, this first large-scale randomized study has already shed light on key issues for replicating such research and for policy design. In particular, the very low take-up rate for in-person education and counseling suggests substantive barriers to that delivery mechanism as implemented in this study. The considerably higher take-up rate of online education and remote counseling shows promise. In terms of impacts, the very preliminary results are encouraging. Moreover, now that the randomized experiment has been implemented successfully, we are hopeful that, over the next 4 years, the study will produce the long-sought answers about the impact of homebuyer education and counseling on mortgage literacy and preparedness, homebuyer outcomes, and loan performance.



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Contents

Executive Summary	vii
1. Introduction	1
2. Study Methodology and Implementation	3
Study Design	3
Study Implementation	3
The Study’s Homebuyer Education and Counseling Agencies and Their Services	7
Outcome Domains	10
Data Sources	12
3. Characteristics of the Study’s Early Enrollees	13
Early Enrollees’ Demographic and Financial Characteristics	13
Early Enrollees’ Stage in the Homebuying Process	18
4. Experiences With Homebuyer Education and Counseling	19
Take-up Rates and Reasons for Take-up and Completion	19
Insights From Focus Group Research	22
5. Outcomes and Impacts for Early Enrollees After 12 Months	25
Outcomes for the Early Enrollee Sample After 12 Months	25
Early Impacts of Homebuyer Education and Counseling on Selected Outcomes	27
6. Conclusion and Future Study Activities	31
Appendix A: Supplemental Tables	35
Appendix B: Description of Measures and Missing Data Procedures	41
Appendix C: Technical Supplement to the Impact Analysis	49
Study Design	49
Model for Early Enrollee Sample Impact Analysis	50
Impact Estimates: Pooled Remote and Choice Versus Control Groups	53
Impact Estimates for Remotely Provided Homebuyer Education and Counseling Services	55
Follow-up Survey Nonresponse Weights	57
Appendix D: Works Cited	58



Executive Summary

For generations, homeownership has been a gateway to the middle class and a cornerstone of the American Dream. As the recent collapse and uneven recovery of the housing market revealed, however, homeownership poses risks, both to borrowers and to the broader economy. Homebuyer education and counseling are intended to help individuals navigate the complexities of the housing market, make good home purchase and mortgage decisions, improve their financial management skills, and achieve sustainable homeownership and enhanced financial health.

Previous research indicates that pre-purchase homeownership counseling has benefits, but the extent of those benefits has been questioned because of concerns that those who choose to get counseling may be different from those who do not choose to get counseling (selection bias). The First-Time Homebuyer Education and Counseling Demonstration (hereafter, the Demonstration) was designed as a randomized experiment—the gold standard for evaluation—to definitively answer the question about the relative efficacy of homebuyer education and counseling on higher-risk borrowers. The Demonstration, which began enrollment in September 2013, is expected to follow study members for 42 months (subject to funding availability) to determine the impact of offering homebuyer education and counseling on a wide variety of outcomes related to homeownership preparedness; financial literacy, capability, and management; and homeownership sustainability.

This report has four main objectives: to present (1) a summary of the Demonstration’s progress to date, (2) preliminary information on the early enrollee sample, (3) preliminary data on take-up rates and early enrollee experiences, and (4) preliminary information about the outcomes of early enrollees.¹

Successful Implementation

The Demonstration has successfully recruited and enrolled more than 5,800 low-, moderate-, and middle-income prospective first-time homebuyers across 28 large metropolitan areas and has randomly assigned them to treatment and control groups. The Demonstration used a unique recruitment and referral process, drawing on prospective first-time homebuyers who had requested preapproval, requested prequalification, or applied for a home loan from one of three large national lenders. Enrollment began with a pilot in September 2013 and continued with full study enrollment from January 2014 through January 2016. Study members were randomly assigned to one of three treatment groups or a control group. Members assigned to the first treatment group have been offered online homebuyer education and telephone-based counseling (that is, “remote” education and counseling). Members assigned to the second treatment group have been offered “in-person” education and counseling from 1 of 63 local U.S. Department of Housing and Urban

¹ Individuals who enrolled in the study before December 1, 2014, are referred to as the “early enrollee” sample.

Development (HUD)-approved homebuyer counseling agencies. Members of the third treatment group have been offered a choice of remote or in-person services. Study members assigned to the control group have not been offered any services.²

Demographic and Financial Characteristics of the Early Enrollee Sample

The early enrollee sample is racially and ethnically diverse, with 59.1 percent self-identifying as Hispanic, African-American, Asian, or other race and 40.9 percent self-identifying as White non-Hispanic. These study participants also reflect a wide range of educational attainment levels, with most (54 percent) having achieved a bachelor's degree or higher. The median income for early enrollees and their co-borrowers during the 12 months before enrollment was \$55,000, with 10 percent of early enrollees having made more than \$100,000 in the previous year and 10 percent having made less than \$27,000 in the previous year. This report also discusses at what stage the early enrollees were in the homebuying process at the time they were recruited into the study. Reflective of the process used to enroll these individuals into the study, the early enrollee sample includes both those who had not yet started the home search (9 percent) and those who had already purchased a home (14 percent), with the balance falling in between.

Initiating and Completing Services: Take-up Rates and Participant Experiences

Overall, approximately one-half of those offered homebuyer education and counseling actually initiated services, but the take-up rates varied meaningfully according to the mode of the intervention. Whereas about two-thirds (65 percent) of study participants who were offered remote homebuyer education and counseling had initiated services by February 2016, only about one-fourth (25 percent) of those who were offered in-person homebuyer education and counseling had initiated services by February 2016.

To increase service initiation and completion rates and to improve the study's chances of detecting the impacts of the intervention, the study team, in consultation with HUD and an expert panel, modified what was the in-person treatment group to become a choice treatment group. Study participants assigned to the choice treatment group could choose how to access services, either remotely or in person, on the premise that this choice would increase take-up of both modes of service. Early enrollees assigned to the choice treatment group had a clear preference for remote services; 85 percent of study participants who were offered their choice of remote or in-person services stated a preference for receiving remote services. Initial findings from implementing the choice treatment group indicate that this change was positive to the Demonstration.

This report also shares insights from focus groups conducted with treatment group members to understand take-up rates and experiences with services. Focus group participants who did take up services were primarily motivated by the perceived value in those services and reported gaining important information that, for many, positively influenced their decisions and behaviors. For those who did not take up services, the reasons for not taking up services or not completing services tended to vary by service delivery mode. Those

² Study members initially were randomly assigned to the control group, the remote group, or the in-person group. In September 2014, the study was redesigned and new enrollees were assigned to the control group, the remote group, or the choice group.

who had been referred to in-person homebuyer education and counseling services spoke about scheduling difficulties, the length of the course, and the agency's location. Those who had been offered remote services cited competing priorities on their schedules and the length of the course as their main reasons for not taking up or completing services.

Preliminary Impacts on Select Outcomes for the Early Enrollee Sample

We find positive and statistically significant impacts on three of the four short-term outcomes tested,³ which provides a preliminary indication that offering individuals education and counseling services may lead to some favorable results. The findings on these outcomes are summarized as follows—

1. **Improved mortgage literacy.** Treatment group members performed better than their control group counterparts on a four-question mortgage literacy quiz. This result indicates that the intervention is improving financial literacy, which has been shown to be associated with better mortgage outcomes (An, Bostic, and Yao, 2015).
2. **Greater appreciation for communication with lenders.** Treatment group members are more likely to report that they would contact their lender before missing a mortgage payment. This finding indicates that education and counseling are successfully encouraging participants to engage productively with their lenders in times of distress.
3. **Improved underwriting qualifications.** Treatment group members are more likely than their control group counterparts to have a credit score of 620 or higher. This threshold of 620 is a proxy for the minimum credit score needed to qualify for conventional mortgages.⁴ The finding implies that education and counseling are helping treatment group members correct inaccuracies in their credit reports, reduce bad credit events such as late or missed payments, or both to push their credit scores over the 620 threshold.
4. **No evidence of improved budgeting practices.** Treatment group members are no more or less likely than their control group counterparts to compare a budget with their actual spending. This finding indicates that counseling and education are not helping treatment group members improve their budgeting practices.

Next Steps

With the enrollment phase now complete, this Demonstration has successfully laid the groundwork to provide empirical evidence of the effects of homebuyer education and counseling. Although the results discussed in this report are preliminary and only for the early enrollee sample, these signs of improvements in the treatment groups' outcomes are encouraging, because they could represent important steps along the path toward homeownership sustainability and financial health.

³ Given the recommendations of HUD and the expert panel, these outcomes were preselected based on their close relationship to the objectives of homebuyer education and counseling services.

⁴ See Fannie Mae's "General Requirements for Credit Scores" at <https://www.fanniemae.com/content/guide/selling/b3/5.1/01.html>.



Executive Summary

This study has three future reports planned that, together, will allow for more definitive conclusions about the impact of housing counseling and education services. First, a baseline report (expected to be released in the fall of 2016) will describe in detail the implementation of the study and the characteristics of the full sample at the time of enrollment. An interim report (expected to be released in early 2018) will present 12-month impacts on a wider variety of outcomes for the full study sample. If funded, the final report (expected to be released in 2020) will address the extent to which homebuyer education and counseling improve long-term outcomes.

Introduction

Homeownership has traditionally been one of the most important pathways to financial security for U.S. families. Homeownership helps households achieve financial security in a variety of ways. First, homeowners systematically build equity through the portion of their regularly scheduled mortgage payments that is applied directly toward principal reduction. Second, homeownership is a “leveraged investment”; although homeowners typically invest only a small fraction of the home’s value when purchasing a home, they realize returns on the entire value of the property during periods of appreciation in housing prices. Finally, homeowners can receive federal tax deductions for property taxes, mortgage interest, and private mortgage insurance. In addition, homeownership can bestow nonfinancial benefits. For example, studies have shown that homeowners are more engaged in social and political activities and exhibit better psychological health (for example, Rohe and Lindblad, 2013). For these reasons, homeownership has been an important part of the American Dream for generations.⁵

Homeownership also has risks, however. Unaffordable mortgage payments, the opportunity costs of not investing in alternative assets, home maintenance responsibilities, and the higher transaction costs associated with moving can make homeownership more a burden than an asset in certain circumstances. Housing price fluctuations can also make investment in homeownership precarious, particularly during short time horizons.⁶ When homeownership becomes unsustainable, it can lead to financial distress and other adverse consequences—studies have shown that families who are forced to move from their homes often suffer negative educational and health effects (Isaacs, 2012; Tsai, 2015). Therefore, for homeownership to be an effective tool for achieving favorable financial health outcomes, individuals must have the knowledge, skills, and resources to make good decisions about whether and how to purchase and finance a home.

Homebuyer education and counseling⁷ are designed to help individuals think critically about these benefits and risks, understand how to select affordable homes and appropriate mortgage products, and build the financial knowledge, resources, and behaviors needed for sustainable homeownership and long-term financial health. Despite extensive research on the benefits of homebuyer education and counseling, however, the limitations of previous studies prevent causally linking homebuyer education and counseling to desired outcomes.⁸ This link is impossible because, in the absence of randomized experiments, it is difficult to isolate the impact of homebuyer education and counseling from other factors, such as borrower self-

⁵ *Even in the wake of the foreclosure crisis, Americans still hold a strong desire to own homes. The MacArthur Foundation’s 2014 How Housing Matters survey found that 70 percent of respondents aspired to homeownership (Hart Research Associates, 2014).*

⁶ *For a discussion of the costs and benefits of homeownership in the aftermath of the housing crisis, see Herbert, McCue, and Sanchez-Moyano (2013).*

⁷ *Homebuyer education is general training about buying a home, whereas counseling is one-on-one guidance that is tailored to the particular needs of the recipient.*

⁸ *A summary of 18 evaluations of homebuyer education and counseling concluded that, although the research is “suggestive” of favorable impacts, a “profound lack of randomized experiments” hinders conclusive evidence in this field (Collins and O’Rourke, 2011).*

selection (for example, more self-motivated homebuyers may use counseling services) or lender practices (for example, certain types of mortgage products are available only to borrowers who have completed counseling).⁹

As the first large-scale national experimental evaluation of homebuyer education and counseling, the First-Time Homebuyer Education and Counseling Demonstration attempts to fill this critical research void. The study is a randomized experimental evaluation of education and counseling for first-time homebuyers recruited through three large, national lenders. By randomly assigning study participants to either a treatment group or a control group, the study is able to isolate the unbiased experimental impact of being offered access to free homebuyer education and counseling. The study will follow participants to determine the impact of homebuyer education and counseling on a wide variety of short-, intermediate-, and long-term outcomes, including those related to homeownership preparedness and housing search; financial literacy, capability, and management; and homeownership sustainability.

This report has four main objectives. First, the report summarizes the study's implementation, which began in the fall of 2011. Implementation included the recruitment of 3 national lenders, 63 in-person homebuyer education and counseling agencies in 28 large metropolitan areas, 2 remote service providers, and more than 5,800 study participants across 28 large metropolitan areas. Second, this report describes the demographic and financial characteristics of the early enrollee sample, which includes study participants who were randomly assigned before December 1, 2014 (hereafter referred to as the "early enrollee" sample).¹⁰ Third, the report presents take-up rates for the early enrollee sample and insights from focus groups with some treatment group members regarding their program experiences. Fourth, the report provides preliminary insights into the short-term impacts of homebuyer education and counseling. These insights are based on an analysis of 12-month outcomes for the early enrollee sample.

⁹ Collins and O'Rourke (2011) also concluded that the field is in need of evaluations that (1) examine the impact of housing education and counseling on outcomes beyond default and foreclosures; (2) track data longitudinally over time and examine standardized interventions; and (3) include and compare alternative modes of services that are available, such as group versus individual education or telephone versus in-person counseling.

¹⁰ The early enrollee sample is the study subsample of 2,377 individuals for whom 12-month follow-up data, from both survey and administrative sources, were requested as of January 2016.

Study Methodology and Implementation

The study completed its enrollment phase in February 2016. This section describes the study's design and implementation, provides a conceptual framework that defines how the intervention is hypothesized to impact study participant outcomes, and summarizes the data sources used for the study.

Study Design

Central to the study is the following research question: What is the impact of homebuyer education and counseling on low-, moderate-, and middle-income first-time homebuyers? In other words, to what extent does homebuyer education and counseling affect outcomes related to homeownership preparedness and housing search; financial literacy, capability, and management; and homeownership sustainability following home purchase?

