

# *National Foreclosure Mitigation Counseling Program Evaluation*

## *Final Report Rounds 1 and 2*

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## Contents

<b>Acknowledgments.....</b>	<b>v</b>
<b>Executive Summary .....</b>	<b>vii</b>
<b>Introduction .....</b>	<b>1</b>
<b>Review of Evaluation Activities and Previous Reports.....</b>	<b>3</b>
Process Study .....	3
Reconnaissance Interviews .....	4
Web Surveys .....	5
Case Studies .....	6
Modeling Analysis.....	7
<b>Final Modeling Analysis .....</b>	<b>9</b>
Overview of the Modeling Analysis .....	9
Data Used in the Analysis.....	15
NPMC Program Production Data.....	15
LPS Applied Analytics Loan Performance Data.....	17
Home Mortgage Disclosure Act Data .....	17
NPMC Analysis Sample .....	18
Non-NPMC Analysis Sample.....	19
Outcome Variables.....	25
Control Variables.....	29
Models of Program Effects.....	36
Potential Modeling Issues .....	37
Modeling Approach .....	44
NPMC Program’s Effect on Loan Modifications .....	47
NPMC Program’s Effect on Sustainability of Cures .....	53
NPMC Cost-Benefit Analysis: Foreclosure Completions Averted.....	95



<b>Findings and Lessons From the NFMC Program .....</b>	<b>103</b>
Building National Capacity for Foreclosure Mitigation Counseling.....	103
Improving Outcomes for Troubled Homeowners .....	105
Challenges and Best Practices .....	109
Increasing Servicer Responsiveness.....	109
Dealing with Major Income Reductions.....	110
Working Successfully with Clients .....	111
Conclusion .....	112
<b>References .....</b>	<b>113</b>
<b>Appendices .....</b>	<b>117</b>

## Tables

Table ES-1: NFMC Program Impacts on Mortgage Outcomes .....	ix
Table 1: NFMC Program Impacts on Mortgage Outcomes .....	11
Table 2: Comparison of NFMC and Non-NFMC Analysis Samples by Loan Characteristics as of Counseling Intake Month.....	23
Table 3: Comparison of NFMC and Non-NFMC Analysis Samples by State .....	24
Table 4: Explanatory Variables Used in All Models .....	31
Table 5: Counseling and HAMP Variables Used in Outcome Models.....	34
Table 6: OLS Regression Model Estimates for Counseling Effects on Dollar Reduction in Monthly Payment Resulting from Loan Modifications .....	50
Table 7: OLS Regression Model Estimates for Counseling Effects on Percentage Reduction in Monthly Payment Resulting from Loan Modifications.....	51
Table 8: Summary of Interaction Effects of Counseling on Loan Modification Monthly Payment Reduction.....	52
Table 9: Loans That Experienced a Serious Delinquency or Foreclosure in 2008 or 2009 by Counseling and Loan Cure Status, Rounds 1 and 2 NFMC and Non-NFMC Loans .....	57
Table 10: OLS Regression Model Estimates for Counseling Effects on Reduction in Monthly Payment in Dollars Resulting from Loan Modifications That Cured a Serious Delinquency or Foreclosure.....	64



Table 11: LOGIT Model Odds Ratio Estimates for Counseling Effects through Loan Modification Size and Directly on Likelihood of Redefault .....	69
Table 12: Summary of Interaction Effects of Counseling on Probability of Redefault After Loan Modification Cure .....	74
Table 13: LOGIT Model Odds Ratio Estimates for Counseling Effects on Likelihood of Redefault of Non-Modification Cures, Rounds 1 and 2, NFMC and Non-NFMC Loans .....	77
Table 14: Summary of Interaction Effects of Counseling on Probability of Redefault after Non-Modification Cure .....	80
Table 15: LOGIT Model Odds Ratio Estimates for Counseling Effects on Likelihood of Modification, NFMC and non-NFMC .....	84
Table 16: Interaction Effects of Counseling on Probability of a Loan Modification Cure.....	87
Table 17: LOGIT Model Odds Ratio Estimates for Counseling Effects on Likelihood of Non-Modification Cure for Seriously Delinquent and Foreclosed Loans.....	88
Table 18: Interaction Effects of Counseling on Probability of a Non- Modification Cure.....	91
Table 19: Percentage of Loans Cured and Sustained With and Without Counseling.....	94
Table 20: Calculation of NFMC Program Benefit/Cost Analysis .....	101

## Figures

Figure 1: Conceptual Framework for Estimating NFMC Program Effects .....	39
Figure 2: Cumulative Percentages of Cures Sustained, Modification and Non-Modification Cures .....	58
Figure 3: Framework of Counseling's Effects on Loan Curing with Modification and Sustaining Modified Loans.....	60
Figure 4: Framework of Counseling's Effects on Loan Curing without Modification and Sustaining Outcomes.....	61
Figure 5: Estimated Cumulative Rates for Avoiding Redefault of Modification Cures for Counseled and Non-Counseled Homeowners .....	72
Figure 6: Estimated Cumulative Rates for Avoiding Redefault of Non-Modification Cures for Counseled and Non-Counseled Homeowners .....	78
Figure 7: Framework of Counseling's Effects on Loan Curing through Modification and Sustaining Outcomes.....	82



Figure 8: Framework of Counseling’s Effects on Loan Curing without Modification and Sustaining Outcomes .....	83
Figure 9: Estimated Differences in Cumulative Cures by Modification between Counseled and Non-Counseled Homeowners .....	85
Figure 10: Estimated Differences in Cumulative Non-Modification Cures between Counseled and Non-Counseled Homeowners .....	89
Figure 11: Estimated Differences in Cumulative Total Cures between Counseled and Non-Counseled Homeowners .....	92
Figure 12: Percentages of Cures With and Without Loan Modifications, With and Without Counseling .....	93
Figure 13: Estimated Share of Loans That Had a Foreclosure Completion, With and Without Counseling, Pre-HAMP .....	96
Figure 14: Estimated Share of Loans That Had a Foreclosure Completion, With and Without Counseling, Post-HAMP .....	97



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## EXECUTIVE SUMMARY

The National Foreclosure Mitigation Counseling (NFMC) program is a special federal appropriation, administered by NeighborWorks® (NW) America, to support a rapid expansion of foreclosure intervention counseling in response to the nationwide foreclosure crisis. As this is a federal appropriation, NW America must inform Congress and other entities of the NFMC program's progress. The Urban Institute (UI) was selected by NW America to evaluate the NFMC program.

This report presents the final results from UI's evaluation of the first two rounds of the NFMC program (people receiving counseling in 2008 and 2009), including a detailed analysis of program outcomes first described in preliminary reports of November 2009 (Mayer et al.) and December 2010 (Mayer et al.). According to those reports, homeowners receiving NFMC counseling avoided entering foreclosure, successfully cured existing foreclosures, and obtained more favorable loan modifications.

This report updates previous analyses and also includes revised models of several homeowner outcomes for NFMC clients counseled in 2008 and 2009. These new models use an improved comparison sample selection design, which addressed potential issues raised by reviewers of earlier analyses, and a better method for controlling for possible selection bias in the NFMC sample. The additional analyses in this report include models of non-modification cures, non-modification redefaults, and foreclosures avoided.

### Modeling Findings

The multivariate statistical analyses are based on a sample of close to 335,000 loans and answer the following four questions about the NFMC program's performance:

- Did the NFMC program help homeowners receive loan modifications with lower monthly payments than homeowners would have otherwise received without counseling?
- For homeowners that cured (i.e., brought to current) a serious delinquency or foreclosure through a loan modification or some other means, did NFMC counseling help them remain current on their loans longer and more frequently than they would have been without counseling?



- For borrowers with seriously troubled loans, did NFMC counseling increase their chances of obtaining a cure and then sustaining that cure and avoiding redefault?
- Did the NFMC program help reduce the number of completed foreclosures?<sup>1</sup>

The first three questions were examined in previous preliminary analyses of the NFMC program, although the questions of whether homeowners were more likely to remain current on their loans or cure serious delinquencies or foreclosures were looked at only in the context of loan modification cures. This final report expands the sustainability and cure analyses to include borrower self-cures not involving a loan modification. The fourth question, how the NFMC program influenced foreclosure completions, is evaluated for the first time here.

In addition, this report includes analyses that test whether NFMC program effects changed over two very different periods during this evaluation. The first is the period before the start of the Home Affordable Modification Program (HAMP), January 2008 through March 2009; the second is the period beginning in April 2009, when HAMP first became available. These analyses were meant to determine whether HAMP affected counseling impacts, either positively or negatively.

According to the evaluation of round 1 and 2 NFMC program effects, the answer to each of the four outcome questions above is “yes,” as summarized in table ES-1. In many cases, the program effects are very substantial. Further, NFMC counseling retained, or even increased, its effectiveness in helping troubled homeowners after HAMP began.

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<sup>1</sup> This analysis replaces previous models of foreclosure cures that measured the NFMC program’s effect on the likelihood of a loan being taken out of the foreclosure process without going to a forced sale. That earlier analysis did not address whether the loan permanently avoided a foreclosure sale. Measuring whether a foreclosure is completed better indicates the program’s impact on helping owners avoid losing their homes.



**Table ES-1: NFMC Program Impacts on Mortgage Outcomes**

	Pre-HAMP	Post-HAMP
Average additional reduction in monthly payment from loan modification	\$176	\$176
Reduction in redefault rate nine months after curing a serious delinquency <sup>a</sup> or foreclosure		
<i>Loan modification cures</i>	67 percent	70 percent
<i>Non-modification cures</i>	49 percent	32 percent
Change in relative odds of curing a serious delinquency <sup>a</sup> or foreclosure		
<i>Loan modification cures</i>	89 percent higher	97 percent higher
<i>Non-modification cures</i>	32 percent lower	32 percent lower
Percentage of loans in serious delinquency or foreclosure both curing and sustaining cures	2.5 times higher	1.6 times higher
Reduction in foreclosure completions	No effect	36 percent

<sup>a</sup> Serious delinquency is three or more months of missed payments.

### *Loan Modifications*

NFMC clients that had their loans modified in 2008 and 2009 and received counseling assistance paid \$176 a month less, on average, than non-counseled clients that also received loan modifications. This average payment was 7.8 percent less than it would have been without counseling and translated into an annual savings of about \$2,100 per counseled homeowner. The ability of counseling to obtain lower monthly payments for clients was the same both before and after the start of HAMP, indicating that counseling retained its positive benefits even with the existence of HAMP loan modification guidelines.

This average additional payment reduction of \$176 is about \$90 lower than the NFMC program effect reported in December 2010's preliminary study. The final, lower estimate was based on models that included loan records missing information on a borrower's debt-to-income (DTI) ratio and credit score at loan origination, which had been dropped from previous modeling analyses. While removing observations with incomplete data is standard practice, omitting those loans biased upward the estimated effects of the NFMC program on payment reductions from loan modifications.<sup>2</sup> To avoid this problem, the DTI and credit score variables were transformed into categorical data, which included a "missing" category so all loans could be included in the

<sup>2</sup> Loans with missing DTI ratios or credit scores were likewise included in the analysis of the other program outcomes discussed in this report.



model estimations. Retaining these loans significantly affected the final results because (1) they accounted for a large share of the total loans (about 40 percent) and (2) borrowers without reported credit scores or DTI ratios received, on average, loan modifications with lower payment reductions.

#### *Sustainability of Modification Cures*

The combined effect of counseling from both a larger payment reduction and other counseling assistance substantially reduced the relative odds that borrowers would redefault after receiving loan modifications bringing seriously delinquent mortgages (those with three or more months of missed payments) or foreclosures back to current status. Translated into percentage terms, counseling lowered redefault rates after a modification cure of a typical loan by 67 percent or more.

Although a small part of this effect (about a 3.5 percent decrease in the relative odds of redefault) was attributable to counseling's effect on the size of monthly payment reductions, the great bulk of the sustainability benefit resulted from other impacts of counseling, such as helping borrowers improve their financial management skills, assisting them in managing relationships with servicers and investors, and providing other types of support. Nonetheless, although very few modifications included this feature, the relative odds of redefault were reduced by an additional 20 percent when the loan modification curing a serious delinquency or foreclosure included principal reduction.

Both before and after HAMP, redefault was a major problem for homeowners who did not receive counseling but a far reduced problem for borrowers who obtained NFMC counseling support. The impacts of counseling on sustainability differed very little before and after the start of HAMP, with counseling reducing the relative odds of redefault by 78 and 74 percent, respectively. The effect of reducing loan payments through modifications was miniscule in both periods, with the other effects of counseling decreasing the relative odds of redefault by 77 percent before HAMP and 73 percent after HAMP. In percentage terms, the rate of redefault nine months after the modification cure was reduced by 67 percent pre-HAMP and 70 percent post-HAMP. Finally, the combination of the two federal interventions (NFMC counseling and the implementation of HAMP) lowered redefault rates for borrowers curing loans through modifications from 66 to 11 percent (an impressive 83 percent reduction) over the course of nine months for a typical counseled loan.

#### *Sustainability of Non-Modification Cures*

NFMC counseling also increased sustainability substantially for loans cured *without* a loan modification. Though the sustainability effect was somewhat smaller than for counseling and cures with modifications, the impacts were still large for a single program intervention. Overall, counseling reduced the relative odds of redefault for non-modification cures of loans in serious delinquency or foreclosure by about half. The counseling impact was larger before



HAMP than after but still substantial in both periods. Before HAMP, counseling reduced the relative odds of redefault after a non-modification cure by 66 percent. After the start of HAMP, the relative odds of redefault for counseled borrowers were 39 percent lower than for non-counseled borrowers.

Measured by the probability of redefault, in the pre-HAMP period, counseling lowered the redefault rate for a typical NFMC-counseled loan cured without a loan modification from 71 to 36 percent, or 49 percent, over nine months. For non-modification cures obtained once HAMP was in place, borrowers that received counseling had a cumulative redefault rate of 26 percent after nine months, compared with 38 percent for those without counseling, meaning that counseling lowered recidivism for these cures by nearly 32 percent.

### *Modification Cures*

In addition to increasing the sustainability of cures, NFMC counseling improved client outcomes by increasing the likelihood that a borrower would bring a loan in serious delinquency or foreclosure back to current status. NFMC counseling came close to doubling the odds of modification cures compared with those for non-counseled borrowers. For those entering counseling before HAMP, the relative odds of obtaining a modification cure from a serious delinquency or foreclosure increased by 89 percent, compared to the odds without counseling assistance; after HAMP, the odds increased by 97 percent.

Translating these relative odds to cumulative percentages of modification cures, after 12 months (the average observation period for loans after they became troubled), 8 percent of homeowners before HAMP receiving counseling assistance had modification cures, compared with 5 percent among borrowers without counseling—a 60 percent increase with counseling. After HAMP, 17 percent of homeowners with counseling assistance cured their serious delinquencies or foreclosures after 12 months, compared with 9 percent without counseling—an 88 percent increase attributable to counseling.

### *Non-Modification Cures*

The impacts of counseling on non-modification cures were very different from those for modification cures. Counseling assistance was associated with *fewer* non-modification cures, overall and at all counseling levels. The relative odds of a non-modification cure decreased over 30 percent for counseled loans both before and after HAMP. A likely interpretation of this finding is that some people who would have obtained non-modification cures without counseling were, with counseling, able to obtain cures with modifications instead. This shift reduced non-modification cures for people with counseling. The effect was especially strong once HAMP modifications became available (and set standards for other modifications), particularly among people who received more counseling, which was often needed to bring about successful modifications (according to the observers we interviewed).



### *Achieving and Sustaining Cures*

A crucial outcome for borrowers is curing loans in serious delinquency or foreclosure combined with sustaining those cures (i.e., avoiding redefault). When the results of the sustainability and cure analyses are synthesized, they demonstrate that NFMC counseling nearly doubled the rate of curing and sustaining troubled loans. Among counseled borrowers, 12.7 percent of seriously delinquent or foreclosed loans were cured and sustained without redefault, compared with only 6.5 percent among non-counseled borrowers' loans—a ratio of 1.96.

The ratio of counseled to non-counseled cure-and-sustain rates was higher before HAMP (2.5), but even after HAMP was under way, NFMC counseling boosted the rate of sustained cures by 1.6 times. Counseling in both periods helped people become current on their loans and stay that way. NFMC counseling and the HAMP environment together raised the rate of sustained cures by a factor of five, compared with results achieved without counseling assistance before HAMP.

Although many homeowners that cured their serious delinquency or foreclosure stayed current, particularly those who received loan modifications through counseling, cures were generally very limited. Because of its opposite and thus partially offsetting effects on modification cures and non-modification cures, counseling affected total cures of seriously delinquent and foreclosed loans relatively modestly. In the post-HAMP period, even with counseling, modification plus non-modification cures totaled only 24 percent of significantly troubled loans. Therefore, while counseling and HAMP help homeowners in a number of ways, many homeowners' problems persist.

### *Avoiding Foreclosure Completions and Cost-Benefit Analysis*

According to the previous analyses, NFMC counseling had several benefits: it generated loan modifications with larger payment reductions, it helped homeowners cure seriously delinquent loans, and it produced more sustainable cures. To determine if these effects helped clients remain in their homes, the latest analyses estimated the impact of counseling on the likelihood of foreclosure completion, which would result in the homeowner losing his or her home.

Between January 2008 and December 2010, 10.3 percent of round 1 and 2 NFMC clients had a foreclosure completion.<sup>3</sup> Without counseling, this percentage would have been 1.15 times as great. Extrapolating the modeling results from the estimation sample to all clients who received counseling in rounds 1 and 2, the NFMC program resulted in 13,000 fewer foreclosure completions by the end of 2010. In other words, the NFMC program prevented

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<sup>3</sup> Foreclosure completion includes foreclosure sale, short sale, and other involuntary losses of a home through foreclosure-related actions.



nearly one in seven foreclosures that would have been completed without counseling. These results were driven by NFMC performance after HAMP, which reduced the total number of foreclosure completions by 36 percent. Before HAMP, there was no statistically measurable difference in foreclosure completion rates between counseled and non-counseled borrowers.