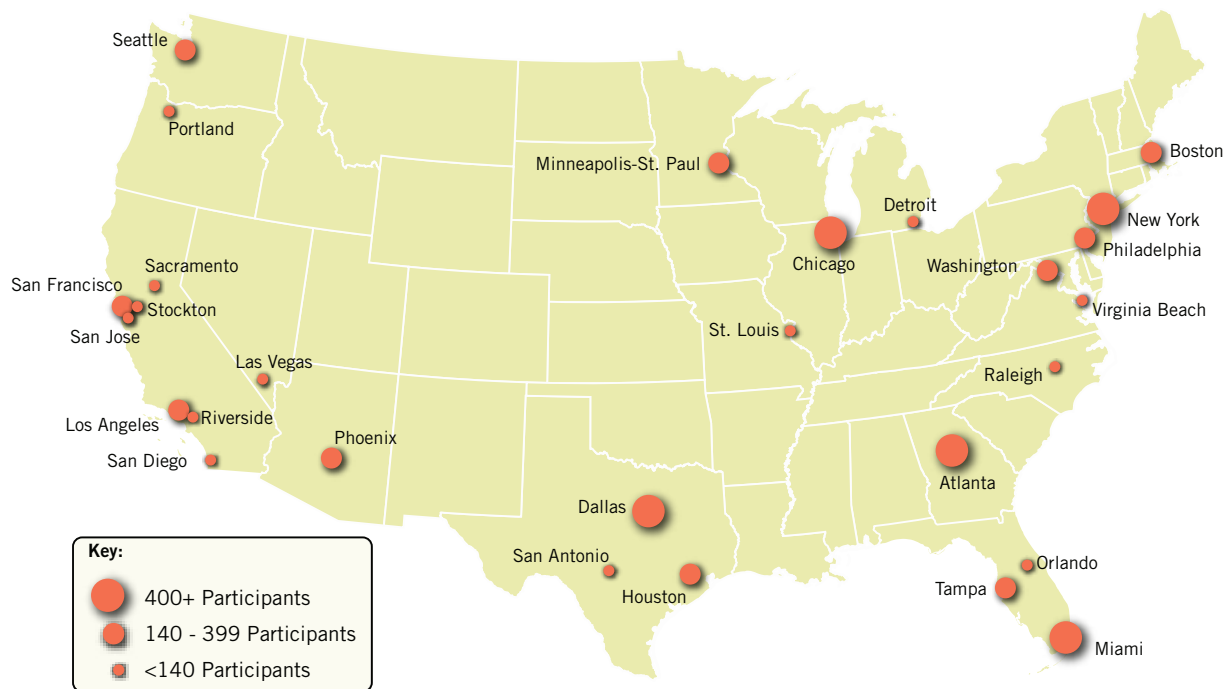
To answer these questions, the study employs a randomized experimental design. Eligible individuals were randomly assigned to a control group or to one of three treatment groups, the members of which were offered access to free homebuyer education and counseling services (“the intervention”). The intervention included two modes of education and counseling: (1) *in-person services* (education and counseling that were delivered in person at a counseling agency location) and (2) *remote services* (online education and telephone counseling). These two modes of services reflect the predominant models of homebuyer education and counseling in the field. Treatment group members were offered in-person services, remote services, or their choice of remote or in-person services (more details are given subsequently in this section). Study participants who were assigned to the control group were not offered any services. By creating treatment and control groups that are similar in all ways, both measurable and unmeasurable, differences in the mean outcomes between the treatment and control groups can be attributed to the intervention.¹¹

Study Implementation

The study enrolled 5,854 first-time homebuyers between September 2013 and January 2016: 87 during the pilot period (September through December 2013) and 5,767 thereafter. Enrollment began with a 3-month, three-city pilot period, expanding in January 2014 to 28 large metropolitan areas, as shown geographically in exhibit 2.1. This section describes recruitment, enrollment and random assignment.

¹¹ To validate that our randomization of individuals into the treatment and control groups was carried out with integrity, we tested the balance of characteristics across the groups for the early enrollee sample used in this report. See appendix A for more detail.

Exhibit 2.1: Map of Study Locations



Study Recruitment

Three major national lenders partnered with the U.S. Department of Housing and Urban Development (HUD) and the study team to recruit participants into the study.¹² During the recruitment process, lenders screened their national databases for customers who met the following criteria—

- The customer resided in 1 of the study's 28 locations.¹³
- The customer requested preapproval or prequalification or applied for a home loan.
- The customer would be a first-time homebuyer (that is, had not owned a home in the previous 3 years).
- The customer was a low-, moderate-, or middle-income household (that is, household income of less than 120 percent of the local Area Median Income).

The study team worked extensively with each participating lender to determine the best process for identifying and recruiting customers who met these criteria. Lenders referred customers who were interested and who consented to having their contact information shared to the study team.

¹² These lenders were chosen based on their large volume of loan originations and their willingness to partner for the study.

¹³ The 28 metropolitan areas were chosen based on the large amount of origination activity by the study's three lenders.

Study Enrollment

The study team contacted the individuals who had been referred by the lenders and conducted an additional assessment of eligibility to participate in the study.¹⁴ Customers who met these eligibility requirements and consented to be in the study completed a baseline survey, which is the main source of information on study participants' characteristics at the time of enrollment.

After enrolling, participants were randomly assigned to a control group or one of three treatment groups. Based on their assignment, participants either received or did not receive access to services, as described below.

- **Control group** (no referral to services). Study participants assigned to this group were not referred to education and counseling services.
- **Treatment groups** (referral to homebuyer education and counseling services). Treatment group members received access to one of the following: (1) remote services, (2) in-person services, or (3) their choice of remote or in-person services. All services provided to those in the treatment groups were free of charge and covered similar content, although they differed in format, time, and intensity.

Although this report analyzes the treatment groups collectively (that is, it aggregates all individuals offered access to *any mode* of homebuyer education and counseling services), note that individuals were randomly assigned to three distinct treatment groups—in-person, remote, and choice. At the inception of the study, individuals were randomly assigned to the control group, the in-person group, or the remote group. Take-up of in-person services remained very low, however, even a year after random assignment. Only about 20 percent of study participants assigned to the in-person treatment group had initiated education or counseling, which raised concerns that the large proportion of in-person treatment group members not receiving services would dilute the treatment effects. In response, the in-person treatment group was changed to a choice treatment group in the fall of 2014, in hopes of increasing the rate of service take-up. Starting in September 2014, all individuals were asked before enrollment whether they would prefer remote or in-person services; those who were assigned to the choice group were then offered the type of treatment for which they had expressed a preference.¹⁵ We present the initial take-up rates for each intervention in section 4.

Exhibit 2.2 shows the timing of randomization to these three treatment groups, including the sample sizes in each for the entire study and for the subsample of early enrollees that is used in this report. As the exhibit makes clear, for the early enrollees for whom 1 year of follow-up data are available at this time, the study

¹⁴ The additional eligibility screen ensured that customers: (1) had not previously completed homebuyer education and counseling; (2) were not participating in a downpayment assistance program that would require homebuyer education and counseling; and (3) could complete the work of receiving homebuyer education and counseling services offered through the study (that is, the customer was willing to participate in the services, spoke English or Spanish, had access to transportation to in-person services, and had computer and internet access allowing for participation in online services).

¹⁵ The study's interim and final reports will use this information to test for the effects of the mode of service delivery by estimating the impact of homebuyer education and counseling on (1) those who were offered remote services (including remote treatment group members and choice treatment group members who stated a preference for remote services) and (2) those who were offered in-person services (including in-person treatment group members and choice treatment group members who stated a preference for in-person services).

does not yet have sufficient sample to consider the relative effectiveness of service delivery mode. As a result, we pooled study participants randomized to all the treatment arms, including the remote arm, the in-person arm (in the study's initial phase), and the choice arm (in the study's redesign phase, which began in September 2014). The control group covers the periods before and after study redesign and represents a valid counterfactual for the pooled treatment groups. This report provides early insights about the efficacy of offering access to homebuyer education and counseling services, defined broadly to include the combined sample of treatment group members. Future reports will analyze the treatment groups separately.

Exhibit 2.2: Study Enrollment, by Group and Time Period

		Control Group	Remote Treatment Group	In-Person Treatment Group	Choice Treatment Group
First person randomized	October 22, 2013	789	550	517	
Study redesign	September 16, 2014	209	145		167
Early enrollee sample cutoff	December 1, 2014	1,452	984		980
End study enrollment	February 1, 2016				
	Total Group Sample	2,450	1,679	517	1,147
	Total Sample: 5,793				

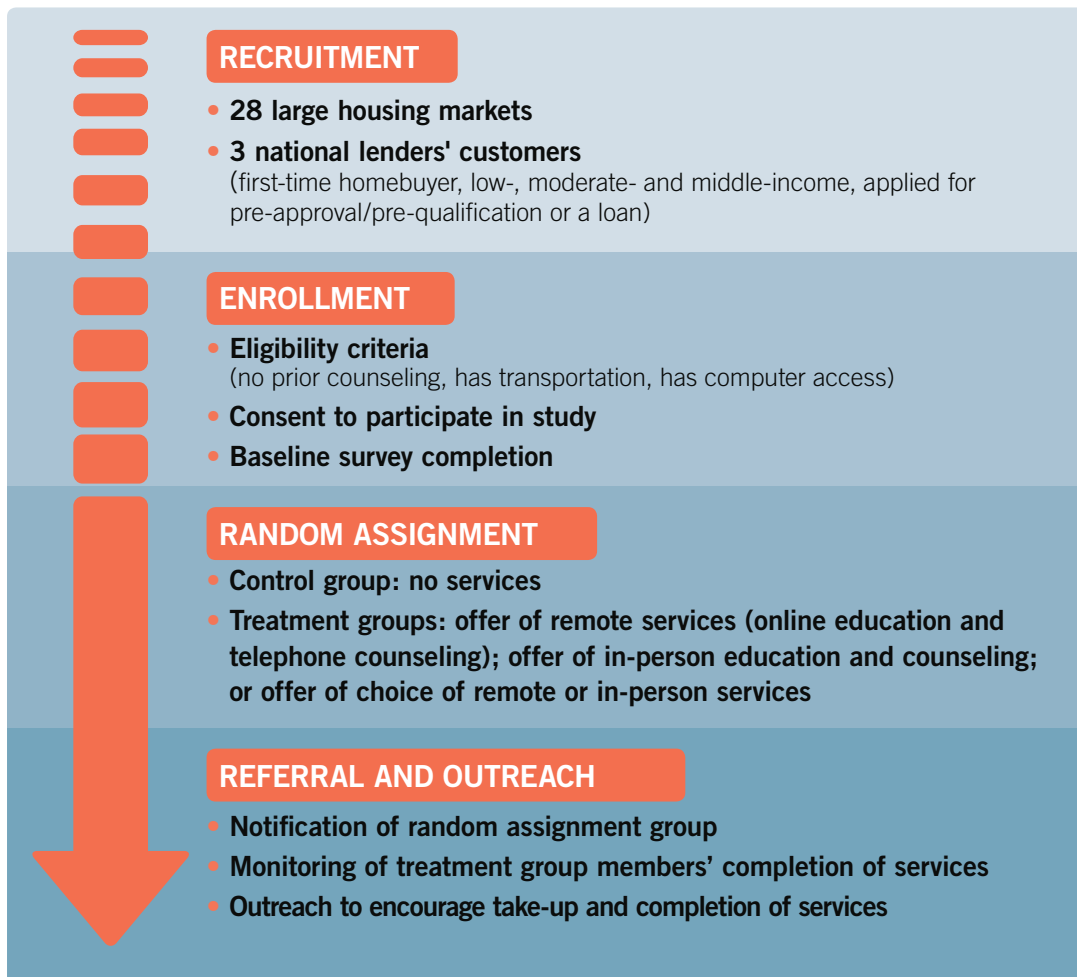
Note: The numbers in this exhibit exclude study participants who chose to withdraw.

Source: Random Assignment and Service Tracking System

The study enrolled 87 participants during the pilot period (September through December 2013) and 5,767 during the full enrollment period (January 2014 through January 2016). After study participant enrollment, those randomly assigned to the treatment groups were referred to the appropriate homebuyer counseling agency, and the study team monitored their initiation and completion of education and counseling services. Those in the control group received an explanation that the study would not refer them to education or counseling services but would still keep in touch with them and encourage them to complete surveys.¹⁶ Exhibit 2.3 summarizes this enrollment process.

¹⁶ Control group members were not prohibited from accessing homeownership education and counseling on their own. Instead, they did not receive referrals to the free services offered through the study. Future reports will document the extent to which control group members sought out homeownership education and counseling on their own.

Exhibit 2.3: Study Enrollment Process



The Study's Homebuyer Education and Counseling Agencies and Their Services

All 63 service delivery organizations participate in HUD's homebuyer counseling program and are required to meet standards governing the content, delivery, and reporting of education and counseling services. In addition, the content of the education and counseling, regardless of mode or location, adhere to the National Industry Standards (NIS) for Homeownership Education and Counseling. Neither NIS nor HUD requires a specific curriculum for homebuyer education but provide core topic areas to be included in education courses. The five NIS content areas are (1) assessing readiness to buy a home, (2) budgeting and credit, (3) financing a home, (4) selecting a home, and (5) maintaining a home and finances. These key topics are elaborated with their content in exhibit 2.4.

Exhibit 2.4: National Industry Standards for Homeownership Education and Counseling's Core Area Topics**ASSESSING READINESS TO BUY A HOME**

- The pros and cons of homeownership
- The home purchase process
- Housing affordability
- The "4 Cs" of credit

BUDGETING AND CREDIT

- Importance of goal setting
- Tracking expenses
- Setting up a spending plan
- Budgeting and saving tips
- Importance of good credit
- Understanding credit and how to protect credit ratings
- Credit bureaus, reports and scores
- How to fix credit problems
- Debt management tips

FINANCING A HOME

- How a lender decides whether or not to lend
- Housing affordability and qualification
- Sources for mortgage loans
- Predatory loans and how to avoid them
- Types of mortgage loans
- Special financing products
- Steps in the mortgage loan process
- Loan application and approval process
- Common lending documents
- What to do if the loan is denied
- The closing process

SELECTING A HOME

- The homebuying team
- Real estate professionals
- Types of homes and ownership
- How to select a home and neighborhood
- How to make an offer
- Negotiating tips
- The purchase contract
- Inspections
- Escrow and the closing process

MAINTAINING A HOME AND FINANCES

- How to maintain and protect a home after moving in
- Home safety and security
- Energy efficiency
- Preventive maintenance
- Home repairs and improvements
- Working with a contractor
- Community involvement
- Record-keeping
- Taxes
- Insurance
- What to do if you might miss a payment
- Predatory lending and other financial pitfalls

Source: National Industry Standards for Homeownership Education and Counseling, available at <http://www.homeownershipstandards.com/Home/Standards.aspx>

For participants offered access to remote services, eHome America (a program run by Community Ventures Corporation) provided online education. The eHome America online curriculum takes approximately 7 to 8 hours to complete. In addition to informational text, the course features videos, worksheets, and quizzes to engage participants in the learning process. Participants can log in and out at their leisure, allowing for them to complete the course at their convenience. ClearPoint Credit Counseling Solutions provided the telephone counseling sessions. The telephone counseling services follow a protocol to cover the same core elements for each client while allowing for some individualization based on client needs. Discussions about finances, budgeting, and the mortgage process are individualized to the homebuyer and vary depending on the homebuyer's needs and questions at the time of counseling.

For the provision of in-person services, the study team partnered with 63 local housing counseling agencies across the study's 28 cities.¹⁷ Participants completing services in person attended group education workshops and individual counseling sessions offered by a housing counseling agency in their community. The order in which study participants completed services depended on the local agency's set protocol. In-person education workshops typically total 8 hours in length and are offered as a single 8-hour class on a Saturday or four to five weeknight sessions. Most organizations provide workshops at least once per month. Workshops are typically provided in an interactive format using a variety of tools, with guest speakers on specific topics such as the roles and services of lenders, real estate agents, insurance agents, home inspectors, and closing attorneys. In-person counseling is typically done on a one-to-one basis with clients following a standard protocol. Housing counselors provide individualized, objective information and advice to clients about homeownership. Counseling sessions typically occur in 1- to 2-hour time blocks, with the counselor reviewing the client's information in advance in order to address the client's particular situation.

The remote and in-person services offered by the study both adhere to NIS, but the two modes differ in several respects. Exhibit 2.5 summarizes those differences, focusing on format, time and intensity, variation in content, and transaction costs for the participant.

¹⁷ Most of these housing counseling agencies were affiliated with NeighborWorks® America. Given the limited number of NeighborWorks® America affiliates across the country and the small size of some of the organizations, however, it was impossible or impractical in some study locations—or portions of metropolitan areas that constitute the study locations—for clients to obtain in-person services from NeighborWorks® America organizations. In those cases, other HUD-approved housing counseling agencies provided homebuyer education and counseling services comparable with those provided by NeighborWorks® America organizations.