Since foreclosure sales create costs for homeowners, lenders, local governments, and society at large, avoiding foreclosures generates cost savings. Each foreclosure prevented by the NFMC program was estimated to have saved an average of \$70,600 in avoided costs. These savings included \$10,000 in moving costs, legal fees, and administrative charges for homeowners; \$40,500 in deadweight lender loss to society, which represents 36 percent of the total lender loss; \$6,500 in local government administrative and legal costs; and \$13,900 in reduced neighboring property values.<sup>4</sup>

Assuming the 13,000 loans that avoided foreclosure through December 2010 because of counseling do not complete foreclosure at some point in the future, the NFMC program has helped save local governments, lenders, and homeowners \$920 million, which is about \$1,200 per client served by the NFMC program in 2008 and 2009. These savings translated to 3.0 times the total round 1 and 2 NFMC funding provided to support counseling services to these homeowners. When the full costs of providing counseling services to these clients, including funding from other sources, is accounted for, the savings represented a total counseling cost-benefit ratio of 2.4.

## Findings and Lessons from the NFMC Program

This evaluation looked comprehensively at the NFMC program, its effects on improving outcomes for troubled homeowners, and its broader impact on foreclosures. The NFMC program made key contributions to addressing the foreclosure crisis in four main areas, which are summarized below.

### *Improving Outcomes for Troubled Homeowners*

The ultimate measure of success of the NFMC program was whether the assistance provided by NFMC-funded Grantees and Subgrantees actually helped troubled homeowners achieve better outcomes, such as avoiding a foreclosure sale or obtaining a mortgage modification that allowed them to remain in their homes. Determining whether the program helped homeowners attain positive outcomes, therefore, was the main focus of the NFMC evaluation.

As noted in the summary of the modeling findings above, the analysis of NFMC's activities and the subsequent performance of counseled and non-counseled mortgages found

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<sup>4</sup> See pages 98–101 of the main report for further details on the derivation of these cost figures.



consistent, compelling, and robust evidence that the program has provided substantial benefits to homeowners facing foreclosure. In almost all cases, counseling has remained effective in obtaining positive outcomes, even after the Home Affordable Modification Program was introduced in April 2009.

### *Building National Capacity for Foreclosure Mitigation Counseling*

The NFMC program also helped increase the nation's capacity to assist troubled homeowners in several ways. First, and perhaps most important, by providing more funds to counseling organizations, the program increased national capacity to provide foreclosure counseling services. Based on the responses from two web-based surveys (included in appendices D and E), Round 1 NFMC program Grantees and Subgrantees saw nearly three times more clients between 2007 and 2008; round 2 Grantees and Subgrantees saw 76 percent more. Many NFMC-funded Grantees and Subgrantees also enlarged their geographic area of coverage.

In addition, the NFMC program helped build the national capacity of foreclosure mitigation counseling by improving counselor training<sup>5</sup> and by establishing a members' web site and message board that has allowed counselors to share questions, best practices, and other information across a national network.

### *Challenges and Best Practices*

As this report is being written, millions of homeowners in the United States are still facing the possibility of foreclosure and the loss of their homes. Counseling organizations across the country are still working with many of these homeowners to allow them to avoid foreclosure and, hopefully, keep their homes. Through the course of the NFMC program evaluation, researchers gathered extensive information from counseling agencies, through web surveys and interviews, on the challenges of obtaining good outcomes for their clients. This information has uncovered many strategies and best practices that the more successful counseling organizations have employed, providing valuable lessons for the housing counseling field.

Grantees and Subgrantees interviewed as case studies for the evaluation identified the two largest problems in achieving good outcomes for clients: (1) servicers were not sufficiently responsive and (2) clients, when entering counseling, were typically facing financial difficulties usually resulting from a loss in income. Successful counseling organizations have developed strategies to attempt to overcome these two main issues and to interact with clients so good outcomes are maximized.

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<sup>5</sup> The NFMC legislation specifically authorized a portion of the appropriation to be spent to "build the mortgage foreclosure and default mitigation counseling capacity of counseling intermediaries through [NW America] training courses" (Housing and Economic Recovery Act of 2008).





### **Increasing servicer responsiveness**

Counseling staff cited obtaining good servicer response to client efforts to resolve troubled loans more frequently than any other challenges and obstacles in their work (although by only a narrow margin over borrowers' loss of income). Staff most frequently mentioned three challenges as severe: slow response or lack of response by servicers to applications for loan modifications, servicers losing documents submitted, and servicers switching clients' cases from one staff person to another.

According to our case study interviews, successful counseling agencies responded to challenges in working with servicers in five ways.

- *Reducing the chaos and delay from lost documents.* Difficulties transmitting the necessary documents for loan modifications and other solutions, confirming their receipt, avoiding their loss at the servicer end, and identifying missing documents so they can be re-submitted have been a major obstacle to effective foreclosure prevention. In nearly every case, well-performing counseling agencies have invested substantially in addressing this issue, including adopting HOPE LoanPort™ or their own electronic systems for tracking documents and negotiation.
- *Developing contacts and relationships with servicers and learning whom to go to for cooperation, escalation, and quick response.* Successful counseling organizations consider building contacts and relationships with servicers crucial. Organizations need to know the right people to call for cooperative problem-solving, finding non-foreclosure solutions, and moving stuck cases forward.
- *Knowing how servicers are likely to assess a proposed modification, forbearance, or other proposal.* Assessing what servicers will approve and creating proposals that work for the client and the servicer are important counselor goals. Some counselors focus on getting there with their initial proposal; others anticipate frequent negotiation. In both cases, a key ingredient is a counselor who understands how underwriting works so he or she can provide realistic options that the servicer will entertain.
- *Following up persistently.* Counselor persistence is central to many aspects of preventing foreclosure, including submitting applications and proposals to servicers, monitoring progress, and pursuing solutions that work for their clients. But persistence also includes negotiating solutions creatively. Successful counselors never take “no” for an answer, if analysis suggests that preventing or mitigating a foreclosure is at all feasible.
- *Structuring single-servicer events, live contact between servicers and clients, and live contact between servicers and counselors.* Direct in-person contact between



servicers and counselors and homeowners can be valuable, if structured properly. The key is to put together the necessary pieces for actual loan modifications and other solutions to be reached *on site, during the event*.

### **Dealing with major income reductions**

Counselors indicated that most clients seek foreclosure prevention services because of a drop in income, often from a job loss. Although such cases are difficult to address, counselors use several strategies when working with clients with an income reduction.

- *Conducting a detailed crisis budgeting analysis.* The first step when working with clients who have experienced an income reduction is to develop a crisis budget. One benefit of developing a crisis budget is that it acts as an opening to credit counseling by prioritizing expenses. By putting expenses and income down on paper, clients can easily see how they are spending their money, which they can continue to monitor even after their income increases.
- *Pursuing forbearances.* Getting loan modifications approved for clients with no income is problematic. If a job or income loss is temporary, counselors can pursue forbearance agreements with servicers. In particular, a forbearance plan can work well for people who expect to be reemployed, but such an approach is not appropriate for clients on fixed incomes.

### **Working successfully with clients**

Counselors can only be as effective as their clients. Given the demand for foreclosure prevention services, effective organizations get clients proactive and engaged in the process.

- *Ensuring that clients bring all required information to the initial one-on-one counseling session.* Counselors stressed that servicers will not make any decision on a client's proposed loss mitigation solution, which often include a request for a loan modification, directly. Rather, servicers often require authorization forms from lenders, budgets, and hardship letters, and these requirements can vary by servicer. Agencies have instituted strategies (checklists, pre-counseling orientation meetings) to ensure that clients bring the required documents to their first counseling session so the counselor can contact a client's servicer during that session.
- *Empowering clients so they successfully manage the foreclosure prevention process.* Agencies do not have the resources to manage all aspects of a client's case. Therefore, counselors said that it is critical to work with a client who knows about getting loan modifications or other outcomes, has a realistic understanding of the options available given his or her circumstances, and will provide loan servicers with the documents and follow-up needed to reach a decision. Many



agencies, as a first step, provide details about the foreclosure process during an initial group counseling session. The group sessions helps clients start thinking about a preferred solution, which may not include retaining ownership of their home.

### *Conclusion*

The National Foreclosure Mitigation Counseling program started in 2008 to help homeowners facing foreclosure. To measure how well the program met this objective, the Urban Institute conducted a three-year evaluation of the program. The evaluation consisted of several activities to help understand the program's effects, including interviews with mortgage industry and program participants, reviews of program reports and documents, surveys of foreclosure counseling organizations, and an in-depth analysis of outcomes for counseled mortgages.

The NFMC program has been an important and successful tool in addressing the record number of troubled homeowners who have faced, and continue to face, loss of their homes because of foreclosure. While counseling cannot solve to the foreclosure crisis, it nonetheless has helped homeowners achieve better outcomes, which in turn has benefited the country by reducing the numbers of nonperforming and failed mortgages, avoiding social costs associated with foreclosures, and allowing more people to retain their homes.

As the housing crisis continues to play out over the coming months and years, the information provided through this evaluation will help guide policymakers and practitioners toward solutions that will provide much-needed help to the nation's struggling homeowners.





## INTRODUCTION

The National Foreclosure Mitigation Counseling (NFMC) program is a special federal appropriation, administered by NeighborWorks® (NW) America, designed to support a rapid expansion of foreclosure intervention counseling in response to the nationwide foreclosure crisis. The NFMC program seeks to help homeowners facing foreclosure by providing them with much-needed foreclosure prevention and loss mitigation counseling. NW America distributes funds to competitively selected Grantee organizations, which in turn provide counseling, either directly or through Subgrantee organizations.

As this is a federal appropriation, NW America must inform Congress and other entities of the NFMC program's progress. The Urban Institute (UI) was selected by NW America to evaluate rounds 1 and 2 of the NFMC program. This report presents final results of the evaluation, including analyses of the program's effects on its clients and the larger foreclosure crisis. It includes three main sections:

- *Review of Evaluation Activities and Previous Reports.* A brief overview of the data collection and analysis activities undertaken as part of this evaluation and the preliminary reports.
- *Final Modeling Analysis.* A complete discussion of the final quantitative analysis of mortgage outcomes for NFMC counseled loans.
- *Findings and Lessons from the NFMC Program.* A summary of the most important results from the NFMC evaluation, along with lessons learned about best practices for foreclosure mitigation counseling.

Additional materials related to this report (copies of past reports, multivariate model results, etc.) are in appendices, which are provided as separate documents.





## REVIEW OF EVALUATION ACTIVITIES AND PREVIOUS REPORTS

The evaluation of the NFMC program began in June 2008 and, over the subsequent three years, involved a wide range of research activities to examine multiple aspects of the program and its impacts. The purposes of our analyses were not only to document whether counseling helped troubled homeowners, but also to explain *how* counselors were able to get good outcomes. Therefore, our evaluation consisted of qualitative and quantitative components that analyzed information collected about clients, Grantees, and Subgrantees. The combination of data and analyses allowed us to comprehensively assess the NFMC program's impact on the foreclosure crisis.

Several earlier analyses have been published and are summarized briefly below.

### Process Study

We conducted a process study of the methods used by NW America to select round 1 Grantees and to determine how transparently NW America administered round 1 of the NFMC program. To complete this study, we interviewed NW America staff that helped develop client-level and quarterly report databases and procedures to track funding in the organization's finance system. We also interviewed representatives of contractors engaged by NW America to assess whether Grantees are complying with program requirements and that counseling services were provided to homeowners in a manner consistent with the national industry standards.

Based on the information provided by key informants interviewed for this study and our analysis of scoring data that NW America used to make NFMC program awards, we concluded that NW America used an objective system to review applications and implemented a robust process to monitor grantee performance that included collecting a wide range of quantitative and qualitative data. Reviewers scored applications only after they received extensive training from NW America staff about a scoring rubric that provided objective criteria for assessing each application. In addition, NW America determined award amounts using standard algorithm that was applied to each applicant. Finally, NW America collected quantitative and qualitative information from grantees and through its compliance and quality control contractors to ensure



that grantees spent the awards on appropriate activities and that grantees adhered to the award agreements executed with NW America.

The full process study report is included as appendix A.

## Reconnaissance Interviews

We conducted two sets of reconnaissance interviews, one in summer 2008 and another in early 2010. In both rounds, we selected industry participants and observers of the mortgage lending and foreclosure counseling markets to gain an understanding of the context in which NFMC was operating. We asked key informants about the issues driving continued mortgage performance problems, challenges counselors faced when seeking outcomes preferable to foreclosure for their clients, changes servicers and counselors made to handle the demand for foreclosure counseling, and changes in the foreclosure environment. In the second round of interviews in 2010, we asked additional questions regarding the impact of the new federal Making Home Affordable Program, which includes the Home Affordable Modification Program (HAMP). The information collected in these interviews helped us determine topics asked in our web survey of Grantees and Subgrantees and to develop appropriate outcome measures of counseling's effects on clients.

The two reports documented changes in the environment in which the NFMC program was operating in its early stages and after it had been in place for over a year. In the initial 2008 interviews, key informants said that mortgage performance issues were largely a function of *subprime loans* granted (perhaps predatorily) to borrowers who could not afford payments, in part due to *resetting interest rates*. In the subsequent 2010 interviews, however, key informants reported that mortgage delinquencies were now driven by *income losses* resulting from *higher unemployment* or *reductions in hours worked* by people who still had jobs. This change presented new challenges for NFMC counselors. Many delinquent borrowers had either little or no income because of unemployment or under-employment, making it difficult for them to afford even a modified mortgage. In addition, homeowners with large amounts of nonhousing-related debt or second liens might also be unable to afford even reduced mortgage payments. Further, declining house prices meant that borrowers with negative equity in their homes might be less willing to consider loan modifications, as renting may be less expensive than a modified mortgage.

In both sets of interviews, however, key informants highlighted consistent challenges that counselors faced because they were unable to meet the increasing demand for foreclosure counseling services. Another common challenge was the difficulty working with the mortgage industry to obtain loan modifications or other solutions that would allow homeowners to remain in their homes. Key informants saw little improvement in the responsiveness and capacity of the mortgage industry to help counseled homeowner over the two years.





Nonetheless, key informants in our 2010 interviews said that HAMP had an enormous impact on the mortgage industry by establishing national standards for loan modifications. One of the most positive effects of the program was that the loan modification target of reducing a payment to 31 percent of an owner's gross income became a goal used by all participating servicers and counselors, even for many non-HAMP, or "private label," loan modifications. Despite this and other improvements, key informants pointed out several problems with HAMP. Most notably, the 31 percent income standard, while addressing the issue of people having loans with interest rates that were too high, did little to help the growing numbers of troubled borrowers who had little or no income because of unemployment or underemployment. Key informants also cited problems getting HAMP modifications converted to permanent modifications for borrowers who made all their mortgage payments during the trial period.

The two reports summarizing our reconnaissance findings are included as appendices B and C.

## **Web Surveys**

We administered web surveys in April 2009 to round 1 Grantees and Subgrantees and in August 2010 to round 2 Grantees and Subgrantees. The survey was designed to collect information on the following topics:

- Grantee perceptions of NW America as the NFMC program administrator;
- the impact of a grant on a recipient organization's capacity to deliver foreclosure counseling services;
- the extent to which client-level reimbursements cover total foreclosure counseling costs;
- the availability of financing for clients to help pay off arrearages or refinance their existing mortgages;
- the obstacles organizations faced in serving expanded numbers of clients, and the mechanisms organizations employed to meet these obstacles; and
- the challenges to obtaining successful outcomes for clients and the strategies respondents used to increase their ability to help borrowers obtain those positive results.

Findings from the two rounds of Grantee and Subgrantee surveys were very similar. Survey respondents in both rounds said that the NFMC program allowed their organizations to serve more clients and offer their services in a larger geographic area than they were able to before receiving NFMC funding. Survey respondents noted other benefits of being part of



NFMC, including NW America's communication with Grantees and Subgrantees through WebEx sessions and a message board that were helpful in keeping staff informed about best practices.

The main obstacles cited by survey respondents that made it more difficult for them to obtain successful outcomes for their clients were similar in Rounds 1 and 2, but the order of importance changed. In Round 1, the single most frequently identified challenge to obtaining good outcomes was clients' job loss or reduced wages/income. The second most frequently mentioned issues were servicer-related challenges, such communicating with loss mitigation staff in a timely and consistent way, exchanging documents and authorizations, and obtaining responses to loan modification requests. In Round 2, however, the order was reversed, with servicer responsiveness challenges rated as the most serious, followed by client economic challenges.

Survey respondents took various actions within their control to improve outcomes for their clients. The highest ranked strategies focused on relationships and working process with clients, especially at the start of counseling. Topping the list was being frank with clients about their options and managing expectations. Following closely behind were conducting one-on-one interviews with clients, establishing action plans for borrowers at the first meeting, and requiring clients to bring needed documents with them by not later than their first one-on-one session.

Other counseling strategies involved providing opportunities for counselors to exchange ideas and information, triaging clients to focus first on those with imminent foreclosures, and improving communication with servicers.

Summaries of the findings for each web survey are included in appendices D and E.

## **Case Studies**

To supplement information collected through the web-based survey of Grantees and Subgrantees, we selected organizations based on their ability to achieve good outcomes for their clients to explore, in depth, the key factors that influenced their successes (and failures). Based on their ability to get loan modifications for their clients and the performance of their clients' loans over time, we selected 17 organizations to conduct in-depth interviews with executive directors, staff who managed counselors, and, for some organizations, counselors who provided services to troubled homeowners. We conducted interviews with representatives of 13 organizations: two organizations participated in on-site interviews in the spring 2009, while the remaining 11 organizations were interviewed via telephone in spring 2011.

Not surprisingly, given the results of the web surveys, the counseling agencies in our case studies considered improving their interactions with servicers a very important part of achieving good results for their clients, and they put significant effort into this area. The counseling agencies worked to improve relations with servicers in several ways, including reducing the chaos and delay resulting from lost documents submitted to servicers; developing



contacts and relationships with servicers and learning whom to go to for good cooperation, escalation, and quick response; being able to assess how servicers were likely to respond to a proposed modification, forbearance, or other proposal; following up persistently; initiating or participating in single-servicer events; and having live contact between servicers, clients, and counselors.

Despite these efforts, most counseling agencies seem to believe that they cannot have much impact on servicer or lender decision-making, in terms of how the servicer evaluates a case. While good counselors do not easily take “no” for an answer, and will aggressively look for other decisionmakers, outside-the-box thinking, and additional options, they do not expect to affect the basic decision calculus of generally large, distant servicers.

Counseling agencies in our case studies also strongly emphasized their interactions with clients. Effective organizations encourage clients to be active and engaged in the process. This often starts with requiring clients to complete paperwork and send in documents before meeting with a counselor. In addition, successful organizations provide realistic evaluations to their clients regarding the chances of obtaining loan modifications and other retention solutions. These evaluations include a candid analysis of a client's income and expenses. The key objective is for the client to understand his or her financial situation, and the desirability under the client's circumstances to remain in the home. This is especially important for clients whose income has dropped sharply, such those who have lost a job.

Our findings from these interviews are summarized in two case study reports. The first is included in appendix F; the second in appendix G.

## **Modeling Analysis**

While the above components of the evaluation were vital to better understand the NFMC program and explain its ability to help troubled homeowners, the quantitative modeling analysis was in many ways the central piece of the evaluation. In this analysis, we used data on loan performance to measure the impact of NFMC counseling on several important client outcomes, including receiving loan modifications with lower monthly payments; curing serious delinquencies and foreclosures and sustaining those cures; and avoiding foreclosure completions. This analysis allowed us to quantify the benefits of the NFMC program for counseled homeowners.

We have issued two previous reports, in November 2009 and December 2010, presenting preliminary findings based on our modeling analysis.<sup>6</sup> These results are superseded by the final modeling analysis presented in this report. As with our preliminary findings, our final

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<sup>6</sup> These reports can be accessed on the Urban Institute web site at <http://www.urban.org/url.cfm?ID=411982> and <http://www.urban.org/url.cfm?ID=412276>.



modeling analysis continues to show strong, positive impacts of the NFMC program on most client outcomes. We have, however, refined our models to include improved controls for possible selection effects, additional outcomes (sustainability of non-modification cures and avoidance of foreclosure completions), interaction analysis to measure counseling impacts on different subpopulations, and interactions to determine if the presence of HAMP has affected counseling outcomes.



## FINAL MODELING ANALYSIS

This section summarizes the final modeling analysis of client outcomes for the NFMC program evaluation. The first part provides an overview of the objectives of the modeling analysis and briefly summarizes the key findings. The remainder of this section describes the data sources used in the analysis and how they were employed to create samples of counseled and non-counseled mortgages for the analysis. It also covers the creation of specific outcomes and the approach to modeling the impact of the NFMC program on each one. Finally, it details the results from the modeling analysis of NFMC mortgage outcomes.

### Overview of the Modeling Analysis

If the NFMC program did not exist, presumably some NFMC clients would have not taken any action to avoid foreclosure. Others might have attempted to cure their delinquency themselves, contacted their mortgage servicer to negotiate a loan modification on their own, or used the services of other counseling agencies not funded by the NFMC program. Some people would have been successful in avoiding foreclosure, while others would not.

Even with NFMC-provided counseling, it is unreasonable to expect that all foreclosures could be avoided. For instance, some homeowners are in homes that they simply cannot afford. While counselors may be able to help some of these clients negotiate better outcomes, some foreclosures are likely inevitable.

Therefore, this evaluation supposes that *the NFMC program has a positive effect if it results in better outcomes for clients than would have been achieved without the availability of services provided by NFMC Grantees*. The NFMC program's major objective is to help homeowners avoid foreclosure. The multivariate statistical analyses presented in this report are based on a sample of close to 335,000 loans and answer the following questions about the NFMC program's performance.

- Did the NFMC program help homeowners receive loan modifications that with lower monthly payments than homeowners would have otherwise received without counseling?
- For homeowners that cured (i.e., brought to current) a serious delinquency or foreclosure through a loan modification or some other means, did NFMC



counseling help them remain current on their loans longer and more frequently than they would have been without counseling?

- For borrowers with seriously troubled loans, did NFMC counseling increase their chances of first obtaining a cure and then sustaining that cure and avoiding redefault?
- Did the NFMC program help reduce the number of completed foreclosures?<sup>7</sup>

The first three questions had been examined in the preliminary analyses of the NFMC program (Mayer et al. 2009, 2010), although the questions of whether homeowners were more likely to remain current on their loans or cure an existing serious delinquency or foreclosure were looked at only in the context of loan modification cures. This final report expands the sustainability and cure analyses to include borrower self-cures not involving a loan modification. The fourth question, the impact of the NFMC program on reducing foreclosure completions, is evaluated for the first time in this report.

In addition, this report includes analyses that test whether NFMC program effects changed over two very different periods during this evaluation. The first is the period before HAMP began, January 2008 through March 2009; the second is the period beginning in April 2009, when HAMP first became available. The purpose of these analyses was to determine whether HAMP affected counseling impacts, either positively or negatively.

According to the evaluation of round 1 and 2 NFMC program effects, the answer to each of the four outcome questions above is “Yes.” These results are summarized in table 1. The magnitudes of the program effects are in many cases very substantial. Further, NFMC counseling retained, or even increased, its effectiveness in helping troubled homeowners in the period after HAMP.

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<sup>7</sup> This analysis replaces previous models of foreclosure cures that measured the NFMC program’s effect on the likelihood of a loan in foreclosure to stop being in foreclosure. That earlier analysis did not address whether the loan was permanently out of foreclosure as a result of the cure. Measuring whether foreclosure is completed a better indicates the program’s impact on helping owners avoids losing their homes.



**Table 1: NFMC Program Impacts on Mortgage Outcomes**

	Pre-HAMP	Post-HAMP
Average additional reduction in monthly payment from loan modification	\$176	\$176
Reduction in redefault rate nine months after curing a serious delinquency <sup>a</sup> or foreclosure		
<i>Loan modification cures</i>	67 percent	70 percent
<i>Non-modification cures</i>	49 percent	32 percent
Change in relative odds of curing a serious delinquency <sup>a</sup> or foreclosure		
<i>Loan modification cures</i>	89 percent higher	97 percent higher
<i>Non-modification cures</i>	32 percent lower	32 percent lower
Percentage of loans in serious delinquency or foreclosure both curing and sustaining cures	2.5 times higher	1.6 times higher
Reduction in foreclosure completions	No effect	36 percent

<sup>a</sup> Serious delinquency is three or more months of missed payments.

### *Loan Modifications*

NFMC clients that had their loans modified in 2008 and 2009 and received counseling assistance paid \$176 a month less, on average, than non-counseled clients that also received loan modifications. This average payment was 7.8 percent less than it would have been without counseling and translated into an annual savings of about \$2,100 per counseled homeowner.

This average payment reduction is about \$90 lower than the NFMC program effect reported in December 2010's preliminary study. The final, lower estimate is based on models that include loan records missing information on a borrower's debt-to-income (DTI) ratio and credit score at loan origination. Previously, loans without DTI ratios or credit scores were dropped from the modeling analysis. Omitting these loans biased upward the estimated effects of the NFMC program on payment reductions from loan modifications.<sup>8</sup> For this final report, the variables were transformed into categorical data, which included a missing category so all loans could be included in the model estimations. Retaining these loans significantly affected the results because (1) they accounted for a large share of the total loans (about 40 percent) and (2) borrowers without a reported credit score or DTI ratio received, on average, loan modifications with lower payment reductions.

<sup>8</sup> Loans with missing DTI ratios or credit scores were likewise included in the analysis of the other program outcomes discussed in this report.



### *Sustainability of Modification Cures*

The combined effect of counseling from a larger payment reduction and other counseling assistance substantially reduced (by approximately three-quarters) the relative odds that borrowers would redefault after receiving loan modifications bringing seriously delinquent mortgages (those with three or more months of missed payments) or foreclosures back to current status. Translated into percentage terms, counseling lowered redefault rates after a modification cure of a typical loan by more than 66 percent.

Although a small part of this effect (about a 3.5 percent decrease in the relative odds of redefault) was attributable to counseling's effect on the size of monthly payment reductions, the great bulk of the sustainability benefit resulted from other impacts of counseling, such as helping borrowers improve their financial management skills, assisting them in managing relationships with servicers and investors, and providing other types of support. Further, although very few modifications included this feature, the relative odds of redefault were reduced by an additional 20 percent when the loan modification curing a serious delinquency or foreclosure included principal reduction.

Both before and after HAMP, redefault was a major problem without counseling and a far reduced one with counseling support. The impacts of counseling on sustainability differed very little before and after the start of HAMP, with counseling reducing the relative odds of redefault by 78 and 74 percent, respectively. The effect of reducing loan payments through modifications was miniscule in both periods, with the other effects of counseling decreasing the relative odds of redefault by 77 percent before HAMP and 73 percent after HAMP. Finally, the combination of the two federal interventions (NFMC counseling and the implementation of HAMP) lowered redefault rates for borrowers curing loans through modifications from 66 to 11 percent (an impressive 83 percent reduction) over the course of nine months for a typical counseled loan.

### *Sustainability of Non-Modification Cures*

NFMC counseling also increased sustainability substantially for loans cured *without* a loan modification. Though the sustainability effect was somewhat smaller than for counseling and cures with modifications, the impacts were still large for a single program intervention. Overall, counseling reduced the relative odds of redefault for non-modification cures of loans in serious delinquency or foreclosure by about half. The counseling impact was larger before HAMP than after but still substantial in both periods. Before HAMP, counseling reduced the relative odds of redefault after a non-modification cure by 66 percent. After the start of HAMP, the relative odds of redefault for counseled borrowers were 39 percent lower than for non-counseled borrowers.

Measured by the probability of redefault, in the pre-HAMP period, counseling lowered the redefault rate for a typical NFMC-counseled loan cured without a loan modification from 71





to 36 percent, or 49 percent, over nine months. For non-modification cures obtained once HAMP was in place, borrowers that received counseling had a cumulative redefault rate of 26 percent after nine months, compared with 38 percent for those without counseling, meaning that counseling lowered recidivism for these cures by nearly 32 percent.

### *Modification Cures*

In addition to increasing the sustainability of cures, NFMC counseling improved client outcomes by increasing the likelihood that a borrower would bring a loan in serious delinquency or foreclosure back to current status. NFMC counseling came close to doubling the odds of modification cures compared with those for non-counseled borrowers. For those entering counseling before HAMP, the relative odds of obtaining a modification cure from a serious delinquency or foreclosure increased by 89 percent, compared to the odds without counseling assistance; after HAMP, the odds increased to 97 percent.

Translating these relative odds to cumulative percentages of modification cures, after 12 months (the average observation period for loans after they became troubled), 8 percent of homeowners before HAMP receiving counseling assistance had modification cures, compared with 5 percent among borrowers without counseling—a 60 percent increase with counseling. After HAMP, 17 percent of homeowners with counseling assistance cured their serious delinquencies or foreclosures after 12 months, compared with 9 percent without counseling—an 88 percent increase attributable to counseling.

### *Non-Modification Cures*

The impacts of counseling on non-modification cures were very different from those for modification cures. Counseling assistance was associated with *fewer* non-modification cures, overall and at all counseling levels. The relative odds of a non-modification cure decreased over 30 percent for counseled loans both before and after HAMP. A likely interpretation of this result is that some people who would have obtained non-modification cures without counseling were able to, with counseling, instead obtain cures with modifications. This shift reduced non-modification cures for people with counseling. The effect was especially strong once HAMP modifications became available (and set standards for other modifications), particularly among people who received more counseling, which was often needed to bring about successful modifications (according to the observers we interviewed).

### *Achieving and Sustaining Cures*

A crucial outcome for borrowers is curing loans in serious delinquency or foreclosure combined with sustaining those cures (i.e., avoiding redefault). When the results of the sustainability and cure analyses are synthesized, they demonstrate that NFMC counseling nearly doubled the rate of curing and sustaining. Among counseled borrowers, 12.7 percent of



seriously delinquent or foreclosed loans were cured and sustained without redefault, compared with only 6.5 percent among non-counseled borrowers' loans—a ratio of 1.96.

The ratio of counseled to non-counseled cure-and-sustain rates was higher before HAMP (2.5), but even after HAMP was under way, NFMC counseling boosted the rate of sustained cures by 1.6 times. Counseling in both periods helped people become current on their loans and stay that way. NFMC counseling and the HAMP environment together raised the rate of sustained cures by a factor of five, compared with results achieved without counseling assistance before HAMP.

Although many homeowners that cured their serious delinquency or foreclosure stayed current, particularly those who received loan modifications through counseling, cures were generally very limited. Because of its opposite and thus partially offsetting effects on modification cures and non-modification cures, counseling affected total cures of seriously delinquent and foreclosed loans relatively modestly. In the post-HAMP period, even with counseling, modification plus non-modification cures totaled only 24 percent of significantly troubled loans. Therefore, while counseling and HAMP help homeowners in a number of ways, many homeowners' problems persist.

#### *Avoiding Foreclosure Completions and Cost-Benefit Analysis*

According to the previous analyses, NFMC counseling has several benefits: it generates loan modifications with larger payment reductions, it helps homeowners cure seriously delinquent loans, and it produces more sustainable cures. To determine if these effects helped clients remain in their homes, the latest analyses estimated the impact of counseling on the likelihood of foreclosure completion, which would result in the homeowner losing his or her home.

Between January 2008 and December 2010, 10.3 percent of round 1 and 2 NFMC clients had a foreclosure completion.<sup>9</sup> Without counseling, this percentage would have been 1.15 times as great; this translates into 13,000 fewer foreclosure completions for NFMC clients by the end of 2010. In other words, the NFMC program prevented nearly one in seven foreclosures that would have been completed without counseling. These results are driven by NFMC performance after HAMP, which reduced the total number of foreclosure completions by 36 percent. Before HAMP, there was no statistically measurable difference in foreclosure completion rates between counseled and non-counseled borrowers.

Since foreclosures create costs for homeowners, lenders, local governments, and society at large, avoiding foreclosures generates cost savings. Each foreclosure avoided by the NFMC program is estimated to have saved \$70,600. These savings include \$10,000 in moving

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<sup>9</sup> Foreclosure completion includes foreclosure sale, short sale, and other involuntary losses of a home through foreclosure-related actions.



costs, legal fees, and administrative charges for homeowners; 36 percent of the total lender loss, which represents the deadweight loss to society; \$6,500 in local government administrative and legal costs; and \$13,900 in reduced neighboring property values.<sup>10</sup>

Assuming the 13,000 loans that avoided foreclosure through December 2010 because of counseling do not complete foreclosure at some point in the future, the NFMC program has helped save local governments, lenders, and homeowners *\$920 million*, which is about \$1,200 per client served by the NFMC program in 2008 and 2009. These savings translate to between 2.4 and 3.0 times the total round 1 and 2 NFMC funding plus other spending to provide counseling services to these homeowners.

In rest of this section, we discuss how we obtained the results above. We describe the data sources used for the analysis and how the comparison group of non-NFMC loans, outcome variables, and control variables were created; discuss the methodological challenges inherent in a statistical study of this nature, how we compensated for these challenges, and the possible implications for our results; and, finally, present the modeling results and findings that were summarized above.

## **Data Used in the Analysis**

Three main data sources were used in the outcomes modeling analysis. These sources include administrative data collected by NW America from NFMC program Grantees on counseled homeowners, as well as two national data sources on U.S. mortgage loans and borrowers. This section describes these three data sources and explains how they were used to create a sample of NFMC-counseled homeowners and a comparison sample of non-counseled homeowners for the multivariate analysis. This section also describe the outcome variables (monthly payment reduction from loan modification, serious delinquency/foreclosure cure and sustainability, and foreclosure completion) and the other control variables used in the models, including an explanation of how they were constructed using the available data.

### *NFMC Program Production Data*

NFMC program Grantees are required to provide client-level data (referred to as *production data*), along with quarterly reports on aggregate activity toward overall goals established under the grant award. Grantees submit the production data on an ongoing basis through an electronic submission system. Production data consist of a record for each “counseling unit” provided by the Grantee or Subgrantee to an individual homeowner.

The NFMC program recognizes three distinct levels of counseling services. In Level 1 counseling, the NFMC Grantee or Subgrantee conducts a client intake process and develops a

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<sup>10</sup> See pages 98–101 of the main report for further details on the derivation of these cost figures.



budget and a written action plan for the client. After Level 1 counseling is completed, it is up to the client to follow through with any activities on the action plan. In Level 2 counseling, the Grantee or Subgrantee verifies the client's budget and takes additional steps to obtain solutions outlined by the action plan. In Level 3 counseling, Level 1 and Level 2 counseling are completed in succession by the same Grantee or Subgrantee. Since an individual homeowner may receive both Level 1 and Level 2 counseling, these sessions are counted and referred to as separate units of counseling.<sup>11</sup>

The production data provide the list of homeowners that have received NFMC program counseling in some form and, therefore, constitute the *treatment group* for the analysis of program impacts. The data consist of information on the counseled homeowner, including identifying data (name, address), demographic characteristics, and household income; information on the client's mortgage loan, including the current servicer, loan terms, and current default status; and information on the type and amount of foreclosure mitigation counseling received. For this report, we used production data on approximately 960,000 clients counseled during Rounds 1 and 2 of the NFMC program in 2008 and 2009 and reported to NW America as of January 22, 2010.

Grantees also can report outcomes for each counseling unit, although individual outcome reporting is not required for all counseling units in the production data. As a result, 13 percent of Level 1 counseling units in the first round of the program and 14 percent of Level 1 counseled households in the second round did not have a further reported outcome. Even for records with Grantee-reported outcomes, the outcome might be "currently in negotiation with servicer; outcome unknown" (35 percent of round 2 counseled households) or "initiated forbearance agreement" (10 percent), which still leaves open the question of whether the forbearance agreement was sufficient to avoid foreclosure.

Given these limitations on Grantee-reported outcomes, to model the impacts of the NFMC program on key outcomes of interest we needed to match the homeowners from the production data with external data on mortgage performance. In addition, to model the "what if" case of households that did not receive counseling, we needed an additional sample of loans for non-NFMC program participants, including their outcomes regarding foreclosure. We used data from LPS Applied Analytics, Inc., and from the Home Mortgage Disclosure Act to supplement the production data.

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<sup>11</sup> In round 2, a new counseling level (Level 4) was added for homeowner counseling services provided to fulfill HAMP requirements. Level 4 counseling units are not included in the analysis presented here as they constitute a very small share of reported clients.



### *LPS Applied Analytics Loan Performance Data*

LPS Applied Analytics, Inc., (LPS) is a commercial company that compiles home mortgage performance data from large loan-servicing organizations. These data were originally compiled by McDash Analytics, Inc., but LPS acquired that company in 2008. As of June 2010, LPS estimated that its database covered nearly 70 percent of the active residential mortgages in the United States. LPS compiles loan-level data from mortgage servicers, including nine of the ten largest servicers nationwide, and tracks several aspects of loan performance for active mortgage loans. NW America has negotiated an agreement to purchase LPS's loan-level database, which has approximately 36 million mortgage loan records, for use in this study.