Exhibit 2.5: Differences Between In-Person and Remote Education and Counseling

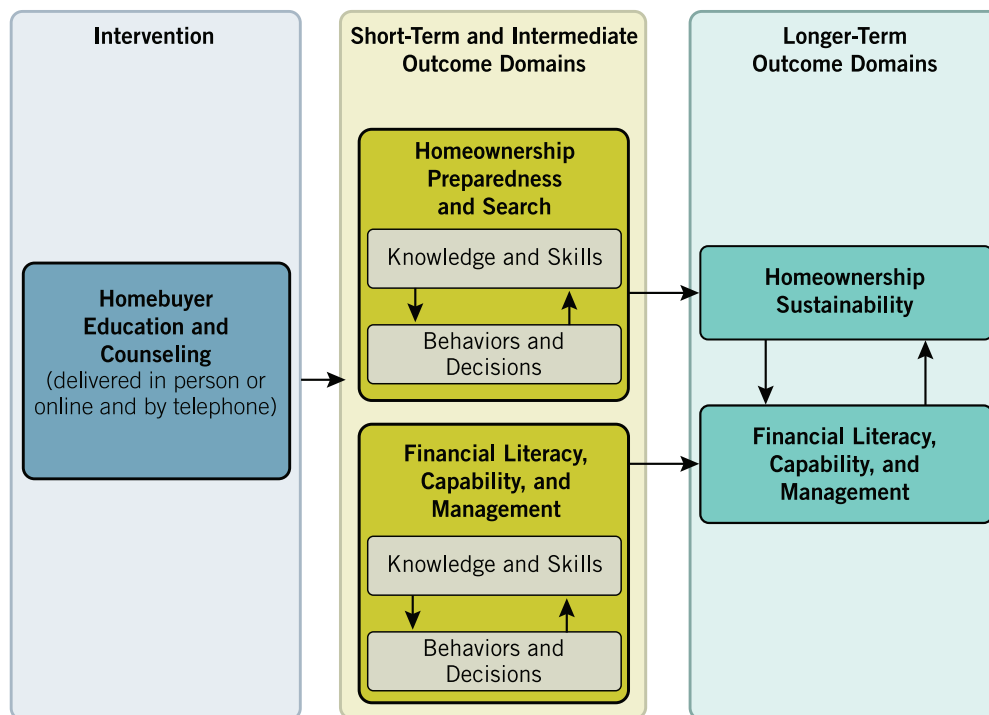
Features	In-Person Group	Remote Group
Education		
Format	Participants attend one or more in-person classroom sessions at a local HUD-approved homebuyer counseling agency.	Participants access the training on line from a home or public computer. Participants can complete training in as few or as many sessions as desired.
Hours	8+ hours.	Typically 7–8 hours.
Variation in content	Moderate variation: In-person providers cover generally similar topics but may vary curricular materials and emphasize different topics.	Low variation: All participants experience the same online learning environment. Some variation exists in effort expended and time to complete.
Participant transaction costs	Higher transaction costs: Participants must schedule in advance and travel to sessions.	Lower transaction costs: Participants must invest time but can complete the process at their own pace, when and where they want.
Counseling		
Format	Participants attend one or more in-person, one-on-one sessions with a certified housing counselor at a HUD-approved homebuyer counseling agency.	Participants hold one or more telephone calls with a ClearPoint Credit Counseling Solutions counselor from their homes or location of choice.
Hours	1+ hours	1+ hours
Variation in content	Moderate variation: The amount and content of counseling will vary depending on the client's readiness for home purchase and specific issues or challenges.	Moderate variation: The amount and content of counseling will vary depending on the client's readiness for home purchase and specific issues or challenges.
Participant transaction costs	Higher transaction costs: Participants must schedule in advance and travel to sessions.	Lower transaction costs: Participants may complete counseling via telephone at a scheduled time but at a location of choice.

Outcome Domains

This study seeks to measure the extent to which the homebuyer education and counseling services affect outcomes in three domains: (1) preparedness and search; (2) financial literacy, capability, and management; and (3) homeownership sustainability. The *preparedness and search* domain covers outcomes related to the tenure decision (that is, the decision whether to purchase or defer), selection of a home, and qualifying for and terms of mortgages. The *financial literacy, capability, and management* domain covers outcomes related to participants' financial health, including budget discipline, debt and savings, access to affordable credit, and credit profile. The *homeownership sustainability* domain covers outcomes related to mortgage performance, ability to avoid foreclosure, and the accrual and protection of home equity.

Exhibit 2.6 depicts the mechanisms through which homebuyer education and counseling are expected to affect these domains. Within the domain of preparedness and search, in the short and medium terms, homebuyer education and counseling should increase service recipients' awareness and knowledge of the pros and cons of homeownership, homeowners' responsibilities, mortgage products and terms, and underwriting criteria. In addition, education and counseling should enhance a recipient's ability to determine the affordability of homes and the appropriateness of financing options. The added knowledge and skills are expected to inform a host of behaviors and decisions, starting with whether or not to purchase a home. For service recipients who decide to purchase a home, the services should help them to search for and select affordable homes and to select and qualify for appropriate mortgage products. In the domain of financial literacy, capability, and management, the short-term outcomes of homebuyer education and counseling should be improved understanding of financial terminology and the importance of good credit, as well as service recipients' ability to create budgets, track expenses, and correct credit reports. These enhanced skills and knowledge should translate to better financial behaviors, such as improved budgeting practices, better money and debt management, and increased savings.¹⁸

Exhibit 2.6: Logic of Intervention's Influence on Outcomes



¹⁸ Improvements in behaviors and decisions may also increase knowledge and skills. For example, in the homeownership preparedness domain, if service recipients shop more critically for mortgage products as a result of housing education and counseling, then the shopping process may result in a more solid understanding of mortgage financing than what they developed directly from the education and counseling sessions. In the financial literacy, capability, and management domain, if service recipients begin checking their credit reports regularly, then their understanding of how their financial behavior is impacting their credit scores may increase.

In the longer term, the central goal of homebuyer education and counseling is homeownership sustainability, with homeowners making timely mortgage payments, avoiding foreclosure, and building wealth. If homebuyer education and counseling have improved home preparedness and search decisions (for example, better tenure decisions, more-affordable purchase and financing decisions) and financial management behaviors (for example, improved money management, savings, budgeting), then recipients of education and counseling services will be more likely to meet their monthly payments and accrue home equity. Recipients will be more likely to sustain homeownership, enabling them to build wealth in the long term.

Homebuyer education and counseling have another longer-term goal. For all service recipients, regardless of whether they decide to purchase a home, the intervention should lead to enhanced long-term financial health by improving financial management, budgeting, and saving decisions.

Data Sources

The evaluation will use a wide variety of primary and secondary data sources in its analyses, including the following—

- Three surveys of study participants: at baseline, at 12 months after enrollment, and at 42 months after enrollment. The 12-month follow-up survey data are still being collected for most study participants, and the 42-month follow-up survey is pending future funding.
- Loan origination and servicing data from participating lenders and the Federal Housing Administration.
- Study member credit data from one of the three major credit bureaus.
- Data on services received from counseling agencies.
- Focus groups with treatment group members in four locations, supporting a qualitative exploration of study participants' experiences with homebuyer education and counseling services and the home purchase process.
- Qualitative data from study team members' interactions with the lenders and from site visits to participating homebuyer education and counseling service-providing agencies.

Characteristics of the Study's Early Enrollees

The preliminary impacts presented in section 5 of this report cover less than one-half of the study participants and are based on the 12-month survey and credit bureau data for those who were enrolled on or before December 1, 2014. This section describes the demographic and financial characteristics of these early enrollees, which mirror the characteristics of the larger study sample.¹⁹ The section then discusses at what stage the early enrollees were in the homebuying process at the time they were recruited into the study.²⁰

Early Enrollees' Demographic and Financial Characteristics

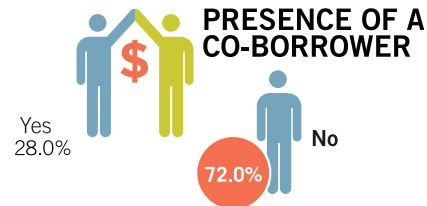
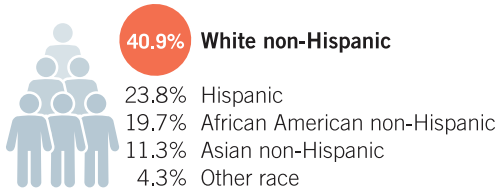
Exhibit 3.1 illustrates the early enrollees' key sociodemographic characteristics, as measured at the time of their enrollment. The early enrollee sample is racially and ethnically diverse, with 59.1 percent self-identifying as Hispanic, African-American, Asian, or other race and 40.9 percent self-identifying as White non-Hispanic. These study participants also reflect a wide range of educational attainment levels, with the most (54 percent) having achieved a bachelor's degree or higher. Also, 89 percent worked full-time (at least 30 hours per week), 59 percent are men, and 41 percent are women. As shown in exhibit 3.2, median income for early enrollees and their co-borrowers during the 12 months before enrollment was \$55,000, with 10 percent having made more than \$100,000 and 10 percent having made less than \$27,000.

¹⁹ To determine whether baseline characteristics in the early enrollee sample are statistically the same as in the full study sample, we compared the two along 50 baseline traits. Only 3 traits were statistically different (at a 95-percent confidence level), which is not more than what we would expect because of random chance. Therefore, the early enrollees examined in this report are reflective of the full study sample that will be used in future analyses. Appendix exhibits A.1 and A.2 show this comparison.

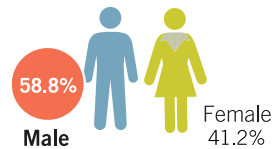
²⁰ The extent to which the study sample is typical of all low-, moderate-, and middle-income first-time homebuyers will be addressed in the study's baseline report (forthcoming in 2016).

Exhibit 3.1: Baseline Sociodemographic Characteristics, Early Enrollee Sample

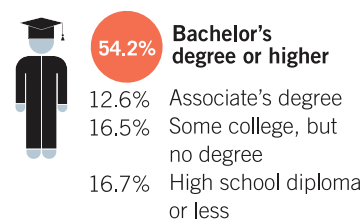
RACE/ETHNICITY



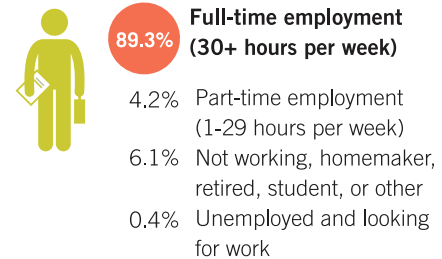
GENDER



EDUCATION



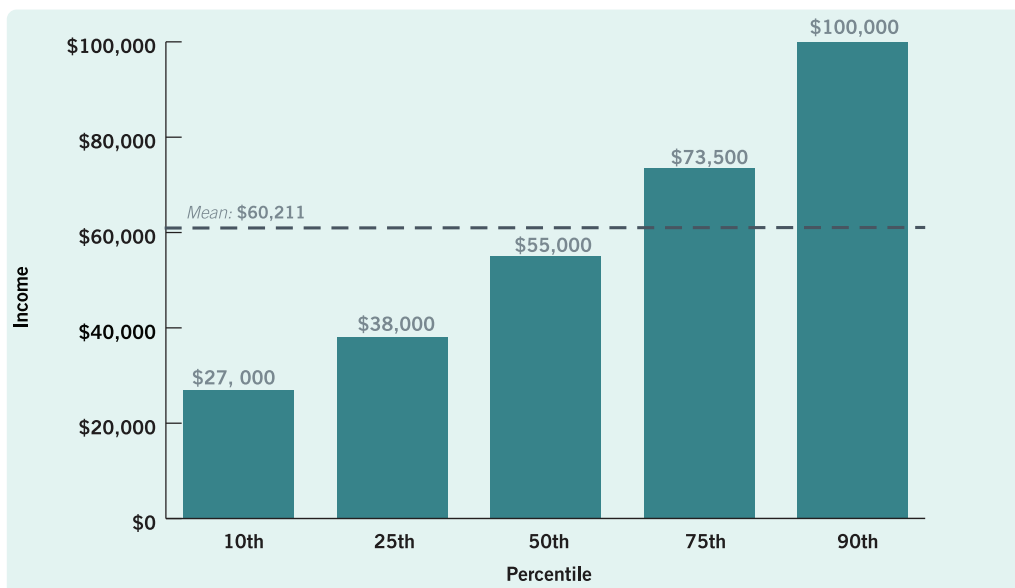
EMPLOYMENT



Notes: All measures are defined for the entire early enrollee sample. The early enrollee sample used in this exhibit includes 2,377 study participants who enrolled in the study before December 1, 2014, excluding withdrawals. Measure-specific sample sizes may vary because of item nonresponse. Appendix B details variable construction.

Source: Baseline survey of study participants

Exhibit 3.2: Baseline Income Distribution of Early Enrollees and Their Co-Borrowers

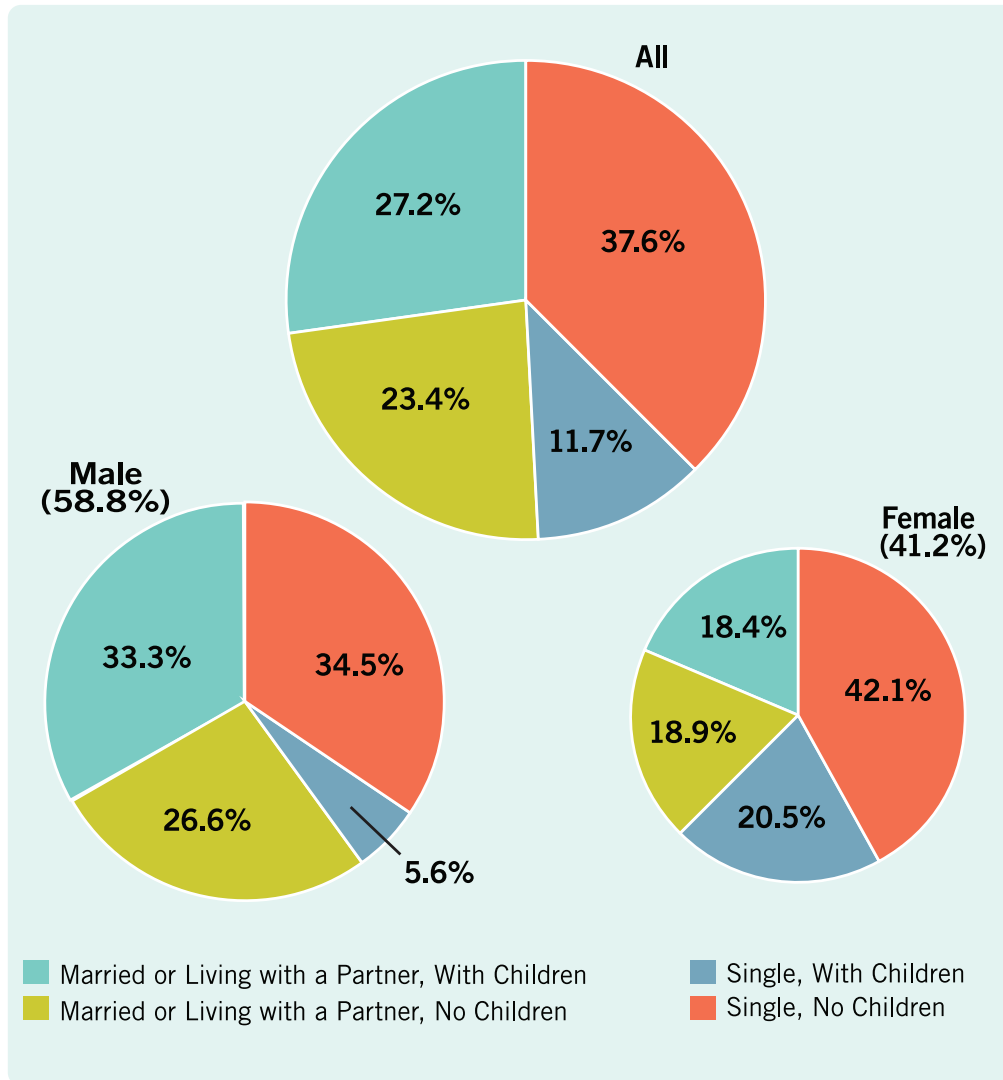


Note: The early enrollee sample used in this exhibit includes 2,364 study participants with nonmissing income data who enrolled in the study before December 1, 2014, excluding withdrawals.

Source: Baseline survey of study participants

Next, we consider the enrollees' household composition. As shown in exhibit 3.3, a plurality of participants in the early enrollee sample has children (27.2 percent of married households and 11.7 percent of single households, or 38.9 percent in total).

Exhibit 3.3: Household Composition, Early Enrollee Sample



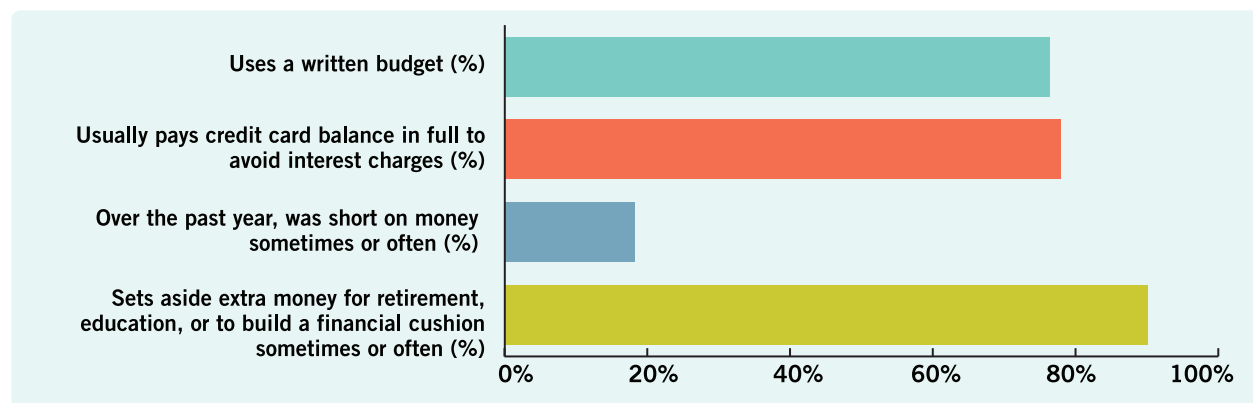
Notes: The early enrollee sample used in this exhibit includes 2,362 study participants with nonmissing data on measures used to construct household composition who enrolled in the study before December 1, 2014, excluding withdrawals. Although study participants were not explicitly asked about whether they had children living with them at the time of enrollment, they were asked how many household members younger than age 18 would live with them after the purchase of a home. For the purpose of this exhibit, we assume that these projections reflect the household composition at the time of enrollment.

Source: Baseline survey of study participants

Another interesting feature of household composition is whether the potential homebuyer is single or married (or living with a partner). The earnings of a second adult could be important for sustaining homeownership, even if the second adult is not a co-borrower. As the exhibit shows, about one-half of the participants in the early enrollee sample (37.6 plus 11.7 percent, or 49.3 percent) are single. As shown on the bottom portion of exhibit 3.3, men were much more likely to be married or living with a partner than women (59.9 versus 37.3 percent).

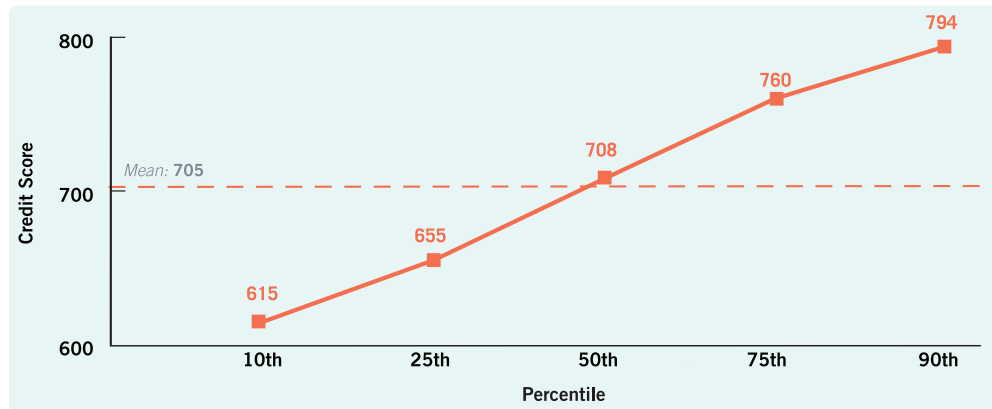
Overall, the early enrollee sample exhibited favorable financial management and savings behaviors at the time of enrollment. As shown in exhibit 3.4, about 3 out of every 4 used a written budget (76 percent) and reported paying their credit card balance in full most of the time (78 percent), and 9 out of 10 regularly set aside money for retirement, education, or a financial cushion (90 percent). According to credit bureau data, the early enrollee sample had a median credit score of 708 (the average credit score was 705), and three-fourths had credit scores of 655 or higher, as shown in exhibit 3.5. Next, as shown in exhibit 3.6, one-half of the early enrollee sample had at least \$15,000 available for a downpayment at the time of enrollment.

Exhibit 3.4: Baseline Measures of Financial Responsibility and Creditworthiness, Early Enrollee Sample



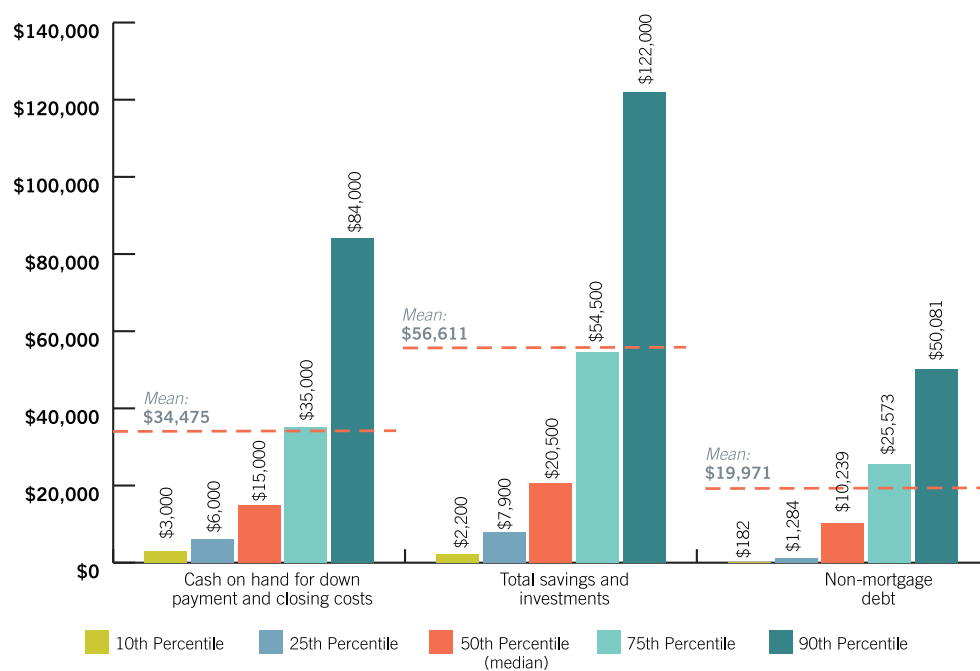
Notes: All measures are defined for the entire early enrollee sample. The early enrollee sample used in this exhibit includes 2,377 study participants who enrolled in the study before December 1, 2014, excluding withdrawals. Measure-specific sample sizes may vary because of item nonresponse. Appendix B details variable construction.

Source: Baseline survey of study participants

Exhibit 3.5: Baseline Distribution of Credit Scores, Early Enrollee Sample

Note: The early enrollee sample used in this exhibit includes 2,045 study participants with nonmissing credit score data who enrolled in the study before December 1, 2014, excluding withdrawals.

Source: Credit bureau data

Exhibit 3.6: Baseline Distribution of Select Assets and Liabilities, Early Enrollee Sample

Notes: A measure of nonmortgage debt is provided by credit bureau data and includes student loan, automobile, and credit card debt (sample size: 2,070). Total savings and investments are self-reported in the baseline survey and include balances in all checking, savings, retirement, and other investment accounts (sample size: 2,377). Cash on hand for downpayment and closing costs is also self-reported in the baseline survey and may be lower than total savings and investments (if the former is a subset of the latter) or higher (if study participants have access to outside funds for downpayment and closing costs, for example, from a family member). Cash on hand for downpayment and closing costs refers to the funds that were available at the time of purchase for those participants who already purchased at the time of enrollment (sample size: 2,365).

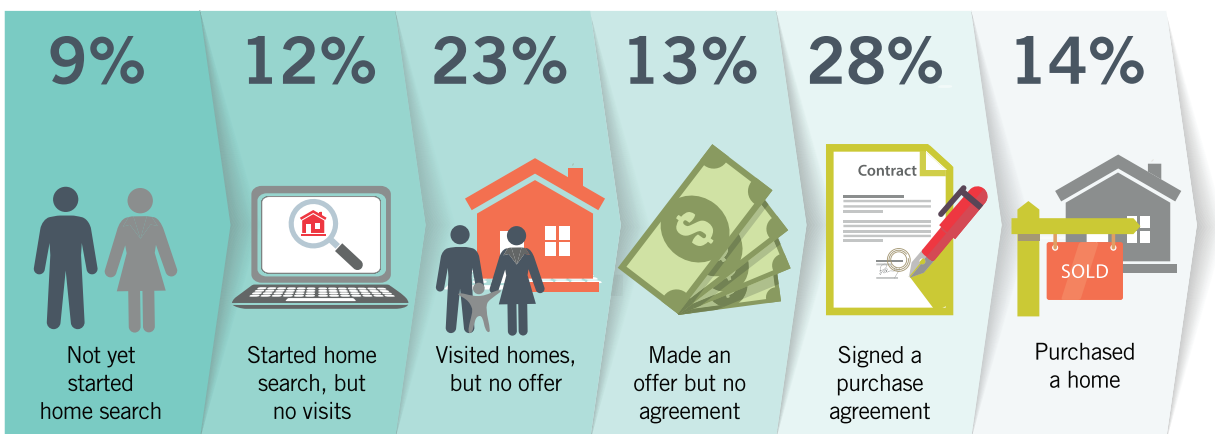
Sources: Baseline survey of study participants; credit bureau data

Financial vulnerabilities nonetheless were indicated within the group of early enrollees. For example, 18.3 percent of the early enrollees reported that they were short on money sometimes or often during the year before enrollment, and 10 percent had credit scores of 615 or less at baseline. As shown in exhibit 3.6, these early enrollees also reported an average of close to \$20,000 in nonmortgage debt (which includes student loan, automobile, and credit card debt), and 10 percent had more than \$50,000 in nonmortgage debt.

Early Enrollees' Stage in the Homebuying Process

Despite targeting potential homebuyers who are early in the homebuying process, the study enrolled individuals at every stage of home purchase. As shown in exhibit 3.7, the early enrollee sample includes those who had not yet started home search (9 percent) and those who had already purchased a home (14 percent).

Exhibit 3.7: Stage in the Homebuying Process, Early Enrollee Sample



Note: The early enrollee sample used in this exhibit includes 2,331 study participants with nonmissing data on their stage in the homebuyer process who enrolled in the study before December 1, 2014, excluding withdrawals.

Source: Baseline survey of study participants. Recruitment of study participants through lenders, along with the time required to introduce the study and complete the enrollment process, may explain why some study participants were in later stages of the home purchase process. Because study participants first became aware of the study after their initial contact with a lender for prequalification or preapproval, some study participants had progressed into later stages of the home purchase process before enrollment in the study. The further along study participants were in this process, the more decisions they would have already made. This fact has implications for how homebuyer education and counseling may affect their outcomes. For example, those who complete homebuyer education and counseling after they have already chosen a home and secured financing will be less likely to experience changes in their preparedness and search outcomes (for example, affordability of homes, appropriateness of financing). We would still, however, expect these treatment group members to experience changes in their financial literacy, capability, and management and, ultimately, homeownership sustainability, because the content of homebuyer education focuses on these issues as well.

Experiences With Homebuyer Education and Counseling

This section describes the early enrollees' experiences with education and counseling, including their experiences with taking up, engaging in, and completing education and counseling services. After reporting on the experience of the early enrollee sample, the section then provides some insights from focus groups of small numbers of treatment group members from the full sample.

Take-up Rates and Reasons for Take-up and Completion

The study's impact analysis considers the effect of *being offered access to* free homebuyer education and counseling. Not everybody assigned to the treatment groups actually took up the services that were offered, however. Overall, approximately one-half (48.9 percent) of those offered homebuyer education and counseling actually initiated services.

Is this take-up rate lower than might be expected? Most previous studies are based on those who received homebuyer education and counseling, rather than on a treatment group offered the opportunity to take up services as part of an experiment. That makes comparisons with other research imperfect. That said, the rates of service take-up for the enrollees in this study are in line with the scant other research. For example, Smith, Hochberg, and Greene (2014) reported that about one-half of study participants who were offered education and counseling through their study initiated services. A recent randomized experiment on in-person financial coaching had similar take-up rates, ranging between 37 and 56 percent (Theodos et al., 2015).

Note that the take-up rates in this study varied according to the mode of service. As shown in exhibit 4.1, about two-thirds (64 percent) of the early enrollee sample who were offered remote education and telephone counseling had initiated those services as of February 2016 (14 months after the end of their enrollment). By contrast, only one-fourth of those offered in-person education and counseling had started to receive services. Furthermore, not all treatment group members who started services completed them. About one-fourth of participants who were offered remote services had completed them as of February 2016, but less than 14 percent of those who were offered in-person services had completed all the offered education and counseling services.

Exhibit 4.1: Take-up Rates, by Service Mode, for Early Enrollee Sample, as of February 2016

Treatment Offered	Number Randomized	Initiated Any Services (%)	Completed Education (%)	Completed Counseling (%)	Completed Any Services (%)	Completed All Services (%)
Remote education and counseling	708	64.6	30.6	44.1	48.7	25.9
In-person education and counseling	542	24.5	22.7	15.3	24.4	13.6
Choice: prefer remote services	142	67.6	33.0	45.8	49.3	29.6
Choice: prefer in-person services	26	30.7	30.8	23.1	30.8	23.1
Overall: All modes of service	1,418	48.9	27.9	32.9	39.1	21.6

Note: The number randomized by treatment arm in this exhibit includes people who ultimately withdrew from the study, and so the totals provided do not match what is reported in exhibit 2.2.

Sources: Study participant data from eHome America, ClearPoint Credit Counseling Solutions, and local housing counseling agencies

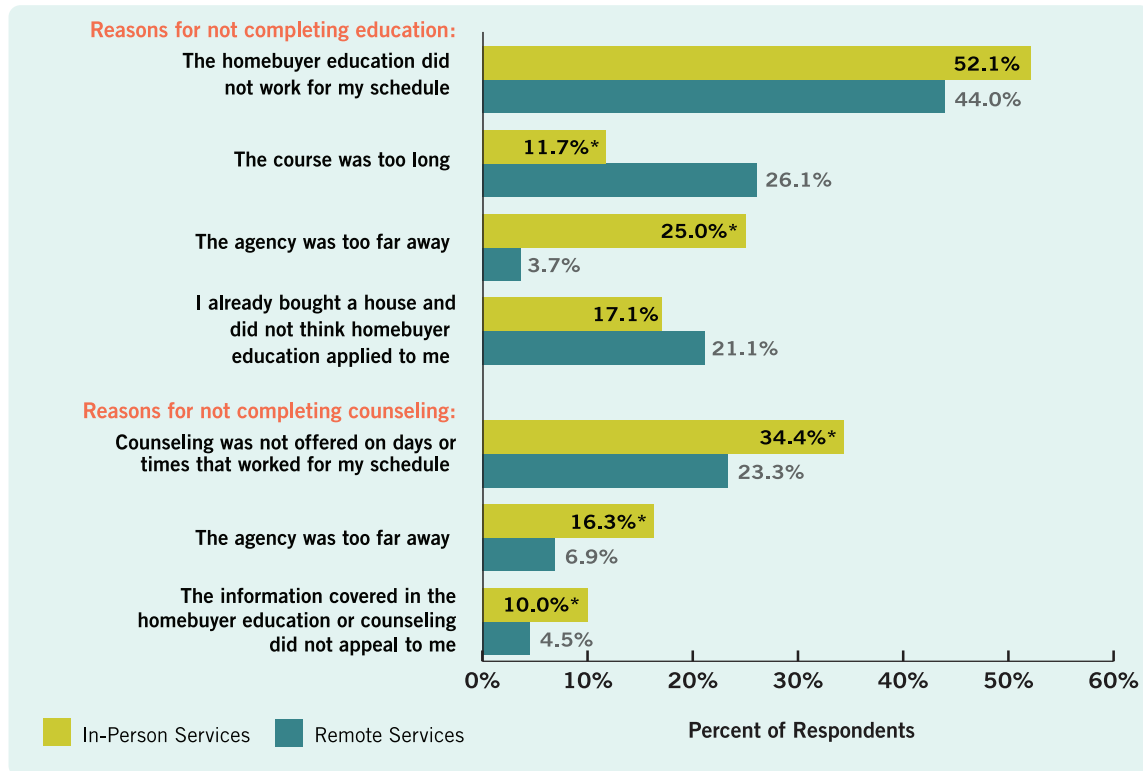
As explained in section 2, the low take-up and service completion rates for in-person services led the study team to redesign the original in-person treatment group as a choice treatment group, in which participants could choose in-person or remote services. Exhibit 4.1 shows take-up rates for the choice group, separately for those who expressed a preference at baseline for receiving remote services and for those who expressed a preference at baseline for receiving in-person services. Although the sample size is quite small for the choice group within the early enrollee sample, some patterns already become apparent by looking at this group by the mode of service chosen. First, study participants had a clear preference for remote services; 142 of them (85 percent) stated a preference for receiving remote services, whereas 26 of them (15 percent) stated a preference for receiving in-person services. This finding is consistent with previous research, which found that people prefer online education and telephone counseling to in-person services (Barron and Staten, 2012). Second, even those choice treatment group members who expressed a preference for in-person services had a much lower take-up rate (31 percent) than the choice treatment group members who expressed a preference for remote services (68 percent).