The LPS data include numerous characteristics of each mortgage loan, including the borrower's FICO score at loan origination, the original loan amount, the current interest rate of the loan, the loan type (fixed rate, adjustable rate [ARM], option ARM), and the ZIP code of the mortgaged property. The data also track various loan performance indicators, including when a borrower defaulted on a loan and whether the loan has gone into foreclosure. The LPS loan performance data are updated monthly, which permits tracking of delinquency and foreclosure status on a month-to-month basis.

One issue with LPS is that relatively large shares of observations do not contain information on individual borrower's debt-to-income ratio or credit score at origination. About 40 percent of observations in our sample did not have a DTI, and 20 percent of the records did not include a credit score. These variables have been shown to be important factors in predicting loan performance, so we wanted to include them in our models. In previous analyses, we excluded records that did not have either DTI or credit score information, thereby losing about 40 percent of our observations. To correct for this problem, all the models in this report include categorical variables for DTI and credit score (which are reported in LPS as continuous variables); one of the categories is for observations with missing data. This method allows us to include all observations whether or not they are missing DTI ratios and/or credit scores.

### *Home Mortgage Disclosure Act Data*

The Home Mortgage Disclosure Act (HMDA), enacted in 1975, requires most lending institutions to report detailed data on mortgage application outcomes and approved loans to the Federal Financial Institutions Examination Council. HMDA data are routinely used to determine if housing credit needs are being met in particular neighborhoods and to identify discriminatory lending patterns. HMDA data are released publicly every year, and the public data include such fields as the race, sex, and income of the borrower; the loan amount and type; and the census tract of the mortgaged property. For this analysis, we had access to national loan-level HMDA data from 2002 through 2008.

We used the HMDA data to link additional borrower characteristics with the LPS data. Further, since census tract is reported on the HMDA data, by combining LPS and HMDA



records we were able to link additional census tract information for the non-counseled loans. (The counseled loans already had geocoded tract identifiers.) These census tract characteristics allowed us to control for neighborhood effects in our models.<sup>12</sup>

### *NFMC Analysis Sample*

Data for this analysis were drawn from approximately 960,000 NFMC “counseling unit” records reported to NW America, as of January 22, 2010, for clients that received counseling services between January 2008 and December 2009. A counseling unit refers to a client who received one or more counseling sessions at a given level of service from the same Grantee. It is possible, however, for a person to receive counseling at different levels from the same Grantee or to receive counseling from different Grantees. These would be reported in the NFMC program production data as separate counseling units. We were able to filter out multiple instances of counseling provided to the same homeowner, however, through our match with the LPS database.<sup>13</sup>

The NFMC counseling unit records were matched to the LPS database by the loan servicer’s name and loan identification number. While these two pieces of information are included in the data reported by NFMC Grantees, they are not included in the data provided by LPS for the NFMC evaluation. LPS does, however, maintain this information in its internal database. Therefore, LPS was able to merge the records for us, matching the loan servicer and loan identification number reported by the NFMC Grantees to the corresponding fields in their database and provide the internal loan identification number for those loans. This information was used to append the LPS loan information to the NFMC counseling records.

Not every NFMC loan could be successfully matched to a loan in the LPS database. First, the LPS database covers about 70 percent of U.S. mortgages, so some NFMC-counseled loans may simply not be included. In addition, some loans in the LPS database do not contain real servicer loan identification numbers, but rather an internal number generated by the servicer solely for LPS reporting purposes. These loans could not, therefore, be matched.<sup>14</sup> In addition, errors in reporting or recording data in either the LPS or NFMC database would result in match failures. While all these issues likely affected the ability to match loans between the NFMC and LPS databases, it is not possible to determine how much each factor contributed to lowering the overall match success rate.

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<sup>12</sup> To test whether requiring our comparison group of non-counseled loans be matched to HMDA records resulted in a biased sample, we also analyzed a comparison group based on a sample of non-counseled loans that were not matched to HMDA. This is discussed further on pages 42-43.

<sup>13</sup> About 17 percent of the matched LPS loans corresponded to two different NFMC-reported counseling units; 1 percent corresponded to three or four counseling units.

<sup>14</sup> The lack of real loan identification numbers for particular servicers was a possible source of selection bias in our sampling methods. This turned out not to be the case, however, as discussed on pages 41-42.



The matching process resulted in 180,000 unique LPS loans matched to NFMC records, a match rate of about 22 percent.<sup>15</sup> Although not randomly selected, a comparison of the NFMC-LPS matched loans with the NFMC population revealed that, based on key observable characteristics such as borrower age, borrower income, type of mortgage, amount of monthly payment, loan delinquency status, and level of counseling provided, the matched loans constitute a representative sample of all the NFMC clients counseled in the first 12 months of the program. A comparison of the characteristics of the NFMC sample and population can be found in appendix H.

### *Non-NFMC Analysis Sample*

As noted in the introduction, the performance of the NFMC program should be assessed relative to what would have happened had NFMC's counseling services not been available. To make this comparison, we selected a group of non-counseled homeowners against which performance of loans for NFMC-counseled homeowners can be compared. The method we used to draw the comparison sample attempted to match selected characteristics of loans in the NFMC sample. In addition, we used multivariate analysis to control for any differences between the two sets of loans that might affect the outcomes of interest.

The gold standard for evaluation analysis is an experimental design with random assignment of treatment. In an experimental study design, homeowners seeking foreclosure assistance would be randomly assigned to two groups: one that would receive counseling services and one that would not. The two groups would then be followed, and any differences in outcomes between the two could reasonably be attributed to the effect of the counseling.

The virtue of the experimental design is that, if done properly, the two groups should be indistinguishable from each other in both observable and unobservable characteristics, except for the fact that one group received counseling. The NFMC program was not set up as an experimental design, however, so differences between the counseled homeowners and the non-counseled homeowners must be controlled for using statistical methods. In this analysis, therefore, we used two different multivariate modeling techniques (logistic regression and ordinary least squares regression), which allowed us to control for differences in characteristics between the counseled and non-counseled loans.

For the purposes of modeling program effects, we selected a group of mortgage loans that did not receive NFMC counseling to serve as a comparison sample in our model estimations. One possible method for selecting the comparison sample would have been to

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<sup>15</sup> In a very small number of cases (557), the same NFMC counseling unit matched against multiple LPS loan records. These counseling units were deleted from the analysis. In a larger share (38,067 counseling units), the same LPS loan was matched to multiple counseling unit records. In these cases, the counseling unit with the highest level of counseling service provided was retained. In cases where two or more units had the same highest level of counseling, the record with the latest counseling intake date was kept.



choose randomly a portion of loans among those LPS database records that were not matched to NFMC loans. We chose not to use this approach because NFMC clients have characteristics that differ from the overall population of residential mortgages. For one, NFMC clients are much more likely to be delinquent on their loans than homeowners in general. Close to 70 percent of NFMC clients are delinquent on their mortgage when they enter into foreclosure prevention counseling, compared with an overall delinquency rate of 9.55 percent for all mortgages as of June 2010 (LPS 2010). As a consequence, a randomly chosen sample of all U.S. mortgages that did not receive NFMC counseling would almost certainly yield a group of loans that differed from the NFMC-counseled population in a number of important respects.

While many variations between the NFMC loans and a random sample of non-NFMC loans would be controlled for in the subsequent modeling, the large differences in the distributions of the control variables would reduce the efficiency of the model estimates, as well as possibly increase the impact of selection bias. We discuss the issue of selection bias in the Potential Modeling Issues section (page 37). The issue of efficiency of the model estimates can be described as follows: Suppose that almost all the NFMC loans were adjustable rate mortgages and almost all the non-NFMC loans were fixed-rate mortgages. It would be very difficult (if not impossible) to separate statistically the effect of the NFMC program on foreclosures from the effect of the mortgage type on foreclosures since there would be very few loans of the same type in the different treatment groups. The problem, therefore, is not that we would get the *wrong* answer regarding NFMC impacts, but rather that we would get *no answer at all*. By having NFMC and non-NFMC samples that are relatively similar on observable borrower and loan characteristics, our models will be more likely to separate program effects from other statistical “noise.”

Therefore, instead of a random sample, we chose a comparison sample by implementing a propensity scoring model to match the characteristics of the NFMC and non-NFMC samples as closely as possible on several important dimensions. A propensity scoring model is a technique for drawing matched data samples based on common characteristics.<sup>16</sup> For each loan in the NFMC sample, the propensity scoring model found the closest match among the non-NFMC loans in the database. The propensity scoring model matched NFMC and non-NFMC samples using the following characteristics as of loan origination and counseling intake month:

- Year of loan origination
- Whether the loan was fixed or adjustable rate at origination
- Whether the loan was grade B/C (subprime) at origination

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<sup>16</sup> We used a version of the propensity scoring match algorithm implemented as a SAS macro by Parsons (no date) to select our comparison sample.





- Interest rate in the month of counseling intake
- Months delinquent in the month of counseling intake
- Whether the loan was in foreclosure in the month of counseling intake
- Whether the loan was in the portfolio of Fannie Mae or Freddie Mac, was held in a private portfolio, was a private securitized loan, or was owned by another entity in the month of counseling intake
- State where the mortgaged property was located

By matching NFMC loans using a pool of outstanding loans at the time of intake, we increased the likelihood that the non-NFMC loans did not pay off (either through a refinance or a sale of the home) at a different rate than the NFMC loans. Moreover, about two-thirds of NFMC clients were not current on their mortgage at intake, which is a much higher share than for all mortgages. Therefore, by matching loans using status at intake in the propensity scoring model, we ensure that the performance of non-NFMC loans is similar to the disproportionate share of NFMC clients whose loans are not current.

As noted earlier, HMDA data were also used in the analysis to add consistent race, ethnicity, and census tract characteristics to the non-NFMC loan records since those characteristics are not part of the data LPS collects from loan servicers. Since these variables were seen as potentially key predictors of the foreclosure outcomes we were studying, we felt that it was important to include them in our models. Since our HMDA data only included loans originated between 2002 and 2008, we were limited to matching HMDA characteristics to NFMC counseled loans of this vintage. Fortunately, the vast majority of NFMC-counseled mortgages (85 percent) were originated between 2002 and 2008, so this restriction did not appreciably affect our sample selection.

The methodology for matching the loan records to the HMDA data is described in appendix I. Because no unique identifiers could be used to match data directly between the two sources, we matched on several loan characteristics, including ZIP code, origination year, and original loan amount. Because our analysis required an exact match, we excluded any loans where the matching was ambiguous—that is, where more than one HMDA loan met the match criteria for a given LPS loan. Despite these stringent matching requirements, a much higher match rate was achieved than with the NFMC-LPS match. Of the original 35 million LPS loans active as of January 2008 or originated during 2008, 1.1 million were successfully matched to HMDA records and were therefore available for use in the multivariate analysis as the NFMC analysis sample.

We carried out two separate propensity scoring matching rounds, one for loans counseled in 2008 and a second for loans counseled in 2009. For each round, matching was done monthly based on the intake date of counseling; loans for NFMC clients were matched against LPS loans outstanding in that particular month. Within a given year, matching was done



without replacement of previously selected loans—that is, a loan could only be selected once to be included in the non-NFMC sample. When starting the second matching round for 2009, however, we allowed loans to have been previously selected for the 2008 comparison sample to be potential matches for the 2009 sample. Limiting our pool of loans to only those that had not been selected in 2008 would have severely limited the available supply of loans and increased the likelihood of ending up with poor matches—that is, loans that did not have the same characteristics as the NFMC loans. To avoid this problem, we allowed matching with replacement of previously matched loans between 2008 and 2009.

The propensity scoring model was run against the 180,000 NFMC analysis sample and approximately 1.1 million LPS loans originated between 2002 and 2008 that were not previously matched to NFMC records but were matched to HMDA. LPS loans that were not matched to NFMC loans were presumed *not* to have received NFMC counseling. Nonetheless, we must acknowledge that some of these homeowners may have received foreclosure counseling from some other program. It is also possible that some may have received counseling from the NFMC program itself but could not be matched to the LPS database because they were not in the LPS universe of loans, because they were in the portfolio of a servicer that did not report loan identification numbers to LPS, or because of data errors in the matching variables.

The propensity scoring process actually resulted in two NFMC analysis samples. The matched NFMC sample includes only those 155,000 loans that were successfully paired with a non-NFMC loan through propensity scoring. The non-matched NFMC sample includes the full set of 180,000 NFMC loans, combining the 155,000 matched sample loans plus the remaining loans that were not matched to non-NFMC loans. To test the robustness of our results, we ran our analyses using both sets of NFMC loans and found no important differences in the results based on which NFMC sample we used.

To validate the success of the propensity scoring matching process, we compared the characteristics of the NFMC and non-NFMC sample loans. As shown in tables 2 and 3, the two NFMC analysis samples and the non-NFMC sample selected by the propensity scoring model matched very well on the characteristics used in the propensity scoring. The largest discrepancies were in the shares of loans that are current on counseling intake (11 percentage point difference between NFMC matched sample and the non-NFMC sample), whether the loan was held by Fannie Mae or Freddie Mac (7 percentage point difference), the share of loans four or more months delinquent (7 percentage points), and the share of adjustable rate loans (5 percentage points).

We emphasize, however, that the success of our modeling does not depend on the NFMC and non-NFMC samples matching exactly. To the extent that we are controlling for characteristics that affect our foreclosure outcomes, differences between the two samples should not bias our modeling results. There are, nonetheless, some possible sources of bias in our data that we address in the Potential Modeling Issues section of this report (page 37).



**Table 2: Comparison of NFMC and Non-NFMC Analysis Samples by Loan Characteristics as of Counseling Intake Month**

	NFMC sample (matched only)	NFMC sample (matched + unmatched)	Non- NFMC sample
Number of loans	154,865	180,287	154,927
<i>Percent by loan origination year</i>			
2002	3.2	4.1	2.9
2003	7.2	7.1	6.6
2004	9.2	10.2	8.7
2005	19.5	19.6	19.8
2006	30.5	30.1	32.7
2007	24.5	23.6	24.1
Average interest rate (%)	6.8	6.9	6.9
Percent of adjustable rate loans	34.3	34.3	39.1
<i>Percent by investor</i>			
Fannie Mae/Freddie Mac	50.0	47.1	42.9
Private securitized	36.3	40.1	39.9
Private portfolio	12.9	12.1	16.3
Other	0.8	0.7	0.9
<i>Percent by delinquency status at intake</i>			
Current	36.7	40.4	47.7
1 month	12.6	11.2	12.8
2 months	11.1	9.8	8.9
3 months	8.1	7.2	6.2
4+ months	31.5	31.4	24.5
Percent in foreclosure	13.8	13.8	16.7

Source: Authors' calculations from NFMC program data and LPS loan performance data for January 2008.



**Table 3: Comparison of NFMC and Non-NFMC Analysis Samples by State**

	NFMC sample (matched only)	NFMC sample (matched + unmatched)	Non-NFMC sample (matched)
Number of loans	154,865	180,287	154,927
<i>Percent by state</i>			
Alabama	0.6	0.5	1.0
Alaska	0.1	0.1	0.2
Arizona	3.1	3.6	2.7
Arkansas	0.3	0.3	0.6
California	19.5	21.8	15.0
Colorado	2.6	2.4	2.6
Connecticut	1.1	1.2	1.2
Delaware	0.4	0.4	0.5
District of Columbia	0.3	0.3	0.3
Florida	7.2	7.1	6.8
Georgia	4.1	3.8	4.3
Hawaii	0.2	0.1	0.3
Idaho	0.3	0.3	0.5
Illinois	5.5	5.5	4.7
Indiana	1.3	1.2	1.9
Iowa	0.9	0.9	1.3
Kansas	0.4	0.3	0.7
Kentucky	0.4	0.6	1.1
Louisiana	0.5	0.4	0.8
Maine	0.2	0.2	0.4
Maryland	3.8	4.0	3.3
Massachusetts	2.3	2.3	2.1
Michigan	4.4	1.3	3.9
Minnesota	1.6	1.4	1.9
Mississippi	0.5	0.4	0.8
Missouri	2.3	2.2	2.5
Montana	0.1	0.1	0.2
Nebraska	0.2	0.2	0.4
Nevada	2.4	2.5	2.3
New Hampshire	0.3	0.2	0.4
New Jersey	2.2	2.1	2.4
New Mexico	0.4	0.3	0.6
New York	3.1	2.9	3.1
North Carolina	3.3	3.1	3.2
North Dakota	0.0	0.0	0.2
Ohio	4.9	4.9	4.1
Oklahoma	0.5	0.4	0.9
Oregon	1.0	0.9	1.2
Pennsylvania	3.9	4.1	3.1
Rhode Island	0.8	0.8	0.9
South Carolina	1.7	1.6	1.8
South Dakota	0.2	0.2	0.3
Tennessee	1.5	1.4	1.9
Texas	3.8	3.5	4.0
Utah	0.3	0.3	0.6
Vermont	0.1	0.0	0.1
Virginia	2.3	2.0	2.8
Washington	1.5	1.4	1.7
West Virginia	0.2	0.2	0.4
Wisconsin	1.3	1.2	1.6
Wyoming	0.0	0.0	0.1



### *Outcome Variables*

The objective of counseling is to help achieve the most appropriate outcome, given the client's preference for remaining in a home and the feasibility of the owner making continued mortgage payments under the current loan terms or with a mortgage modification. As a result, counselors indicated, through web surveys and in interviews, that they attempted to achieve outcomes that were most beneficial to their clients. Consistent with these objectives, our analysis of the NFMC program measured the following counseling effects:

- **Modification payment reduction:** Did the NFMC program help homeowners receive loan modifications that resulted in lower monthly payments than they would have otherwise received without counseling?
- **Cures:** Were NFMC clients more likely to bring current a seriously delinquent loan or a loan in foreclosure either with a loan modification (**modification cure**) or without a loan modification (**non-modification cure**)?
- **Redefault:** Were loans for NFMC clients less likely to become seriously delinquent or enter foreclosure after a modification cure (**modification cure redefault**) or a non-modification cure (**non-modification cure redefault**)?
- **Foreclosure completion:** Are NFMC clients less likely to have a loan complete the foreclosure process?

To measure counseling's effects on the outcomes, we used the data sources described above to construct outcome variables corresponding to each of the above questions for both the NFMC and non-NFMC loan samples. In determining whether individual outcomes were a result of the NFMC program, we proceeded as follows: For loans in the non-NFMC comparison sample, all outcomes were assumed to be "non-counseling" effects; that is, if a non-NFMC loan experienced a modification, a cure, a redefault, or a foreclosure start/completion, then these outcomes were not attributed to the NFMC program. For NFMC sample loans, however, the outcomes were assumed to be counseling or non-counseling effects depending on when the outcome took place relative to the start of counseling. For example, if an NFMC client received a loan modification *before* beginning to receive counseling services, then this outcome was deemed a non-counseling effect. If, however, the loan modification was received *after* the start of counseling, then the result was attributed to the NFMC program.