According to responses to questions asked of study participants who did not complete services in the 12-month follow-up survey, a major reason for not completing services was inconvenience. The specific reasons selected by those who were offered access to different service modes vary somewhat.

As shown in exhibit 4.2, 52 percent of those offered in-person services and 44 percent of those offered remote services reported that “homebuyer education did not work for my schedule.” Study participants also found the scheduling of counseling services inconvenient, with 34 percent of those offered in-person

services and 23 percent of those offered remote services reporting that “counseling was not offered on days or times that worked for my schedule.” Of those offered in-person services, 25 percent reported “the agency was too far away” as an obstacle to their participation in homebuyer education, and 16 percent reported “the agency was too far away” as an obstacle to their participation in homebuyer counseling. A few study participants who were offered access to remote services also gave reasons related to location, which may reflect a misunderstanding (or faulty memory) of the services they had been offered.

Exhibit 4.2: Survey Respondents’ Reasons for Not Completing Services, Early Enrollee Sample



* The difference between the in-person and remote groups is statistically significant ($p < 0.05$).

Notes: Survey respondents could select more than one response to the questions about why they did not complete services. The in-person bar includes all participants who were referred to in-person services (that is, both members of the in-person treatment group and those members of the choice group who stated a baseline preference for in-person services). For the “Reasons for not completing education” panel, the in-person services bar sample includes 315 early enrollee treatment group members who did not complete education and answered the interim survey. For the “Reasons for not completing counseling” panel, the in-person services bar sample includes 347 early enrollee treatment group members who did not complete counseling and answered the interim survey. The remote bar similarly includes all participants who were referred to remote services (that is, both members of the remote treatment group and those members of the choice group who stated a baseline preference for remote services). For the “Reasons for not completing education” panel, the remote services bar sample includes 376 early enrollee treatment group members who did not complete education and answered the interim survey. For the “Reasons for not completing counseling” panel, the remote services bar sample includes 272 early enrollee treatment group members who did not complete counseling and answered the interim survey.

Source: 12-month follow-up survey of study participants

Note that those participants offered remote education were more than twice as likely as those offered in-person services to report that the length of the course was too long, 26 versus 12 percent. It appears that, although a day-long workshop was generally perceived as acceptable by those offered in-person services, a larger percentage were reluctant to spend the same amount of time in front of a computer.

Finally, less than 10 percent of those who did not complete counseling services reported that unappealing content was the reason. A somewhat larger percentage said that they thought education did not apply to them because they had already bought a house.

Insights From Focus Group Research

To better understand the experiences of study participants, the study team hosted 14 focus groups in four cities. The focus groups generally were limited to treatment group members who were offered the same mode of service and either had completed services or had not. These focus groups explored topics related to both study implementation and experiences with homebuyer education and counseling. This section first describes focus group participants' decisions about whether to take up the services provided through the study, helping to further explain the take-up rates described in the previous subsection. It then highlights some of the reported effects of homebuyer education and counseling services on treatment group members' knowledge, behaviors, and decisions.

Reasons for Engaging in Homebuyer Education and Counseling Services

Regardless of whether they were assigned to remote or in-person education and counseling, focus group participants cited similar reasons for taking up services. First and foremost, focus group participants took up the services they were offered because they believed the information would be valuable. By contrast, the reasons given by focus group participants for not taking up education and counseling tended to differ based on whether they had been assigned to in-person or remote services. Consistent with the survey results, those assigned to the in-person treatment group reported more logistical barriers in completing services than those assigned to the remote group.

Reasons for Taking Up Services

Many focus group participants said that they took up services because they knew the homebuying process would be complicated and they thought the information provided by education and counseling would help them through the process. A few participants noted that their past attempts to buy a home were unsuccessful and said that they thought completing education and counseling might help them succeed this time.

Focus group participants expressed the view that the decision to buy a home was important and would have a big impact on their future. As expressed by a focus group participant in Atlanta, Georgia: "I think it was just a priority issue...for me: like you are going to make something happen if it is the number one priority.... So when you look out and say this will affect my life in tangible ways for the foreseeable future...I will make the time to get to the study on Saturday because this is important."

Another study participant in Atlanta spoke about the housing and economic crisis the country has gone through during the past 10 years and said that he would not only learn something from homebuyer education but also be contributing to something greater than himself.

A handful of focus group participants also noted that access to free services and the study's incentive payment for completing education and counseling encouraged them to take up services.

Reasons for Not Taking Up Services

Reasons given for not taking up services or not completing services included busy schedules, childcare needs, and the course being too long. The reasons tended to vary by service delivery mode. Those who had been referred to in-person education and counseling services spoke about scheduling difficulties, the length of the course, and the agency's location. Those who had been offered remote services also cited their schedules and the length of the course. They also said that they already spend too much time on a computer throughout the day and did not want to spend another 6 to 8 hours on a computer completing homebuyer education. Some participants said they "just haven't gotten around to it yet."

Some focus group participants who had not engaged in the services offered explained that they relied on other sources of information about the homebuying process, including friends, family, or their realtor. For example, a focus group participant in Chicago stated: "My wife and I have a realtor friend, and most of the information that we needed to know about, you know, preparing us for buying a house, came through her... So maybe that's the reason why I decided not to participate in one of those workshops, because most of the information [we were getting] was very reliable, especially coming from her."

Reported Effects of Homebuyer Education and Counseling on Study Participant Decisions

The focus groups also shed light on whether the services received by study participants are affecting their knowledge, skills, behaviors, and decisions. Focus group participants, named in this report with aliases to protect privacy, reported that homeownership education and counseling taught them about the steps in the homebuying process, including how to apply for a loan, how to examine a credit report and score, and what occurs during the closing process. Some focus group participants worked with counselors to develop new financial behaviors to help them get ready for homeownership. Several participants said that counseling helped them create a new budget or modify an existing budget to account for the new expenses homeownership would bring. The counselors often highlighted ways to save money, cut expenses, and achieve financial goals.

"The homebuying process can be overwhelming... Maybe if someone went in knowing what they were getting into, they would have a clearer picture of what they could afford. Rather than some starry-eyed concept of, oh, I am going to have this huge home and...it is going to be great and then once I buy it, we are done. And just understanding the costs going into, costs of closing, the cost of maintaining."

—Denise, a focus group participant in Dallas, Texas

In the preparation and search outcome domain, focus group participants who were in the early stages of the homebuying process when they completed services noted that learning specialized terminology was extremely helpful. Those who were further along in the homebuying process said that they had learned about energy efficiency, home maintenance, foreclosure prevention, and creating a budget for a new home.

Some focus group participants said explicitly that homebuyer education and counseling can lead people to the conclusion that they are not yet ready to purchase a home. A focus group participant in Chicago, Illinois, explained that she wanted to stay in her current neighborhood because of her daughter's school but could not afford the type of house she wanted to buy in that neighborhood. She stated, "just talking to the young lady, it made me realize...what I could afford and, well, what I was preapproved for.... She was adding on other expenses that I had totally forgot to add, you know, 'cause I thought I had it all together. And I hadn't. So I ran into a few things talking to her that made me realize that I probably need to just, you know, wait."

In the financial literacy, capability, and management outcome domain, focus group participants suggested how people's behavior might have changed in response to homebuyer education and counseling. Focus group participants reported that they were taught how to take action to decrease their debt and increase their credit scores. In Dallas, the homebuyer workshop taught a study enrollee how to manage credit card debt successfully. Another focus group participant explained that, when reviewing his credit report with the housing counselor, he found errors. With assistance from the counselor, he sent letters to the credit bureau agencies to fix the errors.

In summary, the focus groups corroborated the findings from the follow-up survey, with scheduling convenience a primary barrier for those who did not take up services. Those who did take up homebuyer education and counseling reported gaining important information that, in some cases, favorably influenced decisions and behaviors during the homebuying process.

The education and counseling "gave us the idea of whether we should go for it right now or not. It is really telling us what the timing if we are not really prepared and if we don't have enough credit or other issues... you know, maybe it is not the right time for us. So it is really helping us to make the decision of go or no go."

—Yang, a focus group participant in Dallas, Texas

"Since that meeting, I paid off four major credit cards. And actually, I maybe got two now which is probably Sam's and Home Depot, but I need that to operate. But the credit card thing I saw it paying a lot of interest and stuff like that.... I doubled up on what I was paying.... I put it together and eventually I got four of them paid off.

—Walter, a focus group participant in Dallas, Texas

Outcomes and Impacts for Early Enrollees After 12 Months

This section reports selected outcomes for the early enrollee sample, measured 1 year after they entered the study, describing how the entire sample was faring in the homebuying process, what their financial capability and skills were, and, for those who had bought homes, whether homeownership appeared sustainable in the short term. For a limited set of outcomes, the section also reports the impact of being offered access to homebuyer education and counseling—that is, the differences in outcomes between the treatment and control groups.

Outcomes for the Early Enrollee Sample After 12 Months

Exhibit 5.1 presents mean values of 12-month outcomes in the domains of preparedness and search; financial literacy, management, and capability; and homeownership sustainability for the early enrollee sample. These values are the average outcomes for the entire early enrollment sample, including both treatment and control group members. They do not tell us about the effectiveness of homebuyer education and counseling, but they do describe key features of this sample of low-, moderate-, and middle-income homebuyers 12 months after enrollment, including their financial literacy, their credit scores, and their mortgage performance.²¹

²¹ In the section titled “Early Impacts of Homebuyer Education and Counseling on Selected Outcomes,” we report the impact of being offered access to homebuyer education and counseling—that is, the differences in outcomes between the treatment and control groups.

Exhibit 5.1: Mean Outcomes, Early Enrollee Sample, 12 Months After Enrollment

Outcome Domain and Definition	Early Enrollee Sample
Homeownership preparedness and search	
Respondent purchased a home ^a (%)	57.8
Number of lenders from which the respondent received price quotes ^b	1.6
Respondent was very confident that he/she could find the information he/she needed about the home purchase process ^b (%)	31.6
Respondent was very satisfied with the home purchase process ^b (%)	30.0
Number of correct answers (out of 4) to mortgage literacy quiz ^b	2.79
If in financial difficulty, the respondent would contact his/her lender for assistance before missing a mortgage payment ^{b,c} (%)	40.5
Respondent has a credit score greater than or equal to 620 ^d (%)	87.5
Financial literacy, management, and capability	
Respondent knows how to correct inaccurate information in his/her credit report ^b (%)	78.6
Respondent occasionally does not have enough money at end of the month to cover all bills ^b (%)	10.0
Respondent has electronic or written budget ^b (%)	57.2
Respondent has a budget and often compares it with actual spending ^b (%)	36.1
Credit score ^d	706.6
Sustainable homeownership	
Ever 30 days delinquent on mortgage loan ^{a,e} (%)	1.8
Ever 60 days delinquent on mortgage loan ^{a,e} (%)	0.6
Sample sizes	
Study participants randomly assigned before December 1, 2014	2,377

^a Outcome was constructed using follow-up survey data, credit bureau data, lenders' loan origination and servicing data, and Federal Housing Administration data and covers 2,353 (99.0 percent) of the early enrollee sample.

^b Outcome was constructed using follow-up survey data. These data cover 1,926 (81.0 percent) of the early enrollee sample. Outcome-specific sample sizes may vary because of item nonresponse. Outcomes defined using follow-up survey data are weighted using survey nonresponse weights (see appendix C for details).

^c This outcome is set equal to 1 if the respondent has a mortgage and would contact his or her lender for assistance before missing a mortgage payment and is set equal to 0 if the respondent has a mortgage but would not contact his or her lender for assistance regarding missed payments or would wait to contact the lender until after a missed payment. The outcome is also set to 0 if the respondent does not have a mortgage loan, and as a result it is less than if only mortgage holders were included.

^d Outcome was constructed using credit bureau data. These data cover 2,180 (91.7 percent) of the early enrollee sample.

^e This outcome is set equal to 0 if the enrollee does not have a mortgage loan (and therefore was not observed as delinquent on mortgage loan), and as a result it is less than if only mortgage holders were included.

Note: Appendix B provides detail on the construction and source of each outcome measure.

Preparedness and Search

As shown in exhibit 5.1, about 58 percent of early enrollees reported purchasing a home within a year of entering the study. Early enrollees received price quotes from an average of 1.6 lenders during their housing search. A minority of early enrollees (32 percent) were “very confident” that they could find the information they needed about the home purchase process, and a similar proportion (30 percent) were very satisfied with the homebuying process, regardless of whether they purchased a home.

Financial Literacy, Management, and Capability

Financial capability and management skills were mixed at the 1-year follow-up point. On the one hand, close to 4 out of 5 early enrollees reported knowing how to correct inaccurate credit report information. The average credit score was more than 700, with 88 percent having a score of more than 620, approximately the score needed to qualify for a conventional mortgage. Although most early enrollees (57 percent) reported having a budget, 36 percent reported comparing actual spending with their budgets. Furthermore, although most respondents appear to be relatively financially stable, 1 in 10 reported occasionally not having enough money to cover their monthly bills. The early enrollees scored an average of 2.8 out of a possible 4 points on a financial literacy quiz at the 1-year follow-up.

Homeownership Sustainability

On the mortgage performance metrics—critical indicators of homeownership sustainability—less than 2 percent of the early enrollees had been 30 days late on a mortgage payment at least once during the 12-month period following their enrollment (averaged across all individuals, regardless of whether they purchased a home), and less than 1 percent had been 60 days late on a mortgage.²²

Early Impacts of Homebuyer Education and Counseling on Selected Outcomes

This study evaluates the effectiveness of offering homebuyer education and counseling services using a randomized experimental design, in which study participants were randomized to a control group that was not offered access to services or to one of three treatment groups that were offered access to services. The three treatment groups for the early enrollee sample are a remote group (offered online homebuyer education and telephone counseling), an in-person group (offered in-person education workshops and in-person counseling), and a choice group (randomized after expressing a preference for remote or in-person services). With small sample sizes, particularly for the choice group that began only in September 2014 (when randomization to the in-person group ended), the estimates provided in exhibit 5.2 are based on pooling outcomes for the members of the three treatment groups and comparing the means for those outcomes with the mean outcomes for the control group.^{23,24} Thus, these estimates are of the impacts of being offered

²² We observe that 58 percent of the early enrollee sample purchased a home at follow-up. Therefore, for early enrollees who purchased a home, the 30- and 60-day mortgage delinquency rates are 3.1 percent and 1.0 percent, respectively.

²³ For a detailed description of how measures used in this analysis were constructed, including handling of missing data, see Appendix B: Description of Measures and Missing Data Procedures.

²⁴ For a detailed description of the impact model and survey nonresponse weighting procedures, see Appendix C: Technical Supplement to the Impact Analysis.

any mode of homebuyer education and counseling. The study team preselected the four outcome measures before the impact estimates were calculated.²⁵

Exhibit 5.2: Impact Estimates, Early Enrollee Sample

Outcome	Treatment Group	Control Group	Difference (Impact)
Number of correct answers (out of 4) to mortgage literacy quiz ^a	2.82	2.74	0.08**
If in financial difficulty, the respondent would contact lender for assistance before missing a mortgage payment ^{a,b} (%)	41.8	37.9	3.9*
Respondent has a credit score greater than or equal to 620 ^c (%)	88.4	86.1	2.3**
Respondent has a budget and often compares it with actual spending ^a (%)	35.4	35.6	- 0.2

** Difference is statistically significant (two-sided *t*-test) at the $p < 0.05$ level.

* Difference is statistically significant (two-sided *t*-test) at the $p < 0.10$ level.

^a Outcome was constructed using follow-up survey data. These data cover 1,926 (81.0 percent) of the early enrollee sample. Outcome-specific sample sizes may vary because of item nonresponse. We applied sample weights that adjust for follow-up survey nonresponse for analyses of outcomes collected from follow-up surveys. (See appendix C for details.)

^b This outcome is set equal to 1 if the respondent has a mortgage and would contact his or her lender for assistance before missing a mortgage payment and is set equal to 0 if the respondent has a mortgage but would not contact his or her lender for assistance regarding missed payments or would wait to contact the lender until after a missed payment. The outcome is also set to 0 if the respondent does not have a mortgage loan, and as a result it is less than if only mortgage holders were included.

^c Outcome was constructed using credit bureau data. These data cover 2,180 (91.7 percent) of the early enrollee sample.

Notes: Because of rounding, reported impacts (treatment-control differences) may differ from differences between reported means for the treatment and control groups. Exhibit C.2 provides additional detail on the construction of the impact estimates. To maintain the integrity of the experimental design, all outcomes reported in this exhibit are defined for all enrollees with nonmissing outcome data. Appendix B provides additional detail on the construction of measures.

These estimates are for the early enrollees who were randomly assigned before December 1, 2014, and who comprise 41 percent of the study's full sample. They also are early in the sense that more time is needed to gauge the impact of homebuyer education and housing counseling on all the study's outcomes of interest.

Exhibit 5.2 presents mean outcomes of both treatment and control group members within the early enrollee sample, as well as the difference in these two values, which is the estimated impact of being offered homebuyer education and counseling. If the impact estimate has asterisks next to it, then the impact is statistically different from 0. These impact analyses show the following—

²⁵ The study team prespecified these four outcomes during the evaluation's design phase. Restricting the preliminary impact analysis to these prespecified outcomes helps guard against "fishing" for statistically significant impacts.

- **Improved mortgage literacy.** The treatment group members perform 0.08 points (or 2.8 percent)²⁶ better, relative to their control group counterparts, on a four-question mortgage literacy quiz. Although this impact is small in magnitude, it indicates that the intervention is improving mortgage literacy.
- **Better reported communication with lenders.** The treatment group members are 3.9 percentage points (or 10.4 percent) more likely to report that they would contact their lender before missing a mortgage payment.²⁷ This finding indicates that homebuyer education and counseling successfully encourage participants to communicate proactively and productively with their lenders in times of financial distress. Research shows that the longer borrowers wait to reach out to their lenders when they face difficulties meeting their mortgage obligations, the less likely they are to recover from a delinquency (Cutts and Merrill, 2008).
- **Improved credit and underwriting risk.** The treatment group members are 2.3 percentage points (or 2.7 percent) more likely, relative to their control group counterparts, to have a credit score of more than 620.²⁸ This difference may indicate that the intervention is helping participants repair damaged credit or correct inaccuracies in their credit reports, bringing their scores above an important underwriting threshold.
- **No evidence of improved budgeting practices.** We find no evidence that treatment group members were more or less likely, relative to their control group counterparts, to compare a budget with their actual spending. This finding is surprising because budgeting activity is often a point of emphasis in homebuyer education and counseling. One possible explanation for this null finding is that homebuyer education and counseling may increase budgeting only temporarily during the home search process. For example, those who are still looking for a home may be particularly conscientious about staying within a predetermined budget as they determine how much house they can afford or as they save for a downpayment. Because this outcome is measured 12 months after respondents enrolled in the study, many study members (77 percent) had either purchased a home or ended their search. Future work (using the full sample) may analyze this outcome separately for those at different stages of the homebuying process.

The results reported in exhibit 5.2 should be interpreted as the impact of being *offered* homebuyer education and counseling to those who volunteered to be part of the study. The impacts represent overall access to homebuyer education and counseling services provided, and not to a particular mode of service. As

²⁶ On average, the treatment group scored 2.82 compared with an average score of 2.74 for the control group, which represents a 2.8-percent increase in average score for the treatment group relative the control group.

²⁷ This outcome was coded as 1 if the respondent had a mortgage and would contact his or her lender for assistance before missing a mortgage payment and was coded as 0 if the respondent would not contact his or her lender for assistance before missing a mortgage payment or if the respondent did not have a mortgage loan. To determine whether this finding is driven by differential mortgage loan rates across treatment groups, we estimated the impact of the intervention on an indicator for whether the respondent had a mortgage loan. We found no evidence that treatment group members are more likely to have a mortgage loan, alleviating concerns that this finding is driven by differential mortgage loan rates across treatment groups.

²⁸ As a point of reference, Fannie Mae's underwriting guidelines published in February 2015 required borrowers to have a minimum credit score of 620. See <https://www.fanniemae.com/content/guide/selling/b3/5.1/01.html>.

detailed in section 6, future analysis will estimate impacts of alternative modes of homebuyer education and counseling as well as the impacts of actually taking up services as opposed to being offered them.

To preview that analysis, appendix exhibits C.2 and C.3 present impacts for two subsets of early enrollees. The impact analysis presented in exhibit C.2 uses the remote and choice treatment groups, excluding the in-person group, which includes substantial no-shows. Exhibit C.3 uses only the remote treatment group. The size of the sample at this early stage precludes separate analysis for in-person services or for the choice group. The magnitudes of the impact estimates reported in these exhibits are in line with the magnitude of the impacts observed for the entire early enrollee sample. The impact estimates for credit scores are in the same direction but not statistically significant, which may reflect the smaller sample sizes for these estimates.

Indeed, it is encouraging to see that, even at this early time with a limited sample, evidence suggests that the intervention is moving the needle in a favorable direction for these individuals. Underpinning the analysis is the study's strong evaluation design, which permits interpretation of the results as causal and unbiased. As discussed in the conclusion, forthcoming study reports will have more information about the impacts of homebuyer education and counseling, including the extent to which differences in impacts exist by service delivery mode.

Conclusion and Future Study Activities

In light of the recent collapse of the U.S. housing market, understanding whether first-time homebuyer education and counseling can help improve outcomes is critical to policymakers as well as to private lenders. Indeed, homeownership offers both potential benefits and potential risks, and homebuyer education and counseling are intended to help buyers reap the benefits and minimize the risks. Informed consumers are expected to be more deliberate in their decisions about whether and when to purchase a home and more selective in choosing homes and mortgages that are appropriate for their financial situations and lifestyles. In addition, education and counseling are intended to help improve homebuyers' overall financial management, leading not only to lower levels of mortgage delinquency but to better overall financial health.

Although some research suggests benefits of homebuyer education and counseling services, little evidence is conclusive because of the difficulty in isolating the impact of services from other correlated factors. Through its experimental evaluation design, HUD's First-Time Homebuyer Education and Counseling Demonstration overcomes weaknesses in previous research, which has tended to suffer from limited sample sizes, nonexperimental design, or both. The study successfully enrolled 5,854 individuals in 28 metropolitan areas and successfully randomized them to create comparable control and treatment groups. The study is groundbreaking in its scale and scope.

Although it is still too early to know the extent to which homebuyer education and counseling improve long-term homeownership sustainability, early signs indicate that offering individuals access to services has favorable impacts. The treatment group's mortgage literacy, credit scores, and communication with lenders demonstrably improved, and all signal steps on the path to sustainable homeownership. In the early enrollee sample, study participants across all modes of homebuyer education and counseling scored about 3 percent better than control group members on mortgage literacy test questions. Treatment group members were about 10 percent more likely to contact their lender for assistance before missing a mortgage payment. They were 3 percent more likely to have a credit score of 620 or higher, a proxy for qualifying for conventional mortgages. These early favorable signs imply a solid foundation for improved long-term homeownership sustainability outcomes for the treatment group.

Additional analysis shows that these findings largely hold up in a smaller sample that compares the remotely provided treatment group with the control group. In that comparison, we can be more assertive about the specific characteristics of the intervention that are associated with treatment group impacts: offering access to remotely provided services improves the treatment group's mortgage literacy and response to financial stress. The magnitudes of these impacts are not detectably different from those of the impacts observed in the entire early enrollee sample, which pools treatment group members across all modes (in-person, remote, and choice) to show the effect of offering access to any kind of homebuyer education and counseling. In the

future, larger samples will enable us to more precisely estimate the effect of offering in-person homebuyer education and counseling services.

This report provides early insights from a subset of the study participants and focuses on only a few short-term outcomes. Future reports will provide more-detailed analyses of the implementation and impact of the homebuyer education and counseling intervention, enabling us to answer a wealth of additional research questions. In brief, future impact analyses will push forward our understanding of the effects of homebuyer counseling and education in the following ways—

- **Examine more varied outcomes.** Future analyses will include many more outcomes, including those that we expect to surface only after a greater passage of time, providing a more complete picture of the impact of homebuyer education and counseling. Long-term homeownership sustainability and personal financial health are among the goals of the intervention that will be examined.
- **Understand the effects of service delivery mode.** The design offers the potential to provide rigorous evidence of (1) the effect of remotely provided homebuyer education and counseling services; (2) the effect of in-person homebuyer education and counseling services; and (3) the differences, if any, between the impact of remote services and that of in-person services. Understanding the impact of these alternative modes of education and counseling is of central interest to both policymakers and the homebuyer education and counseling field.²⁹
- **Understand the effect of taking up program services.** It is important to recognize that the overall impact of homebuyer education and counseling on the treatment group is diluted by treatment group members who do not initiate education and/or counseling services—which we know to be about one-half of the enrolled treatment group. The study will analyze the effect of the treatment on the treated, or TOT, by following the conventional approach of assuming that those who did not take up the offer experienced none of the benefit. Because of the differential take-up rates across our three treatment groups, this analysis will be particularly policy relevant, revealing the impacts on those who initiated services.
- **Understand the effects of homebuyer education and counseling for subpopulations.** Future reports will consider whether the intervention’s impacts vary for specific demographic and socioeconomic groups, such as Spanish speakers, or groups defined by traits such as education, income, and credit score. These types of analyses will provide deeper insights into how policymakers and homebuyer education and counseling practitioners can target services toward particular populations.
- **Evaluate the role of “dosage” on impacts.** Related to the examination about the effect of taking up the offer of treatment, the study will also consider the relative effects of variation in the intensity of treatment. Because we expect impacts to be greater among those treatment group members who experienced more education and counseling, future analyses will examine the relative effectiveness for

²⁹ The post-redesign baseline survey asked all study participants whether they would prefer to receive remote or in-person services. This question allows for us to make an experimental comparison between those in the choice group with a preference for in-person services and their counterparts in the control group with a preference for in-person services. Capitalizing on this design will enable us create a pooled sample with which we can experimentally estimate the impact on those who were offered in-person services (including in-person treatment group members and choice treatment group members who stated a preference for in-person services).

treatment group members who completed part or all of the offered education and counseling activities. Although the planned method for this analysis relies on experimental data, the method requires additional assumptions to produce estimated dosage effects. The estimated dosage effects are therefore interpreted as nonexperimental.

Exhibit 6.1 summarizes the planned reports, their anticipated release dates, and the topics they will cover. Funding permitting, the study will document the long-term impact of first-time homebuyer education and counseling through a 42-month follow-up survey. In addition to revealing whether the intervention can indeed improve long-term outcomes, the final report will also provide analyses of the relative effectiveness of in-person versus remote delivery approaches, as well as subgroup and dosage analyses. In doing so, the report will provide an evidence base for future policy decisions regarding homebuyer education and counseling.

Exhibit 6.1: Future Study Products

Report	Release Date	Topics Covered
Baseline report	Fall 2016	Study implementation, intervention description, participant experiences, full sample descriptive characteristics, analysis of representativeness of sample.
Interim report	Early 2018	Analysis of all 12-month outcomes and impacts, preliminary analysis of alternative service delivery modes' impacts, preliminary subgroup analyses, policy implications.
Final report ^a	2020	Analysis of long-term (42-month) outcomes and impacts, analysis of alternative service delivery modes' impacts, subgroup analyses, policy implications.

^a Contingent on funding for the study's 42-month survey and associated analyses and report.

Appendix A: Supplemental Tables

This appendix includes two sets of supplemental tables. Exhibits A.1 and A.2 compare the characteristics of early enrollees with those of the full sample. Exhibits A.3 and A.4 report treatment-control baseline balance tests for the Early Enrollee Sample.

Exhibit A.1: Comparison of Full Sample and Early Enrollee Sample: Demographic Characteristics

Baseline Variable	Full Sample	Early Enrollee Sample	Statistically Significant Difference
Race/ethnicity of study participant			
Hispanic (%)	25.0	23.8	
White non-Hispanic (%)	38.5	40.9	*
African-American non-Hispanic (%)	20.4	19.7	
Asian non-Hispanic (%)	12.1	11.3	
Other race (%)	3.9	4.3	
Gender of study participant			
Male (%)	60.2	58.8	
Marital status of study participant			
Married (%)	38.1	39.3	
Divorced, widowed, or separated (%)	14.8	15.5	
Single and never married (%)	47.1	45.3	
Plans to purchase the home with a co-borrower			
Co-borrower (%)	26.2	28.0	
Household size			
One (%)	22.8	22.2	
Two (%)	32.0	32.7	
Three (%)	19.8	20.0	
Four (%)	15.2	15.2	
Five (%)	6.7	6.9	
Six or more (%)	3.6	3.0	
Education of study participant			
Bachelor's degree or higher (%)	53.5	54.2	
Associate's degree (%)	12.9	12.6	
Some college, but no degree (%)	16.1	16.5	
High school diploma or less (%)	17.5	16.7	

* Full sample is statistically significantly different from the early enrollee sample at the $p < 0.05$ level.

(continued)

Source: Baseline survey of study participants

Exhibit A.1: Comparison of Full Sample and Early Enrollee Sample: Demographic Characteristics

Baseline Variable	Full Sample	Early Enrollee Sample	Statistically Significant Difference
Employment			
Full-time employment (30+ hours per week) (%)	89.9	89.3	
Part-time employment (1–29 hours per week) (%)	4.1	4.2	
Unemployed and looking for work (%)	0.5	0.4	
Not working, homemaker, retired, student, or other (%)	5.5	6.1	
Income received by study participant and any co-borrowers in past 12 months			
\$24,999 or less (%)	8.1	7.8	
\$25,000 to \$49,999 (%)	34.0	33.6	
\$50,000 to \$74,999 (%)	32.6	33.9	
\$75,000 to \$99,999 (%)	14.6	14.2	
\$100,000 or more (%)	10.7	10.5	

* Full sample is statistically significantly different from the early enrollee sample at the $p < 0.05$ level.

Source: Baseline survey of study participants

Exhibit A.2: Comparison of Full Sample and Early Enrollee Sample: Measures of Homebuyer Status, Financial Responsibility, and Creditworthiness

Baseline Variable	Full Sample	Early Enrollee Sample	Statistically Significant Difference
Stage in the homebuyer process			
Not yet started home search (%)	11.2	9.4	*
Started home search, but no visits (%)	13.2	12.4	
Visited homes, but no offer (%)	23.9	22.6	
Made an offer on a home, but no purchase (%)	13.2	13.1	
Signed a purchase agreement (%)	25.3	28.2	*
Purchased a home (%)	13.2	14.3	
Measures of financial responsibility			
Uses a written budget (%)	74.7	76.4	
Usually pays credit card balance in full to avoid interest charges (%)	77.4	77.9	
During the past year, was short on money sometimes or often (%)	16.4	18.3	*

* Full sample is statistically significantly different from the early enrollee sample at the $p < 0.05$ level.