Note that the list of outcomes above includes only those that could be tracked with the available data sources. Other outcomes, such as a short sale or a deed-in-lieu of foreclosure, might also be considered preferable to a foreclosure by the homeowner, even if they may result in the client leaving his or her home. Unfortunately, the data available did not allow us to identify short sales or deeds-in-lieu as distinct from other types of sales. The fact that we could not model them should not be interpreted to mean that outcomes other than those listed above are undesirable or ought to be excluded as measures of program success. Indeed, in interviews



many counselors spoke to us of the importance of helping clients find “graceful exits” if they lack the means to remain in their homes, even with a loan modification.

### **Reduction in monthly payment from loan modifications**

Our early analyses of outcome data for the NFMC program highlighted the importance of loan modifications in achieving successful outcomes for troubled homeowners. NFMC-counseled homeowners that received loan modifications were less likely to either have their loan go into foreclosure or to have a foreclosure completed after the start of counseling, compared with NFMC clients that did not receive loan modifications (Mayer, et al. 2009). Other research on loan performance has also highlighted a positive relationship between better mortgage outcomes (such as foreclosure avoidance and reduced delinquency recidivism) and significant reductions in monthly loan payments (Office of the Comptroller of the Currency and Office of Thrift Supervision 2009; Quercia and Ding 2009). Therefore, if NFMC Grantees were able to help homeowners obtain more beneficial loan modifications from lenders, one would expect to see improved client outcomes, making payment reduction a potentially important intermediate outcome of the NFMC program.

While the LPS data track several characteristics of the mortgage loan, including current monthly payment<sup>17</sup> and interest rate, there is no specific flag in the database to indicate a loan modification. Based on our analysis of the LPS data, we created a series of criteria to identify loan modifications based on changes in the monthly loan characteristics.

1. **Mortgage modified by lowering interest rate only:** For fixed-rate mortgages, if the interest rate was *reduced* from one month to the next, by any amount, this was identified as a lower interest rate modification.

For adjustable-rate mortgages, we determined whether the reduction in interest rate between one month and the next exceeded a predetermined threshold and, if so, identified this as a lower interest rate modification.<sup>18</sup>

- For ARMs with one-month reset periods where the next payment due date was one month after the previous payment due date (that is, where the borrower either remained current or stayed the same number of months delinquent as s/he was previously), the threshold was 100 basis points.

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<sup>17</sup> Monthly payment includes amounts paid by the homeowner to the loan servicer for mortgage principal, interest, taxes, and insurance.

<sup>18</sup> The LPS data do not provide enough information to determine, with certainty, when an ARM should reset and how much the reset payment should be. Therefore, some observed ARM rate reductions may result from the index declining from its previous reset period and not from a loan modification. Because of this, to identify interest rate modifications we used a conservatively large threshold, represented by the maximum decline in an index between January 2008 (when the first NFMC client was reported into the system) and December 2009.



- For ARMs using the COFI index (San Francisco Eleventh District Cost of Funds),<sup>19</sup> the threshold was 200 basis points.
  - For all other ARMs, the threshold was 300 basis points.
2. **Mortgage modified by increasing loan term only:** Remaining term of the loan increased from one month to the next.
  3. **Mortgage modified by lowering loan principal only:** If the difference between the previous principal balance and the current principal balance was at least \$5,000 greater than the maximum possible change in principal balance within the loan's terms, the loan was flagged as a lower loan principal modification. Only loans that were not paid in full and did not have a foreclosure completed in the month of the principal drop were flagged as lowered-principal modifications.
  4. **Mortgage modified with a combination of lower interest rate, longer term and/or lower principal:** Any combination of the three modifications above.

If none of the above changes were observed, those loans were not flagged as having been modified in that month. Because we were only interested in identifying modifications that would likely lower the probability of a foreclosure, we deliberately set thresholds for loan modifications that were likely to result in *lower monthly payments* for homeowners. Indeed, applying these criteria to all NFMC-counseled loans that received a modification after intake showed that about 86 percent of the above-identified modifications resulted in a lower monthly mortgage payment, with 54 percent of such modifications lowering the payment by 20 percent or more. For loan modifications received by non-NFMC clients, 42 percent had a payment reduction, and 26 percent of all modifications lowered the payment at least 20 percent. Similarly, 56 percent of NFMC clients that received a loan modification before intake had a loan modification that resulted in no payment reduction; only 20 percent of such modifications reduced the monthly payment by more than 20 percent.

### **Sustainability outcomes**

In this report, we used models to measure the impacts of counseling on homeowners' ability to cure serious delinquencies or foreclosures, and subsequently sustain those cures and remain current on their mortgages. The models estimated the independent impacts of counseling assistance through obtaining better loan modifications and achieving cures not involving modifications, as well as other aspects of counseling, such as financial planning assistance or referrals to other needed services.

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<sup>19</sup> The COFI is a common index used to adjust the interest rates of ARMS. It reflects the weighted-average interest rate paid by 11th Federal Home Loan Bank District (Arizona, California, and Nevada) savings institutions for savings and checking accounts, advances from the Federal Home Loan Bank, and other sources of funds.



For these models, we focused exclusively on 2008 and 2009 counseled and non-counseled loans with serious delinquencies (defined as three or more months of missed payments) or in foreclosure sometime in 2008 or 2009. We examined three outcomes for these models:

*Cure.* Mortgages that were in serious delinquency or foreclosure but later were observed to become completely current (i.e., no late payments and not in foreclosure) were identified as cures. Cures may have resulted from a loan modification (see below) or from some other means, such as a self-cure.

*Curing loan modifications and non-modification cures.* We characterized a loan as receiving a curing loan modification (or modification cure) if that loan was in serious delinquency or foreclosure at the time of receiving the modification and if it became completely current (i.e., no late payments and not in foreclosure) as a result of the modification. Loan modifications were identified by observing changes in the mortgage characteristics in the monthly LPS data. To be identified as a modification cure, the corresponding switch to current status had to have been recorded in the LPS data within one month (before or after) of the loan modification. Loans brought completely current without modifications were labeled non-modification cures.

*Redefault.* Loans that were cured, either through a modification or some other means, were observed for possible subsequent redefault. Because it is common to observe missed payments of one or two months that then self-cure, we restricted redefault for the sustainability models to cases where the homeowner missed three or more payments or was placed in foreclosure by the servicer. We also restricted redefaults to such new troubles for loans specifically previously cured to *current*, so potential redefaults would have a clear and simple starting point.

### **Foreclosure completion**

Successful foreclosure mitigation activity is ultimately measured by foreclosures averted or delayed. Nonetheless, even for the most effective possible foreclosure mitigation counseling effort, some foreclosures would still occur in response to unemployment, death, divorce, natural disasters, and other “trigger” events beyond the direct control of homeowners and immune to the type of policy intervention represented by the NFMC program.

By stopping a loan from entering foreclosure (foreclosure start), counselors help owners avoid the foreclosure process and explore other options when owners have trouble making payments. Avoiding a foreclosure start is generally ideal, since it indicates that the homeowner has sought help, rather than waiting until the situation becomes too dire. Unfortunately, many clients wait until they are already in foreclosure, or are close to receiving a foreclosure notice,





before they meet with a counselor. Likely for that reason, our attempts to model counseling's impacts on avoiding a foreclosure start were unsuccessful.<sup>20</sup>

Therefore, we attempted to measure the impact of the NFMC program's effectiveness on *delaying a foreclosure completion*. A foreclosure completion means that the owner lost his/her home to a foreclosure, short sale, or deed-in-lieu. By delaying completion of the process, the owner's ability to avoid foreclosure entirely by allowing additional time for more favorable outcomes, including becoming current on the loan, selling the property, modifying the loan, or obtaining alternative financing, increases. Delay beyond December 2010 is considered foreclosure averted, although in some cases a foreclosure may eventually take place.

### *Control Variables*

Many factors, apart from counseling, could affect whether a home ends up in foreclosure. The more we are able to measure and include such factors in our analysis, the better our models will be at isolating and estimating the specific impact of counseling. The literature on loan performance and the impacts of counseling helps identify many likely factors. Our own early reconnaissance and initial look at NFMC quarterly report material further filled in and refined the list (Mayer et al. 2008). The data available to us, of course, limit the variables we can actually employ.

In initial modeling attempts, we used some 85 characteristics, including the state of residence, as control variables in our models. Many of these characteristics proved to have no statistically significant impact on foreclosure outcomes. This extensive list of controls also challenged the capacity of our computer hardware and software and, because combinations of characteristics could be closely correlated, made it difficult to obtain reliable estimates of the model parameters. For these reasons, we filtered down our variables to those that proved statistically significant in many, if not all, model alternatives. These variables are listed in table 4. (Summary descriptive statistics for these variables are provided in appendix J.)

Most of these explanatory variables are standard borrower and mortgage characteristics that are often included in models of loan performance. A few, however, deserve some further explanation. The income variable that we used in the models came from two different sources, depending on whether the homeowner received NFMC counseling. For homeowners receiving NFMC counseling, income is reported by the Grantees based on intake information. For non-NFMC homeowners, however, current income was not available. To obtain income for these homeowners, we had to rely on our HMDA matching, which provided income reported at the time the mortgage was originated.

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<sup>20</sup> In many cases, NFMC clients entered counseling shortly after receiving a foreclosure notice. Therefore, the LPS data showed a foreclosure start after counseling, suggesting that counseling increased the likelihood of a loan entering foreclosure. Such a finding is not meaningful, so we did not include the results in our analysis.



To test for possible problems with the fact that income was measured at two different times for the NFMC and non-NFMC samples, we estimated all our models both with and without the income variable. The results were virtually identical under both specifications for all models, indicating that differences in the definition of the income variable were not biasing our results. Because income is such an important determinant of many outcomes we are examining, we have chosen to present the versions of the models that included the income control variable.

To control for surrounding community effects on foreclosures, we included two measures of *neighborhood quality*, both derived from HMDA data for 2006 and 2007: the home mortgage approval rate, and the median value of new home purchase mortgages. Both these variables were identified as key measures of neighborhood quality by Galster, Hayes, and Johnson (2005).

We also included a control variable for *mortgages with a loan-to-value (LTV) ratio at origination not equal to 80 percent*. This variable is included because the LTV may not reflect all mortgages originated to a property's owner. In particular, owners may finance a purchase with both a first-lien mortgage and a second lien or piggyback loan. Unfortunately, it is not possible in the LPS database to match first-lien mortgages with corresponding second liens, so secondary financing cannot be observed directly. As noted in Foote and colleagues (2009), however, a large number of loans in the LPS database have an LTV at origination equal to 80 percent, which strongly suggests that these loans were accompanied by a second mortgage. To control for the impact of second liens on loan performance outcomes, the "LTV not equal to 80 percent" dummy variable estimates any decrease in risk for homes purchased without piggyback loans.



**Table 4: Explanatory Variables Used in All Models**

Variable label	Description
Status at intake	Number of months delinquent (1, 2, 3, 4 or more). For NFMFC loans, the status is as of the month client entered counseling; for non-NFMFC loans, the status is as of the month the loan's matched NFMFC pair entered counseling.
Black borrower	Equals 1 if client is African-American. <sup>a</sup>
Hispanic borrower	Equals 1 if client is Hispanic/Latino. <sup>a</sup>
Asian/PI borrower	Equals 1 if client is Asian or Pacific Islander. <sup>a</sup>
Other race borrower	Equals 1 if client is other race. <sup>a</sup>
Income	Homeowner income (\$ thousands). For NFMFC loans, reported at time of counseling intake; for non-NFMFC loans, reported at time of mortgage origination.
FICO/credit score—original	Client's FICO score at origination.
Debt-to-income ratio	Ratio of PITI payment to income at origination.
Current interest rate	Current interest rate of client's loan (%).
Grade B/C mortgage	Equals 1 if loan is subprime (grade B or C as reported by mortgage servicer in LPS data).
ARM loan	Equals 1 if loan is an ARM.
Option ARM loan	Equals 1 if loan is an Option ARM.
Other interest type loan	Equals 1 if loan has an interest type other than ARM, Option ARM, or fixed.
Agency loan	Equals 1 if loan is a Fannie Mae or Freddie Mac loan.
Jumbo loan	Equals 1 if client's loan was a jumbo loan at origination.
Portfolio	Equals 1 if loan is held in portfolio by the originator.
Government	Equals 1 if loan is government insured.
Home mortgage approval rate (%), 2006–07	Percentage of loan applications that were approved between 2006 and 2007 in census tract where client's home is located.
Mortgage originations median amount home purchase (thousands)	Median purchase loan amount for mortgages originated in a client home's census tract between 2006 and 2007.
Monthly unemployment rate	Unemployment rate (%) reported by the Bureau of Labor Statistics for the MSA or state in which the mortgaged property is located.
Change in unemployment rate since Jan. 2008	Percentage change in the current month's unemployment rate from January 2008 rate.
Quarterly housing price index	Federal Housing Finance Agency (FHFA) quarterly house price index for the MSA or state in which the mortgaged property is located.
Change in HPI since Q1 2008	Percentage change in the current quarter's FHFA house price



Variable label	Description
	index from the first quarter 2008 index value.
Year originated	Dummy variables for loans originated in 2003 to 2008. (2002 is the omitted reference year.)
Loan-to-value ratio	The loan-to-value ratio at origination, as a percentage.
Dummy for LTV not = 80%	Equals 1 if loan-to-value ratio at origination is not 80 percent.
Original loan amount	Amount of the original mortgage loan (\$ thousands). (This variable is used in the loan modification model to control for the size of the loan relative to the reduction amount.)

a Whites were the omitted race category in the models; that is, the values of the parameter estimates for blacks, Hispanics, and so on, are relative to white clients.

Additional control variables were used in the models to measure counseling impacts and their relationship to other factors, such as the start of the Home Affordable Modification Program and interactive effects with other borrower, loan, and neighborhood characteristics. These issues are discussed in the next two sections.

### **Modeling separate effects of counseling before and after HAMP**

The U.S. Department of the Treasury put the Home Affordable Modification Program in place in 2009 as a component of the Making Home Affordable Program, a major piece of the federal government's response to the ongoing foreclosure crisis. Under HAMP, mortgage servicers receive incentive payments for modifying the loans of eligible borrowers. The loan modifications must follow specific rules, which are intended to produce affordable terms that will allow homeowners to remain in their homes. Participation is voluntary, but once enrolled, servicers are expected to follow HAMP's guidelines and approve modifications for all borrowers that meet the program's eligibility requirements.

While it is not the purpose of this study to evaluate HAMP, it was important to understand how this significant change in the policy landscape might have affected the ways in which the NFMC program was operating. In particular, we suspected that *counseling's effectiveness could change as a result of the industry's responses to HAMP*. For example, under HAMP, servicers are expected to reduce a monthly mortgage payment to 31 percent of the owner's income. In principle, this could mean the loan modifications would be less subject to negotiation because servicers would be using an objective and standard net-present-value calculation for evaluating HAMP requests.

Under these circumstances, counseling may have had less effect on a client's loan modification because the modification terms would have been less dependent on a skilled negotiator advocating on the owner's behalf. On the other hand, HAMP also provides a financial incentive to servicers that might allow counselors to make additional headway in negotiations;



and, counseling might be especially important to homeowners' successes in garnering the expanded array of modifications. Further, our web surveys and case study interviews indicated that servicers may not have always followed HAMP guidelines correctly or offered HAMP modifications when the borrower was eligible for one. Therefore, counselors may still have played an important mediation role in ensuring that borrowers obtained the modifications they were entitled to under HAMP.

To account for these possible HAMP effects, in all our models we included variables that measure separate counseling effects in the periods before and after HAMP began. We used April 1, 2009, as the effective start date of the program, which divided our loan observations into two periods: before HAMP (January 2008 through March 2009) and after HAMP (April 2009 through December 2010). We employed this approach in part because we did not have access to any data that would allow us to identify directly mortgages that participated in or received modifications under HAMP. Borrower participation in HAMP is not reported to NW America by NFMC Grantees and is not tracked by servicers in the LPS data. And, although we can identify loan modifications in the LPS data, we cannot distinguish between HAMP and non-HAMP modifications. Further, as we discuss in more detail below, the presence of HAMP could be expected to influence outcomes for borrowers that do not receive HAMP modifications.

Models that estimate counseling's effect on curing a seriously delinquent loan have variables that indicate whether a client *entered counseling* on or before March 31, 2009 (before HAMP). Models that estimate counseling's impact on a loan modification amount have a variable that indicates whether a modification took place after entry into counseling (without regard to intake date). This variable, then, estimates counseling's overall effect on loan modification amounts. We also include a variable that indicates whether a client received a loan modification after intake, and also after March 31, 2009. This variable measures the additional impact of counseling on loan modifications that took place after HAMP was in place.

Models that estimated the impact of counseling on a loan modification amount and redefault rates have a variable that indicates whether the loan modification or cure happened *after intake*. These counseling variables measure the overall effect of counseling, without regard to when the loan modification or cure occurred. However, these outcomes can also be affected by HAMP, and so we include additional variables that measure any change to counseling's effect on loan modification amounts and redefault for loans that were modified or cured after intake *and* for which the modification or cure happened after March 31, 2009. (See table 5.)