(continued)

Sources: Baseline survey of study participants; credit bureau data

Exhibit A.2: Comparison of Full Sample and Early Enrollee Sample: Measures of Homebuyer Status, Financial Responsibility, and Creditworthiness

Baseline Variable	Full Sample	Early Enrollee Sample	Statistically Significant Difference
Sets aside extra money for retirement, education, or to build a financial cushion sometimes or often (%)	91.1	90.2	
Everyone in household has health insurance (%)	88.4	87.1	
Level of total savings and investments (\$)	55,149	56,611	
Creditworthiness			
Credit score			
Less than 580 (%)	4.0	4.2	
580 to 619 (%)	6.8	7.3	
620 to 659 (%)	15.3	15.5	
660 to 699 (%)	17.6	18.5	
700 to 739 (%)	19.9	19.2	
740 or more (%)	36.5	35.2	
Cash on hand for downpayment and closing costs (\$)	33,758	34,475	
Amount of nonhousing debt (\$)	19,606	19,971	
Monthly payment nonhousing debt (\$)	355	351	

* Full sample is statistically significantly different from the early enrollee sample at the $p < 0.05$ level.

Sources: Baseline survey of study participants; credit bureau data

Exhibit A.3: Baseline Balance Testing, Early Enrollee Sample: Demographic Characteristics

Baseline Variable	Treatment Group	Control Group	Statistically Significant Difference
Race/ethnicity of study participant			
Hispanic (%)	23.6	24.1	
White non-Hispanic (%)	40.1	42.0	
African-American non-Hispanic (%)	20.0	19.3	
Asian non-Hispanic (%)	11.4	11.1	
Other race (%)	4.8	3.6	
Gender of study participant			
Male (%)	58.7	59.0	
Marital status of study participant			
Married (%)	38.2	40.7	
Divorced, widowed, or separated (%)	15.2	15.9	
Single and never married (%)	46.6	43.3	
Plans to purchase the home with a co-borrower			
Co-borrower (%)	26.4	30.2	*
Household size			
One (%)	23.1	21.0	
Two (%)	32.1	33.4	
Three (%)	20.6	19.1	
Four (%)	14.9	15.6	
Five (%)	6.2	7.8	
Six or more (%)	3.0	3.1	
Education of study participant			
Bachelor's degree or higher (%)	56.2	51.5	*
Associate's degree (%)	12.5	12.6	
Some college, but no degree (%)	16.8	16.1	
High school diploma or less (%)	14.4	19.8	*
Employment			
Full-time employment (30+ hours per week) (%)	90.3	87.9	
Part-time employment (1–29 hours per week) (%)	3.6	5.0	
Unemployed and looking for work (%)	0.5	0.3	
Not working, homemaker, retired, student, or other (%)	5.6	6.8	

* Pooled treatment group is statistically significantly different from control group at the $p < 0.05$ level.

(continued)

Source: Baseline survey of study participants

Exhibit A.3: Baseline Balance Testing, Early Enrollee Sample: Demographic Characteristics

Baseline Variable	Treatment Group	Control Group	Statistically Significant Difference
Income received by study participant and any co-borrowers in past 12 months			
\$24,999 or less (%)	7.6	8.1	
\$25,000 to \$49,999 (%)	33.5	33.6	
\$50,000 to \$74,999 (%)	34.1	33.6	
\$75,000 to \$99,999 (%)	14.9	13.4	
\$100,000 or more (%)	9.9	11.3	

* Pooled treatment group is statistically significantly different from control group at the $p < 0.05$ level.

Source: Baseline survey of study participants

Exhibit A.4: Baseline Balance Testing, Early Enrollee Sample: Measures of Homebuyer Status, Financial Responsibility, and Creditworthiness

Baseline Variable	Treatment Group	Control Group	Statistically Significant Difference
Stage in the homebuyer process			
Not yet started home search (%)	9.1	9.8	
Started home search, but no visits (%)	12.0	13.0	
Visited homes, but no offer (%)	23.1	22.0	
Made an offer on a home, but no purchase (%)	12.9	13.3	
Signed a purchase agreement (%)	28.6	27.7	
Purchased a home (%)	14.3	14.3	
Measures of financial responsibility			
Uses a written budget (%)	74.2	79.3	*
Usually pays credit card balance in full to avoid interest charges (%)	79.4	75.8	*
During the past year, was short on money sometimes or often (%)	16.7	20.5	*
Sets aside extra money for retirement, education, or to build a financial cushion sometimes or often (%)	90.8	89.5	
Everyone in household has health insurance (%)	87.8	86.2	
Level of total savings and investments (\$)	52,556	62,194	
Creditworthiness			
Credit score			
Less than 580 (%)	3.3	5.5	*
580 to 619 (%)	7.3	7.3	
620 to 659 (%)	14.5	17.0	
660 to 699 (%)	18.6	18.4	
700 to 739 (%)	19.9	18.3	
740 or more (%)	36.5	33.5	
Cash on hand for downpayment and closing costs (\$)	33,132	36,323	
Amount of nonhousing debt (\$)	18,955	21,342	
Monthly payment nonhousing debt (\$)	343	363	

* Pooled treatment group is statistically significantly different from control group at the $p < 0.05$ level.

Sources: Baseline survey of study participants; credit bureau data

Appendix B: Description of Measures and Missing Data Procedures

This appendix provides additional details on the construction of baseline and outcome measures presented in this report. Exhibit B.1 shows how the baseline covariates included in the impact model were constructed. Exhibit B.2 shows how the outcomes examined in section 5 were constructed. After each exhibit, we report the strategy for handling missing data of each variable type, baseline covariates, and outcomes, respectively.

Exhibit B.1: Operationalization of Baseline Covariates

Domain	Variable Description	Operationalization	Data Source(s) Items
Demographic characteristics	Race/ethnicity of study participant	Series of mutually exclusive binary variables: Hispanic. White non-Hispanic. African-American non-Hispanic. Asian non-Hispanic. Other race.	Baseline survey H10, H11
Demographic characteristics	Gender of study participant	Binary variable that takes on value: 0 if female. 1 if male.	Baseline survey H1
Demographic characteristics	Marital status of study participant	Series of mutually exclusive binary variables: Married. Divorced, widowed, or separated. Single and never married.	Baseline survey H2
Demographic characteristics	Plans to purchase the home with a co-borrower	Binary variable that takes on value: 0 if does not plan to purchase the home with a co-borrower. 1 if plans to purchase the home with a co-borrower.	Baseline survey CB1

(continued)

Exhibit B.1: Operationalization of Baseline Covariates

Domain	Variable Description	Operationalization	Data Source(s) Items
Demographic characteristics	Household size	Series of mutually exclusive binary variables: One. Two. Three. Four. Five. Six or more.	Baseline survey H3
Demographic characteristics	Education of study participant	Series of mutually exclusive binary variables that capture educational attainment: Bachelor's degree or higher. Associate's degree. Some college, but no degree. High school diploma or less.	Baseline survey H8
Stage in the homebuyer process	Stage in the homebuyer process	Series of mutually exclusive binary variables that capture the stage in the homebuying process: Not yet started home search. Started home search, but no visits. Visited homes, but no offer. Made an offer on a home, but no purchase. Signed a purchase agreement. Purchased a home.	Baseline survey A1, A3a, A3b, A3f, A3g
Employment and income	Employment	Series of mutually exclusive binary variables for employment status of the study participant: Full-time employment (30+ hours per week). Part-time employment (1–29 hours per week). Unemployed and looking for work. Not working, homemaker, retired, student or other.	Baseline survey H5

(continued)

Exhibit B.1: Operationalization of Baseline Covariates

Domain	Variable Description	Operationalization	Data Source(s) Items
Employment and income	Income received by study participant and any co-borrowers in past 12 months	Series of mutually exclusive binary variables defined based on the reported income received by study participant and any co-borrowers in past 12 months: \$24,999 or less. \$25,000 to \$49,999. \$50,000 to \$74,999. \$75,000 to \$99,999. \$100,000 or more. <i>Note:</i> If the respondent reported an income range rather than a specific value (for example, \$40,000 to less than \$55,000), we used the midpoint of the reported range to determine the appropriate income category. If neither a value nor a range was reported, then the variable was set to missing.	Baseline survey F2, F2b
Financial responsibility	Uses a written budget	Binary variable that takes on value: 0 if does not have a budget of monthly household expenses. 1 if has a budget of monthly household expenses.	Baseline survey F4
Financial responsibility	Usually pays credit card balance in full to avoid interest charges	Binary variable that takes on value: 0 if does not usually pay credit card balance in full to avoid interest charges. 1 if does usually pay credit card balance in full to avoid interest charges.	Baseline survey C1f
Financial responsibility	During the past year, was short on money sometimes or often	Binary variable that takes on value: 0 if reports being short on money rarely or never. 1 if reports being short on money sometimes or often.	Baseline survey F7
Financial responsibility	Sets aside extra money for retirement, education, or to build a financial cushion sometimes or often	Binary variable that takes on value: 0 if reports setting aside extra money rarely or never. 1 if reports setting aside extra money sometimes or often.	Baseline survey F8

(continued)

Exhibit B.1: Operationalization of Baseline Covariates

Domain	Variable Description	Operationalization	Data Source(s) Items
Financial responsibility	Everyone in household has health insurance	Binary variable that takes on value: 0 if at least one household member does not have health insurance. 1 if everyone in the household has health insurance.	Baseline survey F16, F17
Financial responsibility	Level of total savings and investments	Sum of reported values for checking accounts, savings accounts, retirement accounts, and other savings and investment accounts (continuous variable). <i>Note:</i> The responses were capped at 999,999 for each of these separate categories.	Baseline survey F9a, F10a, F11a, F12a, F13a
Creditworthiness	Credit score	Series of mutually exclusive binary variables defined based on the baseline credit score of the study participant: Less than 580. 580 to 619. 620 to 659. 660 to 699. 700 to 739. 740 or more. <i>Note:</i> For each study participant, we capture the person's baseline credit data within 2 months before their enrollment.	Credit data
Creditworthiness	Cash on hand for downpayment and closing costs	Total cash on hand for downpayment and closing costs (continuous variable). <i>Note:</i> If respondent did not provide an exact amount but reported a range, we used the midpoint of the range and included this value in the continuous measure. Responses were capped at 999,999.	Baseline survey B3, B3b
Creditworthiness	Amount of nonhousing debt	Amount of nonhousing debt equals the total balance on open installment accounts plus open revolving accounts minus the balance on open mortgage accounts. This measure is set equal to 0 if the study member was included in the credit file but had no open debt accounts on file.	Credit data

(continued)

Exhibit B.1: Operationalization of Baseline Covariates

Domain	Variable Description	Operationalization	Data Source(s) Items
Credit worthiness	Monthly payment nonhousing debt	Monthly scheduled payments for nonhousing debt equals the total scheduled monthly payments for all open accounts besides mortgage accounts. This measure is set equal to 0 if the study member was included in the credit file but had no open debt accounts on file.	Credit data

To address item nonresponse in the baseline covariate data, we use the *dummy variable adjustment* approach. This strategy sets missing cases to a constant and includes a set of missing data flags in the impact model. As detailed by Puma et al. (2009), this method is appropriate for handling missing baseline data from experimentally designed evaluations. The method involves the following three steps for each baseline covariate X with missing data—

- **Step 1:** Create a new variable Z that is set equal to X for all cases in which X is nonmissing and set to a constant value, $C =$ the mean of X , for those cases in which X is missing.
- **Step 2:** Create a new variable D , which is set equal to 1 for cases in which X is missing and set equal to 0 for cases in which X is not missing.
- **Step 3:** Replace the baseline covariate X in the impact analysis model with Z and D . Doing so will allow for the impact model to estimate the relationship between Y and X when X is not missing and to estimate the relationship between Y and D when X is missing.

Exhibit B.2: Operationalization of Outcomes

Domain	Variable Description	Operationalization	Data Source(s) Items
Preparedness and search	Purchased a home	Binary variable that takes on value: 1 if observed that respondent purchased a home in either interim survey, credit bureau data, lender data, or FHA data. 0 if did not observe that respondent purchased a home in the interim survey, credit bureau data, lender data, or FHA data, but respondent has data from at least one of these data sources.	Interim survey A1; credit bureau; lender data; FHA data

FHA = Federal Housing Administration.

(continued)

Exhibit B.2: Operationalization of Outcomes

Domain	Variable Description	Operationalization	Data Source(s) Items
Preparedness and search	Number of lenders from which the respondent received price quotes	Total number of lenders from which respondent received price quotes (continuous variable). Variable equals 0 if respondent did not contact any lenders or if respondent contacted lenders but did not receive any quotes.	Interim survey C4, C5, C5a
Preparedness and search	Respondent was very confident that he or she could find the information he or she needed about the home purchase process	Binary variable that takes on value: 1 if reports being very confident that respondent could find information about the home purchase process. 0 if reports being confident, somewhat confident, or not confident at all that respondent could find information about the home purchase process.	Interim survey C9
Preparedness and search	Respondent was very satisfied with the home purchase process	Binary variable that takes on value: 1 if reports being very satisfied with the home purchase process. 0 if reports being somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the home purchase process.	Interim survey C10
Financial literacy, capability, and management	Number of correct answers (out of 4) to mortgage literacy quiz	Sum of correct answers to mortgage literacy quiz (ranges from 0 to 4).	Interim survey B2, B3, B4, B5
Financial literacy, capability, and management	Respondent knows how to correct inaccurate information in credit report	Binary variable that takes on value: 1 if agrees or strongly agrees that knows how to correct inaccurate information in credit report. 0 if disagrees or strongly disagrees that knows how to correct inaccurate information in credit report.	Interim survey B1h

FHA = Federal Housing Administration.

(continued)

Exhibit B.2: Operationalization of Outcomes

Domain	Variable Description	Operationalization	Data Source(s) Items
Financial literacy, capability, and management	Respondent occasionally does not have enough money to cover all bills at the end of the month	Binary variable that takes on value: 1 if agrees or strongly agrees that occasionally does not have enough money to cover all bills at the end of the month. 0 if disagrees or strongly disagrees that occasionally does not have enough money to cover all bills at the end of the month.	Interim survey B1b
Financial literacy, capability, and management	Respondent has an electronic or written budget	Binary variable that takes on value: 1 if has an electronic or written budget. 0 if does not have an electronic or written budget.	Interim survey B9
Financial literacy, capability, and management	Respondent has a budget and often compares it with actual spending	Binary variable that takes on value: 1 if has a budget and often compares it with actual spending. 0 if has a budget but sometimes, rarely, or never compares it with actual spending or respondent does not have a budget.	Interim survey B9, B10
Financial literacy, capability, and management	Credit score	Credit score measured in September 2015 (continuous variable).	Credit bureau
Financial literacy, capability, and management	Respondent has a credit score greater than or equal to 620	Binary variable that takes on value: 1 if credit score measured in September 2015 is greater than or equal to 620. 0 if credit score measured in September 2015 is less than 620.	Credit bureau
Homeownership sustainability	Ever 30 days delinquent on mortgage loan	Binary variable that takes on value: 1 if was observed as being 30 days delinquent on mortgage loan in interim survey, credit bureau data, lender data, or FHA data. 0 if was not observed as being 30 days delinquent on mortgage loan in interim survey, credit bureau data, lender data, or FHA data, but respondent has data from at least one of these data sources.	Interim survey D9, E9, E9a; credit bureau; lender data; FHA data

FHA = Federal Housing Administration.

(continued)

Exhibit B.2: Operationalization of Outcomes

Domain	Variable Description	Operationalization	Data Source(s) Items
Homeownership sustainability	Ever 60 days delinquent on mortgage loan	Binary variable that takes on value: 1 if was observed as being 60 days delinquent on mortgage loan in interim survey, credit bureau data, lender data, or FHA data. 0 if was not observed as being 60 days delinquent on mortgage loan in interim survey, credit bureau data, lender data, or FHA data, but respondent has data from at least one of these data sources.	Interim survey D9, E9, E9a; credit bureau; lender data; FHA data
Homeownership sustainability	If in financial difficulty, the respondent would contact his or her lender for assistance before missing a mortgage payment	Binary variable that takes on value: 1 if would contact lender for assistance before missing a mortgage payment. 0 if would not contact lender for assistance regarding missed payments or would wait to contact lender until after missed payment. <i>Note:</i> The follow-up survey questions used to construct this outcome were asked only of respondents who have a mortgage loan. Therefore, to ensure that this outcome is defined for all enrollees (thereby maintaining the integrity of the experimental design), this outcome was set equal to 0 if the respondent does not have a mortgage loan.	Interim survey E12, E12a, E14, E14a

FHA = Federal Housing Administration.

When outcome data are missing for a given individual, we follow the recommendation of Puma et al. (2009) to case-delete observations with missing outcome data. This method has the additional benefit of ease of implementation and interpretation.