**Table 5: Counseling and HAMP Variables Used in Outcome Models**

<b>Mod. amount</b>	One dummy variable ( <i>Entered_counseling</i> ) that measures the impact of counseling on the reduction in a monthly loan payment resulting from a loan modification in all periods (either before or after HAMP).	<p>A dummy variable (<i>mod_post_apr09</i>) that = 1 for all loan modifications after March 2009. This variable measures the change in loan modification amounts for all loans after HAMP began, whether or not an owner received counseling.</p> <p>A dummy variable (<i>mod_post_apr09_int</i>) that = 1 for all loan modifications after intake and after March 2009. This variable measures any change in the counseling effect after HAMP.</p>
<b>Mod. cure</b>	Two potential counseling effects: one dummy variable for clients entering counseling after March 31, 2009 ( <i>EC_AFT_MAR09</i> ), and another dummy variable for clients entering counseling before April 1, 2009 ( <i>EC_BEF_MAR09</i> ).	A dummy variable ( <i>AFT_MAR09</i> ) that = 1 for all periods after March 2009. This variable estimates the change in the probability of a mod cure after March 2009.
<b>Non-mod. cure</b>	Two potential counseling effects: one dummy variable for clients entering counseling after March 31, 2009 ( <i>EC_AFT_MAR09</i> ), and another dummy variable for clients entering counseling before April 1, 2009 ( <i>EC_BEF_MAR09</i> ).	A dummy variable ( <i>AFT_MAR09</i> ) that = 1 for all periods after March 2009. This variable estimates the change in the probability of a non-mod cure after March 2009.
<b>Mod. cure redefault</b>	One dummy variable ( <i>Post_counseling_mod</i> ) that = 1 for loans with mod cures after start of counseling. This variable estimates the impact of counseling on redefault, without regard to whether the cure happened before or after HAMP.	<p>A dummy variable (<i>mod_post_apr09</i>) that = 1 for loans with mod cures after April 2009. This variable measures the change in the probability of any loan (whether an owner received counseling or not) curing after HAMP.</p> <p>A dummy variable (<i>Interaction term</i>) that = 1 for loans with mod cures after counseling and after March 31, 2009. This variable estimates the change in counseling's effect on redefault for cures after HAMP.</p>
<b>Non-mod. cure redefault</b>	One dummy variable ( <i>Post_counseling_cure</i> ) that = 1 for loans with non-mod cures after start of counseling. This variable estimates the impact of counseling on redefault, without regard to whether the cure happened before or after HAMP.	<p>A dummy variable (<i>cure_post_apr09</i>) that = 1 for loans with non-mod cures after April 2009. This variable measures the change in the probability of any loan (whether an owner received counseling or not) curing after HAMP.</p> <p>A dummy variable (<i>Interaction term</i>) that = 1 for loans with non-mod cures after counseling and after March 31, 2009. This variable estimates the change in counseling's effect on redefault for cures after HAMP.</p>



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<b>Foreclosure completion</b>	Two potential counseling effects: one dummy variable for clients entering counseling after March 31, 2009 ( <i>EC_AFT_MAR09</i> ), and another dummy variable for clients entering counseling before April 1, 2009 ( <i>EC_BEF_MAR09</i> ).	A dummy variable ( <i>AFT_MAR09</i> ) that = 1 for all periods after March 2009. This variable estimates the change in the probability of a foreclosure start or completion after March 2009.
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As an added benefit, our analyses may shed more light on HAMP's benefits for troubled homeowners. From its inception through the first quarter of 2011, the HAMP program has resulted in 376,000 permanent modifications (Office of the Comptroller of the Currency and Office of Thrift Supervision 2009, 2011). Despite these successes, the results have fallen short of the goals initially set for the program and pale in comparison to the estimated 4.1 million loans in serious delinquency or foreclosure as of May 2011 (LPS 2011). Although HAMP was never intended to help all troubled homeowners, the relatively small number of modifications has prompted many to criticize HAMP and some to label the program a failure.

While it is outside the scope of this evaluation to determine whether HAMP has been a success, our research suggests that the program has had more benefits for homeowners than its critics credit, reaching beyond the numbers of people directly assisted by the program. As noted, HAMP provides a financial incentive to servicers to make loan modifications that follow specific program rules, but NFMC counselors who responded to our web survey and key informants interviews indicated that HAMP has also had a larger impact on servicer capacity and behavior.

In particular, HAMP established a more standardized method to evaluate loan modifications and provided incentives to increase servicers' capacity to process loss mitigation solutions. In fact, a recent U.S. Treasury (2011) report indicates that "when [HAMP] began, most servicers did not have the staff, procedures, or systems in place to respond to the volume of homeowners struggling to pay their mortgages, or to respond to the housing crisis generally. Treasury sought to get servicers to ... improve their operations quickly, so as to implement a national mortgage modification program." Through our key informant and case study interviews, staff members at counseling agencies have told us that servicers seemed to frequently use HAMP as a template for their own proprietary loan modifications and other workouts. Further, some HAMP modifications may substitute for non-HAMP modifications that would otherwise have occurred.

Nevertheless, these overall HAMP results, while compelling, are not definitive. It is possible that servicers and counselors may have improved their performance even without HAMP. Certainly we know that, since the beginning of the foreclosure crisis, market participants have instituted best practices over time as they learned strategies and methods to increase effectiveness. We know as well that counseling organizations and mortgage servicers have increased their capacity to deal with the rising volume of troubled mortgages. Some of these



changes might have been a result of the introduction of HAMP, while others might be coincidental. Without more precise data and more detailed analysis, it is impossible to know for sure.

We do attempt to account for the overall increase in capacity and efficiency by including monthly counter variables in our outcome models. In the models that estimate the NFMC program's impact on the likelihood of curing a loan, the counter starts with the first month of the delinquency spell. For redefault models, the counter starts when the loan is cured. In the models that estimate the NFMC program's impact on foreclosure completions, the counter starts in January 2008. These variables provide estimates for changes to the lending/servicing environment above and beyond those that happened around the time HAMP was enacted.

### **Interaction models**

In addition to variables that allow us to identify the impact of HAMP on counseling outcomes, we estimated models that interacted borrower, loan, and neighborhood characteristics with counseling that occurred either before or after HAMP started. For ordinary least squares (OLS) regressions, estimating such interactions is straightforward. For the interactions estimated for logistic regression (LOGIT) models, however, we employed a method recommended by Norton, Wang, and Ai (2004) that is required because of the nonlinear relationship in LOGIT models between explanatory variables and the dichotomous outcome used as a dependent variable.

The results of these interaction models indicate whether counseling has differential effects for particular borrowers, loans, or circumstances. For example, if we find a positive and significant interaction effect of income and counseling on the probability of curing a seriously delinquent loan with a modification, it means that counseling has a greater impact for higher income homeowners than for lower income ones. A negative and significant interaction effect would mean that lower income homeowners, on average, benefit more from counseling. If there is no significant interaction income effect, it means that counseling has the same impact regardless of an owner's income.

The following discussion provides more details about each outcome and the methods used to assess counseling's impact.

### **Models of Program Effects**

We developed multivariate models to estimate the effects of the NFMC program on counseled homeowners, using the data sources presented in the previous section. Several key issues might affect the accuracy of our model estimates, including the problem of selection bias into the NFMC program and the inability to control for potential differences in servicer behaviors. We attempted to address any potential modeling issues.





### *Potential Modeling Issues*

#### **Program selection and omitted variable bias**

A key challenge presented in evaluating the effects of the NFMC program is a common problem in most multivariate analyses, that of *selection bias*. Put simply, certain factors that influence an owner's decision to enter counseling may also affect his or her observed outcomes. For example, people who enter counseling may be more proactive when dealing with financial matters, and so would be able to improve their situations even without outside help. For such people, it would be incorrect to attribute positive outcomes entirely to the NFMC-funded counseling. Alternatively, people who decide to enter counseling may have relatively poor financial management skills, thus rendering them less able to follow through with a counselor's suggested plan of action after receiving NFMC-funded services. In these cases, the estimated program effect may *understate* the impact of counseling. Or, specific events that took place during our observation period, such as a job loss, that we are unable to track may influence the decision to seek NFMC counseling services or the eventual loan outcomes.

Econometricians have long recognized the problems of variable bias and have developed techniques to produce unbiased estimates. A common method is to use instrumental variables that predict whether a person seeks treatment but do not influence the outcome of interest. In a recent analysis of counseling (Collins and Schmeiser 2010), the authors measure an organization's outreach advertising in Chicago as an instrumental variable that predicts entry into counseling but does not affect outcomes for clients who receive counseling. The results of this analysis suggest that the factors influencing selection into counseling affect outcomes negatively.

Unfortunately, a similar instrumental variable approach does not work here because we are analyzing counseling across many different cities, so we do not know when particular Grantees and Subgrantees made outreach efforts that would influence selection into counseling. Nor do we have an alternative instrumental variable available that would be correlated with the decision to enter counseling but *not* to the different outcomes that concern us.

#### **Using observations before counseling entry to correct for possible selection bias**

Since standard correction methods were unavailable, we chose an alternative approach to address possible selection bias. Our approach took advantage of the fact that we had observations of NFMC client loans before start of counseling. These observations could give us information about the impact unobservable characteristics of NFMC clients on our model estimates.



We specified a variable, *preEC*, that equaled 1 for observations for NFMC clients before their entry into counseling and 0 for clients after their entry into counseling. The variable *preEC* also equaled 0 for all observations for non-NFMC loans. Including this dummy variable in our models allowed us to estimate how outcomes differed for NFMC clients *before receiving counseling services*, compared with the non-NFMC sample. The parameter estimate on this variable represents the relative net impact of unobservable characteristics of the NFMC sample relative to our non-counseled comparison sample.

If, for example, the estimated parameter for *preEC* is statistically significant and positive, it means that the net effect of unobservable characteristics of NFMC clients makes them more likely to have positive outcomes *without counseling* than people who never sought NFMC counseling. If, on the other hand, the *preEC* parameter is significant and negative, then NFMC clients are less likely to have positive outcomes than our comparison group of non-counseled borrowers. Finally, if the *preEC* parameter is not statistically significant, then unobservable characteristics do not have a measurable impact on the outcome in question. Another way to interpret the *preEC* parameter is that it represents the performance of the NFMC-counseled population *if the NFMC program had not been available*.

To determine the net program effect on NFMC clients, we subtracted the *preEC* parameter estimate from the parameter estimate for a second dummy variable, *EC*, that takes the value of 1 for all post-counseling intake observations of NFMC loans.<sup>21</sup>

$$\text{Estimated net program effect} = \beta_{EC} - \beta_{preEC}$$

The difference between the two parameters subtracts out the potential impact of unobservable characteristics of NFMC clients on outcomes and therefore corrects for any characteristics that affect entry into counseling or the ability of counseling to help clients achieve the particular outcome being modeled.

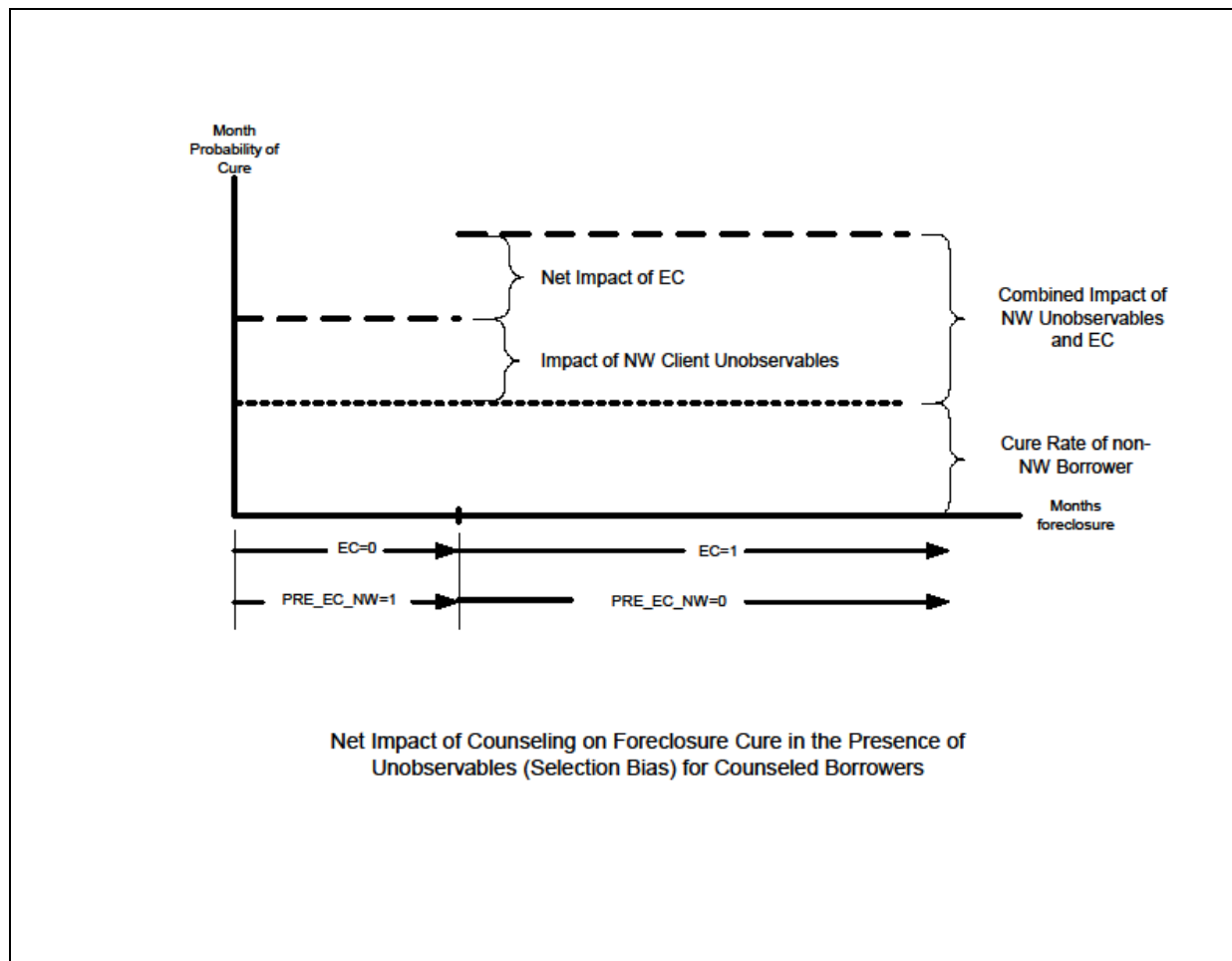
Figure 1 illustrates this impact using the example of a cure model. The “cure rate of non-NW borrowers” (bottom dotted line) indicates the baseline cure rate estimated for the non-NFMC comparison group. This rate is estimated with both *preEC* = 0 and *EC* = 0. The “impact of NW client unobservables” (lower dashed line) represents the cure rate for NFMC clients *without counseling* and is estimated with *preEC* = 1 and *EC* = 0. That is, the net impact of unobservables is estimated using observations of NFMC clients in periods before they enter counseling. The net impact of EC is represented by the higher dashed line and is estimated with both *preEC* = 1 and *EC* = 1—that is, from client observations *after* entry into counseling. As the figure shows, the total cure rate for this group is the sum of the effect of the NFMC client

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<sup>21</sup> The actual name and form of the *EC* variable indicating entry into counseling varies according to the model. The specifics are discussed in the individual model descriptions .

unobservables and the program effect. The net program effect, therefore, is the difference in the two dashed lines.

**Figure 1: Conceptual Framework for Estimating NFMC Program Effects**



The program effect described above applies to *NFMC clients only*—that is, it estimates the impact of the NFMC program conditional on the fact that a homeowner chose to get counseling help. This differs from the program effects we had published in the preliminary NFMC evaluation reports (Mayer et al. 2009, 2010). In those earlier models, we did not include the *preEC* parameter, which affected our model estimates in two ways. First, our estimate of the non-counseled population included both the non-NFMC comparison sample *and* the observations of NFMC loans before receiving counseling. In effect, our baseline performance estimate was an average of the loan performance of these two groups. Second, our estimate of net program effect was relative to this average, not relative to the performance of non-



counseled NFMC loans. This meant that any unobservable characteristics of NFMC clients that affected our outcomes would have biased our estimates of program effects.

Although we could use the *preEC* variable selection bias correction in most of our models, we could not use it in our loan modification or foreclosure completion models. These two exceptions required different approaches.

### **Correcting for possible selection bias in loan modification models**

In models that determine how NFMC counseling affected payment changes from a loan modification, we cannot specify a variable that measures performance before entry into counseling because modifications before intake can be observed in only one period, rather than over multiple periods. To correct for potential selection bias in such models, we estimated a parallel set of models using *only* the NFMC-counseled loans. In those models, we compared the performance of the NFMC loans *before* counseling to their performance *after* counseling started. In this way, the selection bias problem was largely avoided since we were not comparing the performance of NFMC loans to non-NFMC loans.

### **Correcting for possible selection bias in time to foreclosure completion models**

We cannot specify a variable that measures performance before entry into counseling for models that determine NFMC counseling's effect on time to foreclosure completion because almost no clients entered counseling after a foreclosure was completed.

For models that analyze time to foreclosure completion, our attempted solution to potential selection bias was to compare the time to foreclosure completion under two "states of the world:" one in which NFMC program-funded counseling services were available, which we designated the world with counseling (WWC), and one in which program services were not available, referred to as the world without counseling (WWOC). We modeled the time to foreclosure completion under each state of the world using separate LOGIT models that estimated the monthly probability of foreclosure completion among loans already in foreclosure.

In the WWOC model, we estimated a loan's time to foreclosure completion with two types of censored observations: (1) for loans in which a foreclosure was not completed during the observation period and (2) for borrowers who began to receive counseling from NFMC program grantees. The observations for people who received counseling were artificially censored at the time they entered counseling. That is, when we estimated the WWOC we ignored any observations of outcomes for NFMC clients that occurred after counseling began. Because the model did not include the actual time to foreclosure completion for mortgages on homes owned by people who entered counseling, the estimation results approximated the waiting time to foreclosure completion distribution *as if the NFMC program did not exist*.



In the WWC model, we analyzed a loan's time to foreclosure completion and only censored observations that did not have a foreclosure complete during the period for which we had data. Loans in which borrowers entered counseling were included throughout the period of observation. The results of this model estimated time to foreclosure completion when NFMC program services were available to homeowners. We used the estimates from both models to determine if the differences in time between WWC and WWOC were statistically significant.

### **Potential issue related to servicers included in sample**

Because we use LPS data to measure loan performance over time, we have to restrict our analyses to NFMC clients whose loans are included in the LPS database. This raises a potential problem because the LPS data does not include information from all loan servicers. Therefore, the sample of NFMC loans that are matched to LPS may not be representative of servicers for all NFMC loans. Our use agreement with LPS restricts us from conducting any analyses by servicer. Therefore, we are prohibited from reporting analyses that compare the share of loans serviced by a particular company in the matched sample with the share of that servicer's loans among all NFMC clients. Such results would provide information about the servicers who report data to LPS. However, we can report that a large share of all NFMC clients' loans are serviced by the 10 largest servicers of single-family mortgages, as are loans within the matched sample. Moreover, any discrepancy between the share of all NFMC clients' loans serviced by a given firm and the share of such loans in the matched sample serviced by the same firm raises a potential bias only if that firm, for some reason, handles loan modification and/or forbearance requests differently from other servicers.

Servicers may have different processes and procedures when evaluating loan modification and other loss mitigation proposals from borrowers that result in some servicers being more or less likely to grant loan modifications. This may produce different outcomes for similarly situated borrowers whose loans are serviced by different companies. To the extent that the servicers represented in the NFMC sample are more or less likely to approve particular loss mitigation requests from their borrowers, this may bias estimates of the NFMC program effect. In other words, assume that most servicers are unlikely to provide a loan modification, but the servicers included in the NFMC sample happen to have their loans serviced by the relatively small number of servicers who are more likely to approve loan modifications. If this is the case, the relatively high share of NFMC clients receiving loan modifications is not a function of the program, but of the fact that NFMC clients in the sample disproportionately have their loans serviced by companies who are more willing to approve loan modifications. Given our review of the servicers included in the matched sample, however, compared to the NFMC population, we do not think that there is any empirical foundation for concluding that the distribution of the types of servicers differs between the matched sample and the NFMC client population.

Another possible source of selection bias is that NFMC Grantees may select clients to serve who are more likely to achieve better outcomes. Such "cherry picking" behavior, if it



existed, might make the performance of the NFMC program appear better than it would have been if clients were assigned randomly for treatment in the program. We find no reason to believe that such cherry picking takes place, however.

First, there is no financial incentive for counselors to serve only “easy” clients as NFMC program compensation is not based on obtaining particular results. Grantees are paid a flat rate for providing a predefined level of counseling, regardless of the outcome achieved for a client. Second, the cherry-picking hypothesis presupposes that counselors can readily distinguish between easy and difficult clients at intake. In reality, a counselor would likely need to assess the client’s situation thoroughly before such a determination could even be attempted. Further, the ease at which a homeowner’s case can be resolved often depends a great deal on negotiations with the loan servicer, which cannot be assessed in advance.

Third, our surveys and interviews with NFMC Grantees informed us that counselors deal with all manner of clients who come through their doors and do not turn people away because they have difficult situations. Indeed, the foreclosure data cited above indicate that counseled homeowners tend to have far worse circumstances than typical homeowners.

#### **Potential bias selecting comparison group from LPS loans matched to HMDA**

Our requirement that all non-NFMC LPS loans used in the analysis be matched to HMDA records, so we could include race, income, and census tract characteristics in our models, resulted in a large number of potential non-NFMC loans being eliminated from the sample. If the HMDA matching success could be deemed independent of factors that would affect our foreclosure outcomes, then this would not present a problem. It is possible, however, that certain types of loans or borrowers are more likely to match successfully to the LPS database than others, and that excluding the non-matching loans might bias our results.

While we could see no reason why HMDA matching success should be correlated with our foreclosure outcomes, we nonetheless tested for this potential problem by selecting entirely new comparison loans, using the same propensity scoring methodology described above, but from a random sample of LPS loans that were *not* required to be matched to HMDA data. We then reran our NFMC versus non-NFMC models using this new comparison sample. The results were consistent with those that we obtained when using the HMDA-matched comparison sample. This confirmed for us that the HMDA matching requirement did not introduce any bias into our sampling selection or analysis.

Given that HMDA records provide important characteristics that would be unavailable to us otherwise (namely race, ethnicity, and income), we chose to continue to use the HMDA-matched loans as the basis for selecting our non-NFMC comparison samples. In principle, as another approach we could have used a probabilistic match in which we assigned race and income to individual loan records based on the distribution of such data in HMDA records. This



process, however, could have introduced loan-level errors, which we believe would be more problematic than any potential bias introduced by restricting our propensity scoring selection process exclusively to non-NFMC LPS loans matched to HMDA.

### **Contamination of non-NFMC sample**

One aspect of our modeling approach relies on our comparison sample of LPS loans that were not matched to an NFMC-reported counseling unit. We have designated the non-NFMC comparison sample and have assumed that this group did not receive NFMC counseling. There are two potential issues with this assumption. First, some loans in this group may have received NFMC counseling but failed to have been matched to an LPS loan. The failure to match might have occurred either because that loan is not in the LPS database or because information (i.e., servicer name, loan identification number) was not available to make a successful match. Second, loans in the non-NFMC comparison group may have received counseling assistance outside the NFMC program that would not be recorded in Grantees' production data. This non-NFMC counseling might have been provided by groups not participating in the NFMC program at all or by NFMC Grantees or Subgrantees but supported by other funding sources.

In either case, we may have a slightly contaminated sample in that some members of our "non-counseled" comparison group may have indeed received some counseling. Even if this is the case, however, we do not believe that it undermines the positive impacts of the NFMC program that we have reported for two reasons.

Bear in mind that, as much as we find that housing counseling improves loan modifications and sustainability of cures, these impacts will be *understated* if the comparison group also included some counseled loans that would have benefited from the same effects. Put another way, if some of the non-NFMC comparison sample is receiving counseling treatment, then that group's outcomes would look relatively *worse* if those homeowners could be identified and removed from the sample and, consequently, the (positive) difference between the performance of the NFMC and non-NFMC samples would be even greater.

Moreover, in previous analyses we ran analyses both with and without the non-NFMC comparison sample. For the latter, we used only the NFMC counseled loan sample but relied on outcomes, such as loan modifications, that occurred before and after counseling intake to measure the effect of counseling. (This same distinction between outcomes before or after counseling intake was made in models estimated with both NFMC and non-NFMC loans.) These "NFMC only" models yielded very consistent program effects from those estimated with both the NFMC and non-NFMC samples, which tells us that the non-NFMC sample is not biasing our results significantly.



### *Modeling Approach*

#### **Monthly payment reductions**

The monthly payment reduction model estimated counseling's effect by comparing the reductions in monthly payments in loan modifications for NFMC clients after they entered counseling with (1) loan modifications that NFMC clients received before entry into counseling and (2) loan modifications received by owners who never received NFMC counseling. As discussed earlier, we estimated an overall counseling effect for all modifications that took place after a client entered counseling and another variable that measures the change in counseling's effect for modifications that took place after HAMP started.

In addition to the control variables presented in table 4, we included a control variable that measures whether a loan was current in the previous month when LPS reports the change resulting from the loan modification.<sup>22</sup> For this outcome, the dependent variables were the amount of reduction in the monthly mortgage payment (payment increases were coded as a negative reduction), expressed as a dollar amount and as a percentage of the original monthly payment. Because we were dealing with a continuous variable as an outcome, we used a standard ordinary least squares regression to model these outcomes.

#### **Sustainability of loan modifications**

The potential for recidivism has been identified by servicers, lenders, and investors as a significant factor in their reluctance to provide loan modifications. The claim is that the costs and potential economic losses associated with providing a modification, which includes temporarily extending the period of loan non-payment and risking an eventual redefault and foreclosure loss, can be higher than those from foreclosure alone. In addition, servicers and investors note that many homeowners cure their defaults on their own, without modifications, so it may be economically logical to simply wait to see whether such cures occur after either no action or merely forbearance granted by servicers.

In response, however, housing counseling organizations and homeowner advocates note that many loan modifications, particularly those at the beginning of the foreclosure crisis, did not substantially reduce monthly payments for homeowners. Consequently, homeowners were just as likely to find these modified loans unaffordable as they their original loans. Groups with this perspective claim that modifications that reduce monthly payments to truly affordable levels, based on current household income, can be sustainable and economically beneficial for both the homeowner and the lender.

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<sup>22</sup> The addition of the loan status before modification is a change in our model specification from our November 2009 report.





Counseling may affect recidivism by increasing the size of loan modification payment reductions, by improving the quality of non-modification workouts such as payment plans, or both. Whether a modification is obtained or not, counseling can also help borrowers meet payments through improved budgeting and other financial advisory assistance. In this part of our analysis, we looked at the experience of counseled and non-counseled borrowers in sustaining the cures of their serious delinquencies and foreclosures, to begin to measure the extent of recidivism and, especially, the impact of counseling on its prevalence.

Since we must observe loans over sufficient time for them to be cured and subsequently to be sustained or to redefault, this analysis uses round 1 and round 2 NFMC loans counseled between January 2008 and December 2009 and their comparison group of non-counseled loans. Loan performance is observed through 2010, however, to provide more time for post-cure observation.

Our analyses used two measures of sustainability. First, we considered only those loans whose defaults or foreclosures were cured during the two-year observation period. For this analysis, cured loans were those that become current, in many cases with the help of loan modifications and/or NFMC counseling. Our first measure of sustainability was simply the *percentage of cured loans that have not gone back into serious delinquency or foreclosure* in the period for which we were able to observe them.<sup>23</sup> For this outcome, we examined whether homeowners who received loan cures in combination with counseling had a higher percentage of sustained cures, and a corresponding lower percentage of renewed defaults, than homeowners who had their loans cured without the benefit counseling. We examined separately the redefault rates for loans cured with modifications and those without. We undertook both descriptive tabulations and multivariate statistical analysis in assessing this impact of counseling.

Our second sustainability measure took into account the fact that a default cure cannot be sustained unless the cure is obtained in the first place. This second measure looked at all seriously delinquent and foreclosed loans, not just those that cured, and computed the expected likelihood that they were cured, to combine with the likelihood that the cure was then sustained through the observation period. We again compared this measure for loans that received cures with and without the benefit of counseling and separately for cures with modifications and without. This analysis of obtaining cures was coupled with the assessment of differences in sustaining cures discussed in the previous paragraph. This analysis, therefore, examined a possible two-stage effect of counseling on sustainability: increasing the likelihood of a cure given default and the likelihood of avoiding recidivism given a cure.

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<sup>23</sup> In this sustainability analysis, for a loan to be “cured,” we required that the foreclosure status be cleared and that the loan became current on all its monthly payments.



Our sustainability cure models used LOGIT models to estimate the probabilities of a serious delinquency and a subsequent loan redefault while controlling for relevant loan and borrower characteristics and the use of NFMC counseling.

### **Foreclosure completion**

Owners lose their homes when a foreclosure is completed. To determine if the NFMC program helped owners avoid such an outcome, we estimated LOGIT models that measure counseling's effect on the probability that an NFMC client's loan will have a foreclosure completion by the end of December 2010, which was the last observed month in our database. As discussed earlier, because we cannot estimate a model that includes a variable identifying observations before an NFMC client enters counseling, we used censoring rules that estimated models for a world without counseling and a world with counseling. In the WWC model we include variables that measure separate counseling effects for clients who entered before or after HAMP's start. There were no counseling variables in the WWOC model because the NFMC clients' observations were censored at the time that they enter counseling. The net program impact is estimated by the difference in the survivor curves of the WWC and WWOC models.

The results of the foreclosure completion models were used to measure the NFMC program's financial benefits. Foreclosures create costs that are borne by homeowners, investors, and local governments (HUD n.d.). Therefore, any reduction in the number of foreclosures completed represented a significant financial benefit. We estimated the aggregate financial impact of the NFMC program.

### **LOGIT Model Simulations**

All the models presented in this report, except those that estimate the NFMC program's effect on loan modifications, used logistic regressions that estimated the impact of counseling on the likelihood of an event happening in a given month. The output for these models report parameter estimates and odds ratios for each explanatory variable. Odds ratios provide information about the impact of explanatory variables but are difficult to interpret. Therefore, to make the results more accessible, we conducted simulations using the parameter estimates for each LOGIT model and the mean value for each variable used in a particular model to generate estimated probabilities of an event occurring in a particular month. These probabilities change over time because we included counter variables (such as the length of a delinquency spell) as explanatory variables. Therefore, we calculated monthly probabilities and used these estimates to generate cohort analyses that estimated the share of loans, starting at a particular point, that would have had an outcome (such as a loan modification cure) in a particular month. Based on this estimate we construct a survivor curve for cohorts assuming that they did or did not receive counseling. An example of this calculation is provided in appendix R. This technique allows for a more accessible presentation of the NFMC program's effect on outcomes.



## Findings

This section details the results from our modeling of outcomes for the NFMC program clients.

### *NFMC Program's Effect on Loan Modifications*

Based on information collected from Grantees during our case study site visits and telephone interviews, an important service provided by NFMC counselors is to call a client's loan servicer to discuss the possibility of modifying the mortgage to make it more affordable. Before contacting the servicer, NFMC counselors use the expense and income information provided by the client to determine what type of loan modification would result in a new monthly payment that the homeowner could afford. Non-NFMC homeowners, of course, can contact loan servicers themselves and request loan modifications. For this analysis, we estimated whether loan modifications received for counseled clients were more beneficial than modifications negotiated outside the NFMC program.

As described earlier, the LPS data allowed us to identify loan modifications, although not with absolute precision. Our method for identifying modifications was based on observed changes in loan terms that were most likely to have reduced the homeowner's monthly payment. Using this methodology, we identified modified loans within both the NFMC and non-NFMC samples. We also observed the reduction in monthly mortgage payment (for principal, interest, taxes, and insurance) reported by the servicer after the modification, both as an absolute dollar amount and as a percentage change from the previous payment level.

About a quarter of loan modifications received by NFMC clients occurred before their meeting with an NFMC counselor. As with the other outcomes we examined, we did not count these pre-counseling modifications as a program effect when we estimated the program impact: pre-intake modifications were included with non-NFMC loan modifications in the models that used non-NFMC loans. In the models that used only NFMC loans, pre-intake modifications were compared with post-intake modifications. Although both clients received counseling, pre-intake modifications happened without the assistance of an NFMC counselor; in that regard, they are like non-NFMC loans, and therefore are a valid measure of what would have happened without counseling.

Key informants that we interviewed for the NFMC evaluation<sup>24</sup> said that the overall quality of modifications provided for all borrowers had improved because of the standards promulgated by HAMP. This is true even for non-HAMP modifications. In other words, HAMP set a new de facto benchmark for loan modifications in the industry, and many borrowers were benefiting from this benchmark, whether or not they received an actual HAMP modification.

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<sup>24</sup> We report our findings regarding the impact of HAMP and other issues in Mayer and Temkin (2010), which is included in appendix C.



To test this assertion, we included in our models that estimated NFMC impact on clients' loan modifications a variable that indicated whether a loan modification took place after March 2009.

To determine the effect of the NFMC program on a client's loan modification, we ran OLS regression models that estimated the payment reduction while controlling for other factors that might affect the amount that the monthly payment was lowered. We used the same control variables as in our previous models, but also added the original loan amount to control for the size of the loan, since larger loans would tend to have larger monthly payments and therefore might be expected to receive larger payment reductions. As with the other outcomes, we estimated a model comparing NFMC with non-NFMC loans, as well as models measuring counseling effects for only the NFMC loans.

All models yielded consistent, statistically significant results indicating that NFMC-counseled homeowners received modifications from their servicers with larger monthly payment reductions than homeowners who received modifications without the benefit of NFMC counseling (tables 6 and 7; full model results may be found in appendices K and L). When using information about non-NFMC loans, 2008 and 2009 NFMC client loans that were modified paid \$176 less, on average, a month than the non-NFMC-counseled loans that received modifications. This corresponds to an average payment that was 7.8 percent less than would have been the case without counseling.<sup>25</sup>

Our estimated impact of counseling on the loan modification amount is about \$90 lower than we reported in our previous report (Mayer et al. 2010,38). The main reason for this difference is that the final estimate is based on a model that includes loan observations with missing credit scores and DTI ratios. About 20 percent of observations were missing a credit score and 40 percent of observations were missing DTI information. In our previous analyses, the model estimation procedure dropped these missing observations, which is normal practice when estimating models from data with missing values for one or more explanatory variables (Allison 1982).

For this final report, however, we wanted to include these loans because borrowers missing credit scores and DTI information at origination may reflect risks that differ from the overall average. A missing credit score might not only indicate that the borrower's credit history was unknown but that the borrower represented a greater credit risk. In other words, *not* having a credit score conveys information that we wanted to capture in our model estimates. Therefore,

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<sup>25</sup> Results from the models estimated with only NFMC loans found similar positive program effects, when compared to the model that uses non-NFMC loans. The overall counseling effect from the NFMC-only model showed that counseling through the NFMC program resulted in loan modifications that had monthly payments \$142 less, on average than modifications that took place before an NFMC client entered counseling or about 7.8 percent of the pre-modified monthly original payment.



we transformed the continuous credit score and DTI variables into categorical variables that included a separate “missing” category.

The observations missing both credit score and DTI information, on average, had loan modifications with lower payment reductions than observations that included at least one of these variables. More important, the average difference between NFMC and non-NFMC clients for observations missing DTI and credit score information was smaller than for observations not missing this information. Therefore, excluding observations missing data biased upward the estimate of the NFMC program effect on loan modifications.

The program effect on the size of the payment reduction was the same whether the loan modification took place before or after the start of HAMP. The coefficient of the interaction term between the presence of HAMP and whether the modification was received post-counseling was not statistically significant, meaning that the \$176 (7.8 percent) average additional payment reduction from counseling applied to both pre-HAMP and post-HAMP modifications (tables 7 and 8). On the other hand, our analysis found that loan modifications for *all* owners (whether or not they received counseling) had greater payment reductions after HAMP took effect. The average modification had a payment reduction that was \$162, or about 6.5 percent, more after HAMP, compared with pre-HAMP. Therefore, counselors, even in an environment when loan modifications were increasingly determined with relatively common standards and where the size of the monthly payment reductions were increasing overall, were still able to help clients get modifications with bigger payment reductions than what they would have received without assistance.

We also modeled the effects of different levels of counseling on payment reductions. The results from the NFMC vs. non-NFMC model showed that all three counseling service levels provided benefits to homeowners. Interestingly, before-HAMP clients who received level 1 counseling experienced larger payment reductions than did clients who received such counseling after HAMP. The average modification had a monthly payment reduction that was \$191 greater with Level 1 counseling before HAMP, but averaged \$102 after HAMP. There were no differences in the amount of monthly payment reductions resulting from counseling for level 2 (\$159) in the pre- or post-HAMP environment. For level 3 counseling, the higher payment reductions, an additional \$234, were for modifications received after the start of HAMP. Level 3 counseling increased the average monthly payment reduction for pre-HAMP modifications by \$181. The results based on the percentage of the monthly payment also showed a larger effect for Level 1 counseling before HAMP and a more positive effect of Level 3 counseling in the post-HAMP environment (tables 7 and 8).