Appendix C: Technical Supplement to the Impact Analysis

This appendix serves as a technical supplement to the impact analysis presented in section 5. The first section provides more detail related to the study's design. The second section describes the model used to estimate the impact of homebuyer education and counseling. The analytic strategies described in this section are relevant to the current report and also will provide the foundation for the study's interim report, which will present analyses for the full sample and many more outcomes. The third section previews future impact analyses by presenting impact estimates using the sample that will be used for the study's primary confirmatory analyses, a sample that excludes enrollees randomized to an in-person treatment group before September 2014. The fourth section presents impact estimates for the subsample of study participants who were offered remote services. The final section describes the study team's approach to adjusting for survey nonresponse.

Study Design

This section describes the study's experimental design, including modifications that took place in September 2014 to ensure the study's later ability to detect the impact of the intervention.

To evaluate the effectiveness of homebuyer education and counseling, the study randomized enrollees to a control group, which was not offered access to services, or to one of three treatment groups (although to only two treatment arms at any given time). The random assignment ratio was 42:29:29 in order to maximize the study's ability to detect selected effects of interest, both between each treatment arm and the control group and between the pooled treatment group and the control group.

In the first year of implementation, the two treatment arms referred study participants to remote or in-person services, as illustrated in exhibit 2.2. During that time, a relatively small proportion (about 20 percent) of those offered in-person services took up the offer. Having such a large share of no-shows in this treatment arm implies very low power to detect the effect of offering in-person services. To improve the study's chances of detecting impacts, the study team, in consultation with HUD, stopped assigning enrollees to an in-person treatment group, replacing that group with a choice treatment group. As the name implies, the choice group allowed for enrollees to choose how to access services, either remotely through online education and telephone counseling or in person at a local agency. It is important to note that *all* individuals randomized to treatment or control are part of the sample for this report. That said, the study's interim and final reports will pool the remote and choice treatment groups but exclude the in-person treatment group. In addition, we will test for mode of service delivery effects by estimating the impact of homebuyer education

and counseling on (1) those who were offered remote services (including remote treatment group members and choice treatment group members who stated a preference for remote services) and (2) those who were offered in-person services (including in-person treatment group members and choice treatment group members who stated a preference for in-person services).

In addition, the interim and final reports will focus on a single confirmatory outcome variable—an indicator for whether the enrollee was ever 60 days delinquent on a mortgage loan—but also will provide analyses of many other outcomes. As described in this report’s section 6, these future exploratory analyses will estimate the impact of homebuyer education and counseling on a wide range of outcomes, test for differential impacts across service delivery modes, estimate subpopulation effects, and estimate effects by dosage-defined subgroups.

This report focuses on all enrollees who were randomly assigned before December 1, 2014, referring to them as the study’s “early enrollees.” Future reports will use the full sample, which includes individuals who enrolled through the end of January 2016.

Model for Early Enrollee Sample Impact Analysis

The difference in treatment and control group outcomes is an unbiased estimate of the impact of offering access to treatment. We operationalize this concept by using multiple regression, which uses baseline variables to increase the precision with which we estimate the treatment’s impact. The regression model used to estimate the impact of being offered homebuyer education and counseling is as follows—

$$(1) Y_{is} = \alpha + \delta T_{is} + \beta X_{is} + \pi Time_{is} + \mu_s + e_{is},$$

where

Y_{is} is the outcome interest for individual i in site s .³⁰

T_{is} is a dummy variable that equals 1 if individual i in site s is assigned to a treatment group and equals 0 if the individual is assigned to the control group.

X_{is} is a vector of individual background characteristics for individual i in site s .³¹

$Time_{is}$ is a dummy variable equal to 1 if individual i in site s was randomly assigned before September 16, 2014, and equal to 0 if the individual enrolled on or after this date. This measure controls for differences across time periods that could influence the outcome.

μ_s is a set of site fixed effects.

e_{is} is a random error term.

³⁰ In this case, “site” refers to the 28 large metropolitan areas where study participants enrolled.

³¹ Exhibit B.1 provides a detailed description of the baseline covariates included in the impact analysis model.

The coefficient δ provides an intent-to-treat, or ITT, estimate of the impact of being offered homebuyer education and counseling—compared with being in the control group—and is the parameter of central interest.^{32,33} Future analyses will consider the effect of the treatment on the treated, or TOT, which provides an estimate of the impact of receiving homebuyer education and counseling services. In earlier design plans, the study team prespecified the four outcomes examined in this impact analysis. Restricting the preliminary impact analysis to these four prespecified outcomes helps guard against fishing for statistically significant impacts. Impacts on these select outcomes are presented in exhibit 5.2 in section 5. Exhibit C.1 provides additional detail corresponding to these impact estimates.

³² We cluster standard errors at the site level.

³³ For both continuous and binary outcomes, we estimated the equation (1) model using weighted least squares regression, so that the interpretation of impact estimates is comparable for different types of outcomes.

Exhibit C.1: Impact Estimates, Early Enrollee Sample, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group	Control Group	Difference (Impact)	Percent Impact	Standard Error	p-Value	90 Percent Confidence Interval
Number of correct answers (out of 4) to mortgage literacy quiz ^a	1,068	858	2.82	2.74	0.08**	2.8%	0.03	0.012	(0.03, 0.12)
If in financial difficulty, the respondent would contact lender for assistance before missing a mortgage payment ^{a,b} (%)	1,056	844	41.8	37.9	3.9*	10.4%	2.31	0.099	(0.1, 7.8)
Respondent has a credit score greater than or equal to 620 ^c (%)	1,254	926	88.4	86.1	2.3**	2.7%	0.96	0.022	(0.8, 3.9)
Respondent has a budget and often compares it with actual spending ^a (%)	1,065	854	35.4	35.6	- 0.2	- 0.6%	1.75	0.896	(- 3.1, 2.6)

** Difference is statistically significant (two-sided *t*-test) at the $p < 0.05$ level.

* Difference is statistically significant (two-sided *t*-test) at the $p < 0.10$ level.

^a Outcome was constructed using follow-up survey data. We applied sample weights that adjust for follow-up survey nonresponse for analyses of outcomes collected from follow-up surveys (see "Follow-up Survey Nonresponse Weights" section for details).

^b Outcome is set equal to 1 if respondent has a mortgage and would contact lender for assistance before missing a mortgage payment and is set equal to 0 if respondent has a mortgage but would not contact lender for assistance regarding missed payments or would wait to contact lender until after missed payment. The follow-up survey questions used to construct this outcome were asked only of respondents who have a mortgage loan. Therefore, to ensure that this outcome is defined for all enrollees (thereby maintaining the integrity of the experimental design), this outcome was set equal to 0 if the respondent does not have a mortgage loan.

^c Outcome was constructed using credit bureau data.

Notes: Because of rounding, reported impacts (treatment-control differences) may differ from differences between reported regression-adjusted means for the treatment and control groups. To maintain the integrity of the experimental design, all outcomes reported in this exhibit are defined for all enrollees with nonmissing outcome data. Appendix B provides additional detail related to construction of measures.

Sources: Baseline survey; 12-month follow-up survey; credit bureau data

Impact Estimates: Pooled Remote and Choice Versus Control Groups

To understand the impact of homebuyer education and counseling at this early stage of follow-up, we use the entire early enrollee sample (with nonmissing data) and report those impact estimates in exhibit 5.2. As described previously in this appendix, the in-person treatment group, which experienced comparatively low take-up of services, will not be included in the sample used for the study's future confirmatory impact analysis, although it will be included in other analyses. Exhibit C.2 reports impact estimates for the subset of the early enrollee sample that includes study participants assigned to the remote and choice treatment groups or to the control group. That is, it excludes the in-person treatment group.

For all four outcomes of interest, we find that the impact estimates reported in exhibit 5.2 for the entire early enrollee sample are statistically similar in magnitude to those reported in exhibit C.2 and lead to the same general conclusions. Excluding the in-person subsample increases the magnitude of the lender contact outcome, but tests of statistical significance show that the two estimates are not different from one another. That is, we cannot reject the null hypothesis that the estimated impacts are the same across the two samples.

That said, we observe in exhibit C.2 that the credit score outcome is *not* statistically significant when the in-person treatment group is excluded from the sample, whereas it is statistically significant when we analyze the entire early enrollee sample. This apparent difference might be because of the difference in sample size or differences in the composition of study participants analyzed, but the difference in the two point estimates is not statistically significant. When outcome data are available for the full sample, future reports will examine impacts for the service delivery mode-defined treatment groups separately, comparing them explicitly to ascertain which might be relatively more effective at influencing any of these and other impacts.

Exhibit C.2: Impact Estimates, Early Enrollee Sample Excluding the Pre-Redesign In-Person Group, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group	Control Group	Difference (Impact)	Percent Impact	Standard Error	p-Value	90 Percent Confidence Interval
Number of correct answers (out of 4) to mortgage literacy quiz ^a	647	858	2.80	2.74	0.06*	2.1%	0.03	0.087	(0.00, 0.11)
If in financial difficulty, the respondent would contact lender for assistance before missing a mortgage payment ^{a,b} (%)	640	844	43.2	37.8	5.4**	14.3%	2.45	0.036	(1.4, 9.4)
Respondent has a credit score greater than or equal to 620 ^c (%)	781	926	86.9	86.1	0.9	1.0%	1.08	0.432	(- 0.9, 2.6)
Respondent has a budget and often compares it with actual spending ^a (%)	645	854	35.5	35.1	0.4	1.2%	1.95	0.833	(- 2.8, 3.6)

** Difference is statistically significant (two-sided *t*-test) at the $p < 0.05$ level.

* Difference is statistically significant (two-sided *t*-test) at the $p < 0.10$ level.

^a Outcome was constructed using follow-up survey data. We applied sample weights that adjust for follow-up survey nonresponse for analyses of outcomes collected from follow-up surveys (see "Follow-up Survey Nonresponse Weights" section for details).

^b Outcome is set equal to 1 if respondent has a mortgage and would contact lender for assistance before missing a mortgage payment and is set equal to 0 if respondent has a mortgage but would not contact lender for assistance regarding missed payments or would wait to contact lender until after missed payment. The follow-up survey questions used to construct this outcome were asked only of respondents who have a mortgage loan. Therefore, to ensure that this outcome is defined for all enrollees (thereby maintaining the integrity of the experimental design), this outcome was set equal to 0 if the respondent does not have a mortgage loan.

^c Outcome was constructed using credit bureau data.

Notes: Because of rounding, reported impacts (treatment-control differences) may differ from differences between reported regression-adjusted means for the treatment and control groups. To maintain the integrity of the experimental design, all outcomes reported in this exhibit are defined for all enrollees with nonmissing outcome data. Appendix B provides additional detail related to construction of measures.

Sources: Baseline survey; 12-month follow-up survey; credit bureau data

Impact Estimates for Remotely Provided Homebuyer Education and Counseling Services

In this section, we report the estimated impact of being offered remote homebuyer education and counseling services. To compute the impact of being offered remote services, we restrict the sample to study participants randomly assigned to the remote treatment group or to the control group. Regression-adjusted estimates of the effect of remote homebuyer education and counseling are presented in exhibit C.3. Remote treatment group members performed better than their control group counterparts on a four-question mortgage literacy quiz. Although the point estimates are positive, the estimated impacts on the indicator for whether the study participant has a credit score greater than or equal to 620 and the indicator for whether the study participant reports that he or she would contact the lender before missing a mortgage payment are not statistically significant. These findings are similar in magnitude to those reported in exhibit C.2 for the sample that includes the choice group but excludes the in-person group.³⁴ Future reports will estimate the impact of remote services on additional outcomes and will test whether the impact of being offered remote services is statistically different from the impact of being offered the choice of remote or in-person services.

³⁴ This finding is perhaps not surprising given that the only difference between the samples used to compute the impact estimates in exhibit C.2 versus exhibit C.3 is that the sample used in exhibit C.2 includes the relatively small set of early enrollee sample choice group members.

Exhibit C.3: Impact Estimates, Early Enrollee Sample, Remote Treatment Group Versus Control Group Comparison

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group	Control Group	Difference (Impact)	Percent Impact	Standard Error	p -Value	90 Percent Confidence Interval
Number of correct answers (out of 4) to mortgage literacy quiz ^a	520	858	2.82	2.75	0.07*	2.7%	0.04	0.056	(0.01, 0.13)
If in financial difficulty, the respondent would contact lender for assistance before missing a mortgage payment ^{a,b} (%)	513	844	42.4	38.5	3.9	10.1%	2.69	0.161	(- 0.6, 8.3)
Respondent has a credit score greater than or equal to 620 ^c (%)	629	926	86.7	85.9	0.8	0.9%	1.07	0.463	(- 1.0, 2.5)
Respondent has a budget and often compares it with actual spending ^a (%)	519	854	35.7	35.7	0.0	0.1%	2.24	0.991	(- 3.7, 3.7)

* Difference is statistically significant (two-sided t -test) at the $p < 0.10$ level

^a Outcome was constructed using follow-up survey data. We applied sample weights that adjust for follow-up survey nonresponse for analyses of outcomes collected from follow-up surveys (see "Follow-up Survey Nonresponse Weights" section for details).

^b Outcome is set equal to 1 if respondent has a mortgage and would contact lender for assistance before missing a mortgage payment and is set equal to 0 if respondent has a mortgage but would not contact lender for assistance regarding missed payments or would wait to contact lender until after missed payment. The follow-up survey questions used to construct this outcome were asked only of respondents who have a mortgage loan. Therefore, to ensure that this outcome is defined for all enrollees (thereby maintaining the integrity of the experimental design), this outcome was set equal to 0 if the respondent does not have a mortgage loan.

^c Outcome was constructed using credit bureau data.

Notes: Because of rounding, reported impacts (treatment-control differences) may differ from differences between reported regression-adjusted means for the treatment and control groups. To maintain the integrity of the experimental design, all outcomes reported in this exhibit are defined for all enrollees with nonmissing outcome data. Appendix B provides additional detail related to construction of measures.

Sources: Baseline survey; 12-month follow-up survey; credit bureau data

Follow-up Survey Nonresponse Weights

To help guard against imbalances caused by attrition from follow-up survey nonresponse, the analysis applies sample weights that adjust for follow-up survey nonresponse for analyses of outcomes collected from follow-up surveys. Applying nonresponse weights adjusts only for differences in observed characteristics between respondents and nonrespondents. As is true for all survey-based random assignment analyses, we cannot rule out the possibility of differential nonresponse bias being introduced in the impact estimates because of differences in unobserved characteristics between respondents in the treatment and control groups. We generated nonresponse weights as follows.³⁵

- **Step 1:** We computed the predicted probability that a sample member responded to the follow-up survey by modeling response to the follow-up survey as a function of treatment group indicator and the same set of covariates included in the equation (1) preliminary impact analysis model described previously. For missing baseline covariate data, we again used the dummy variable adjustment approach.
- **Step 2:** Because the weights created in step 3 are inversely proportional to the probability of survey response, weights associated with near-zero probabilities become extremely large, thereby contributing to reduced precision. To guard against reduced precision that may result from inclusion of small or large weights, in this step, we conducted weight trimming, which bounds the computed predicted probabilities of follow-up survey response.³⁶
- **Step 3:** We computed each survey respondent's weight by dividing the overall survey response rate by the predicted probability of response, as computed in steps 1 and 2. This method ensures that higher weights are assigned to individuals with characteristics that were underrepresented (relative to the baseline survey sample) among the survey respondent sample.
- **Step 4:** Finally, we computed adjusted nonresponse weights by dividing each sample member's nonresponse weight (as computed in step 3) by the overall mean value of the nonresponse weights. Scaling the nonresponse weights by the mean ensures that the mean of the adjusted nonresponse weights is equal to 1 and that the sum of all adjusted nonresponse weights is equal to the sample size.

³⁵ This method is commonly used in applied evaluation research and is described by Hsueh et al. (2012), for example.

³⁶ As described by Izrael, Battaglia, and Frankel (2009), weight trimming refers to increasing the value of low weights and decreasing the value of high weights to reduce their impact on the variance of the estimates. By trimming low and high weight values, one generally lowers sampling variability but may incur some bias. The mean squared error will be lower if the reduction in variance is large relative to the increase in bias arising from weight trimming.

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