**Table 6: OLS Regression Model Estimates for Counseling Effects on Dollar Reduction in Monthly Payment Resulting from Loan Modifications**

	Average Additional Reduction in Monthly Payment		
	Parameter estimate	95 percent confidence interval	
<i>NFMC vs. Non-NFMC Model:</i>			
Effect of any counseling, pre- and post-HAMP <sup>a</sup>	\$176	\$154	\$198
<i>NFMC vs. Non-NFMC Model:</i>			
Level 1 counseling, pre-HAMP	\$191	\$161	\$220
Level 1 counseling, post-HAMP	\$102	\$34	\$170
Level 2 counseling, pre- and post-HAMP <sup>a</sup>	\$159	\$123	\$195
Level 3 counseling, pre-HAMP	\$181	\$151	\$212
Level 3 counseling, post-HAMP	\$234	\$164	\$304

Source: OLS model estimates from NFMC program data for January 2008 to December 2009 and LPS loan performance data through December 2009.

Notes: Models that used non-NFMC loans included all NFMC loans, without regard to whether they were matched in the propensity scoring process. The results using only matched loans were not materially different.

<sup>a</sup> Counseling's effect on a loan modification's payment reduction was the same before or after HAMP began in April 2009. Therefore, we only report one parameter estimate for counseling's effect.



**Table 7: OLS Regression Model Estimates for Counseling Effects on Percentage Reduction in Monthly Payment Resulting from Loan Modifications**

	Average Additional Reduction in Monthly Payment		
	Parameter estimate	95 percent confidence interval	
<i>NFMC vs. Non-NFMC Model:</i>			
Effect of any counseling <sup>a</sup>	7.8	7.1	8.4
<i>NFMC vs. non-NFMC Model:</i>			
Level 1 counseling pre-HAMP	7.7	6.8	8.6
Level 1 counseling post-HAMP	6.3	4.2	8.3
Level 2 counseling <sup>a</sup>	7.5	6.4	8.6
Level 3 counseling pre-HAMP	8.3	7.4	9.2
Level 3 counseling post-HAMP	10.0	7.8	12.1

Source: OLS model estimates from NFMC program data for Jan 2008 to December 2009 and LPS loan performance data through December 2009.

Note: Models that used non-NFMC loans included all NFMC loans, without regard to whether they were matched in the propensity scoring process. The results using only matched loans were not materially different.

<sup>a</sup> Counseling's effect on a loan modification's payment reduction was the same before or after HAMP began in April 2009. Therefore, we only report one parameter estimate for counseling's effect.

### Interaction Models

We also ran models that interacted borrower, loan, metropolitan area/neighborhood characteristics with counseling to determine how certain types of clients benefitted from counseling when measuring the size of loan modifications. The results of these interactions are summarized in table 8.



**Table 8: Summary of Interaction Effects of Counseling on Loan Modification Monthly Payment Reduction**

Variable	Significant at $p < .05$ ?	Direction
Black	No	n/a
Asian	Yes	Positive
Other race	No	n/a
Hispanic	No	n/a
Income	Yes	Negative
Original loan amt.	Yes	Positive
Current interest rate	Yes	Positive
Subprime	Yes	Positive
ARM	Yes	Negative
Interest of other type	No	n/a
OptionARM	Yes	Negative
Agency loan	Yes	Positive
Government loan	Yes	Positive
Portfolio loan	Yes	Positive
Jumbo loan	Yes	Negative
Loan to value (LTV)	No	n/a
Loan to value ratio not 80	No	n/a
Tract loan approval rate	No	n/a
Median mortgage amt. in tract	Yes	Negative
Unemployment rate	Yes	Negative
Percent change in house price index	Yes	Negative
FICO/credit score- original	Yes	Positive

Source: OLS model estimates from NFMC program data for Jan 2008 to December 2009 and LPS loan performance data through December 2009.

The interaction results suggest that NFMC counseling's effect on reducing a borrower's monthly payment through a loan modification was greater for lower income clients, for clients with larger mortgages, and for those who had loans with relatively high interest rates. Moreover, borrowers who had higher credit scores at origination and were current before getting their modification had bigger payment reductions. This may indicate that people who have more financial literacy or were less in trouble benefited more from counseling because (1) servicers viewed them as better risks and were more inclined to offer them help; or (2) such clients were





more likely to follow through with plans and requirements needed to get a modification. On the other hand, clients with option ARM loans received modifications with smaller payment reductions, as did clients who lived in areas with higher unemployment levels.

Clients whose loans were held in portfolio received larger payment reductions through modifications, which may reflect challenges associated with getting decisions from investors in a securitized loan pool. These challenges did not seem to be present, however, for loans insured by the government-sponsored enterprises. Clients with mortgages held by Fannie Mae and Freddie Mac also had larger payment reductions on their modifications, compared with privately securitized loans.

As noted earlier, research on loan performance has highlighted a positive relationship between better mortgage outcomes (such as foreclosure avoidance and reduced delinquency recidivism) and significant reductions in monthly loan payments. Therefore, if NFMC Grantees were able to help homeowners obtain more beneficial loan modifications from servicers and lenders, one would expect to see improved client outcomes. In the following section we present our analyses of the impact of NFMC counseling on the sustainability of loan modifications.

#### *NFMC Program's Effect on Sustainability of Cures*

An important issue that has emerged in the debate regarding interventions to help homeowners avoid foreclosure and remain in their homes is whether such efforts are sustainable over the long term. With regard to the NFMC program specifically, a key question of interest was whether homeowners who receive counseling assistance to bring their mortgages current—through loan modifications, forbearances, or other means—were subsequently able to remain current on their monthly payments. In other words, did troubled homeowners who were helped eventually end up back in serious delinquency or foreclosure (a result often referred to as recidivism)?

We shaped our analysis of this sustainability issue based on a common sense understanding of what parties to the debate focus on in their discussions. We addressed two key questions.

1. Given a homeowner who cures a serious mortgage delinquency or a foreclosure by bringing the mortgage payment status to current, how likely is it that this homeowner then stays out of trouble (i.e., does not redefault on his/her mortgage) and how does counseling affect the likelihood of the homeowner remaining current? This corresponds to an “Is it worth helping people get cures, through counseling and other interventions?” discussion.
2. Going back one step further, what is the likelihood that a homeowner in serious delinquency or foreclosure manages a cure and then is able to sustain it? This corresponds to the issue: “How good are the chances of going from troubled loan to sustainably current loan” and how does counseling affect that answer?



In the first question, we concentrate only on homeowners who have already obtained default-curing modifications or cured their loans in other ways. We examine their experience in using counseling to help to remain current. In the second question, we start with all borrowers in serious trouble, examining first their likelihood of curing defaults and then of avoiding new delinquency and foreclosure on their cured loans.

For both questions, we divided our sustainability analysis into two parts, one for defaults cured by obtaining mortgage modifications<sup>26</sup> and one for other cures. The reason for the distinction is that one would expect the redefault of modified loans to be partly a function of the size of the payment reduction obtained in the modification. We want to construct our models so modification size is one factor we consider as a determinant of recidivism. For non-modification cures, size of modification is obviously not relevant.

Our analysis, detailed below, provides positive answers about the impact of counseling for both sustainability questions:

- *counseling significantly decreases the percentage of redefaults among loans once cured, and*
- *counseling significantly increases the share of seriously delinquent or foreclosed loans that are ultimately rescued and remain current.*

On the first question, our findings showed that counseled homeowners who had cured their loans to current from a serious delinquency or foreclosure were far more likely to remain current afterward than were either non-counseled homeowners or counseled homeowners who cured their loans before, and therefore without the benefit of, NFMC counseling. This finding of much lower redefaults, among borrowers who had once cured, applied most strongly to homeowners curing through a loan modification but also to those curing without a modification.

On the second question, we found that, of all homeowners with a mortgage initially in serious delinquency or foreclosure, many more both cured their defaults and kept their loans current if they received counseling, again compared with homeowners who received no counseling or who got counseling only after obtaining a cure. Thus, for a given number of loans in trouble, the number with lasting rescues was much larger with counseling. This difference resulted predominantly from lower redefault rates with counseling for given cures; but it also involved, to a lesser extent, more modestly increased total cures and a shift to more cures through modifications relative to other types of cures.

We used both descriptive tabulations and multivariate analysis to examine the sustainability of cures. The evidence on both questions was consistent between the two sets of

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<sup>26</sup> See pages 26–27 for our definition of modifications, generally limited to cases with adjustment of one of the key terms of the loan resulting in reduced payments. Bringing foreclosed and seriously delinquent loans current without these modifications constitutes a non-modification cure.



methods. In the next part of this section, we present a descriptive overview of the sample of loans used in the sustainability analysis and our first recidivism measure: redefault. In the following sections, we discuss the estimates obtained from the multivariate models of the program impacts corresponding to question 1, look at descriptive evidence about question 2, and end with multivariate analysis of question 2.

### **Descriptive analysis of sustainability of cures**

We built our sustainability analysis for both questions 1 and 2 on the experience of borrowers with initially troubled loans, either delinquent at least three months or in foreclosure (but not yet finally foreclosed). We focused on borrowers entering NFMC counseling during 2008 and 2009 and their matched non-NFMC counterparts, but we followed their experience through 2010 so there was opportunity to track their post-cure record of recidivism or sustainability over a significant period.

Table 9 describes the sample of 2008 and 2009 NFMC counseled loans (rounds 1 and 2 of the program) and the corresponding matched sample of non-NFMC loans that experienced either a seriously delinquency or a foreclosure episode in 2008 or 2009. These loans are further broken out by whether they received a loan modification cure or non-modification cure to become current during this same period and, in the case of NFMC loans, whether that cure occurred before or after the start of NFMC counseling.

From our sample of round 1 and 2 loans and their counterparts, about 143,000 NFMC program clients and 69,000 non-NFMC homeowners experienced a serious delinquency or a foreclosure between January 2008 and December 2010. Nearly 50 percent of the NFMC loans in delinquency or foreclosure received a loan cure, either with or without a modification, compared with 38 percent of the non-NFMC loans. Over half the NFMC loan cures (53 percent) involved counseling leading to a modification, while less than a third (30 percent) involved counseling leading to a cure without a modification.<sup>27</sup> The remaining NFMC borrowers received counseling only after cures had occurred. For the non-NFMC borrowers, only 39 percent of cures were modifications, with over 60 percent non-modification cures. Thus, among borrowers with seriously troubled loans, counseled homeowners were more likely to obtain cures, and especially cures through modification, than were people without NFMC assistance. NFMC cure rates were higher after HAMP began and more concentrated in modifications.

Sustainability of cures is illustrated in figure 2, which shows the actual percentages of cured loans avoiding redefault for each month after the cure. Rates are presented separately for modification and non-modification cures aided by counseling and those without counseling. Cumulative redefaults increase, and therefore sustainability rates decrease, as the period since

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<sup>27</sup> The 30 percent include, in table 9, both non-mod cures and a third category, loans modified but at a time more than one month from their cure, for which we are uncertain about whether the cure was produced by the modification.



a cure was achieved grows.<sup>28</sup> Nine months after a cure, which is the average length of time that we observed loans,<sup>29</sup> significantly more NFMC-counseled modification cures were sustained than non-counseled modification cures (83 percent compared with 75 percent). Over the same period, NFMC non-modification cures sustained were slightly lower, at 62 percent, than non-counseled non-modification cures (64 percent). For both counseled and non-counseled borrowers, sustainability rates were higher for modifications than for loans cured in other ways. Thus we might expect higher sustaining rates for counseled borrowers overall, based on our descriptive analysis, for two reasons: (1) the wider margin for sustaining counseled modification cures than for sustaining non-NFMC non-modification cures, and (2) counseled borrowers receiving more cures in the form of modifications, which performed better than non-modification cures.

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<sup>28</sup> The graph begins at three months because a cured loan cannot be seriously delinquent (90 days) until that time.

<sup>29</sup> After which loans either redefault or reach December 2010.



**Table 9: Loans That Experienced a Serious Delinquency or Foreclosure in 2008 or 2009 by Counseling and Loan Cure Status, Rounds 1 and 2 NFMC and Non-NFMC Loans**

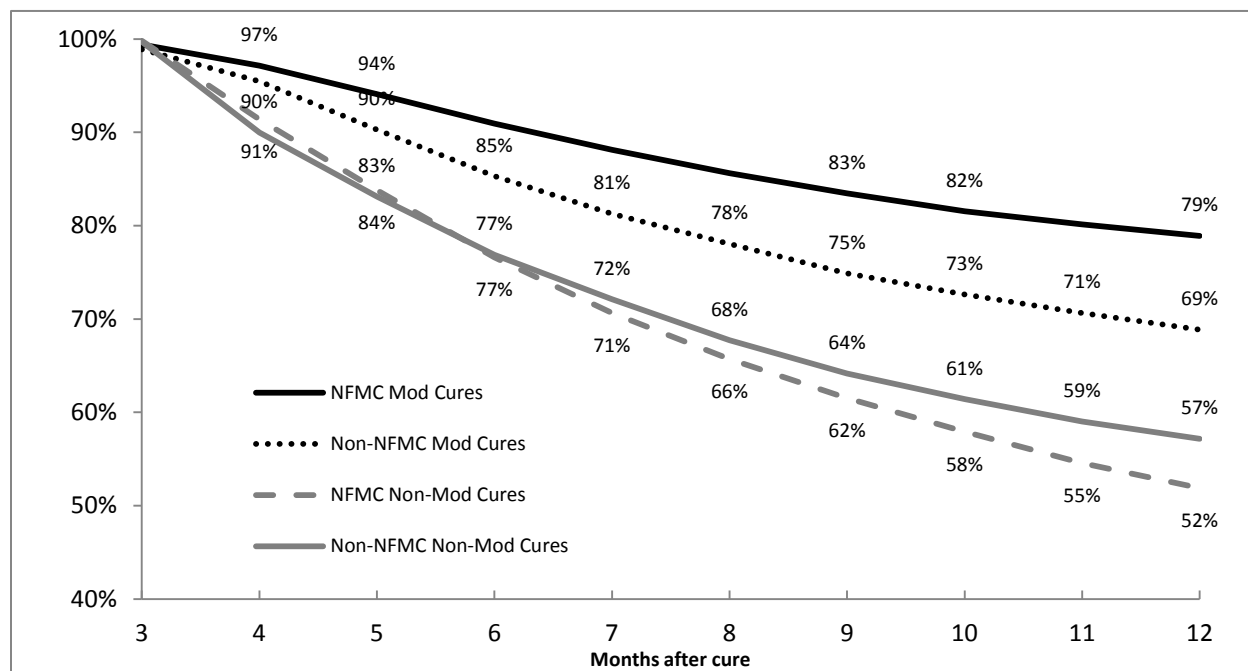
	Total		Pre-HAMP		Post-HAMP	
	Loans	Percent	Loans	Percent	Loans	Percent
<b>NFMC</b>						
<b><u>Total Seriously Delinquent or Foreclosed</u></b>	<b>142,788</b>	<b>100.0</b>	<b>90,130</b>	<b>100.0</b>	<b>52,658</b>	<b>100.0</b>
<b>Total cures</b>	<b>71,167</b>	<b>49.8</b>	<b>42,665</b>	<b>47.3</b>	<b>28,502</b>	<b>54.1</b>
Mod-cures	40,336	56.7	22,841	53.5	17,495	61.4
Pre-counseling	2,777	6.9	1,118	4.9	1,659	9.5
Post-counseling	37,559	93.1	21,723	95.1	15,836	90.5
Mod >1 month away from cure	12,509	17.6	7,986	18.7	4,523	15.9
Pre-counseling	4,502	36.0	2,301	28.8	2,201	48.7
Post-counseling	8,007	64.0	5,685	71.2	2,322	51.3
Non-mod cures	18,322	25.7	11,838	27.7	6,484	22.7
Pre-counseling	5,011	27.3	2,638	22.3	2,373	36.6
Post-counseling	13,311	72.7	9,200	77.7	4,111	63.4
<b>Not cured</b>	<b>71,621</b>	<b>50.2</b>	<b>47,465</b>	<b>52.7</b>	<b>24,156</b>	<b>45.9</b>
<b>Non-NFMC</b>						
<b><u>Total Seriously Delinquent or Foreclosed</u></b>	<b>69,074</b>	<b>100.0</b>	-	-	-	-
<b>Total cures</b>	<b>26,357</b>	<b>38.2</b>	-	-	-	-
Mod-cures	10,209	38.7	-	-	-	-
Mod >1 month away from cure	4,731	17.9	-	-	-	-
Non-mod cures	11,417	43.3	-	-	-	-
<b>Not cured</b>	<b>42,717</b>	<b>61.8</b>	-	-	-	-

Source: NFMC program data January 2008 through December 2009 and LPS loan performance data through December 2010.

Note: Serious delinquency is three months or longer.



**Figure 2: Cumulative Percentages of Cures Sustained, Modification and Non-Modification Cures**



Source: NFM program data 2008 and 2009; LPS performance data January 2008 through December 2010.

### NFM program's effect on sustaining delinquency and foreclosure cures

Based on our descriptive analysis, homeowners who obtained NFM counseling help, and then with that aid obtained cures, were more likely to sustain cures of serious delinquencies or foreclosures than other groups of cured borrowers. The descriptive analysis above does not control for the large number of other characteristics—of loans, borrowers, and markets—that can affect foreclosure outcomes, and recidivism in particular, and make the tabulated impacts of counseling seem larger or smaller than they really are. As with other impacts of counseling on modification amounts, we constructed multivariate models to test our results for the impact of counseling on delinquency and foreclosure recidivism, for modification and non-modification cures, while controlling for other important factors.

Our modeling approach to sustainability of cures made through loan modifications differs from that for other, non-modification cures. We expected counseling to affect redefault of those already cured through loan modification in two possible ways, which our modeling allowed us to distinguish. The first was through counseling's impact on the *size of the reduction in monthly payments resulting from loan modification*. Our surveys of counseling providers and housing industry observers, as well as our review of NFM Grantees' quarterly program reports, indicated that counselors work with borrowers and servicers to try to obtain more significant



reductions in payments. Our own results earlier in this report showed large effects of counseling on loan modification size, and recent research (Quercia and Ding 2009) demonstrated a significant effect of the dollar size of loan payment reduction on borrower redefault. We anticipated that counseling could therefore expand payment reductions and thereby lower recidivism.

The second impact of counseling on sustaining cured loans, also highlighted by counselors in our earlier surveys and case studies, derives from *counselors' work with borrowers on financial planning and management*, in areas including budgeting for the short and long term, non-mortgage credit management, cost-cutting, and revenue generation.<sup>30</sup> These contribute to borrowers' continued ability to meet newly modified mortgage payments. While the data we have do not permit us to observe the specific types of assistance provided by counselors, as we will show, the construction of our models allowed us to estimate the effect of this second important component of counseling assistance, independent of any effect of the size of the loan modification the homeowner received.

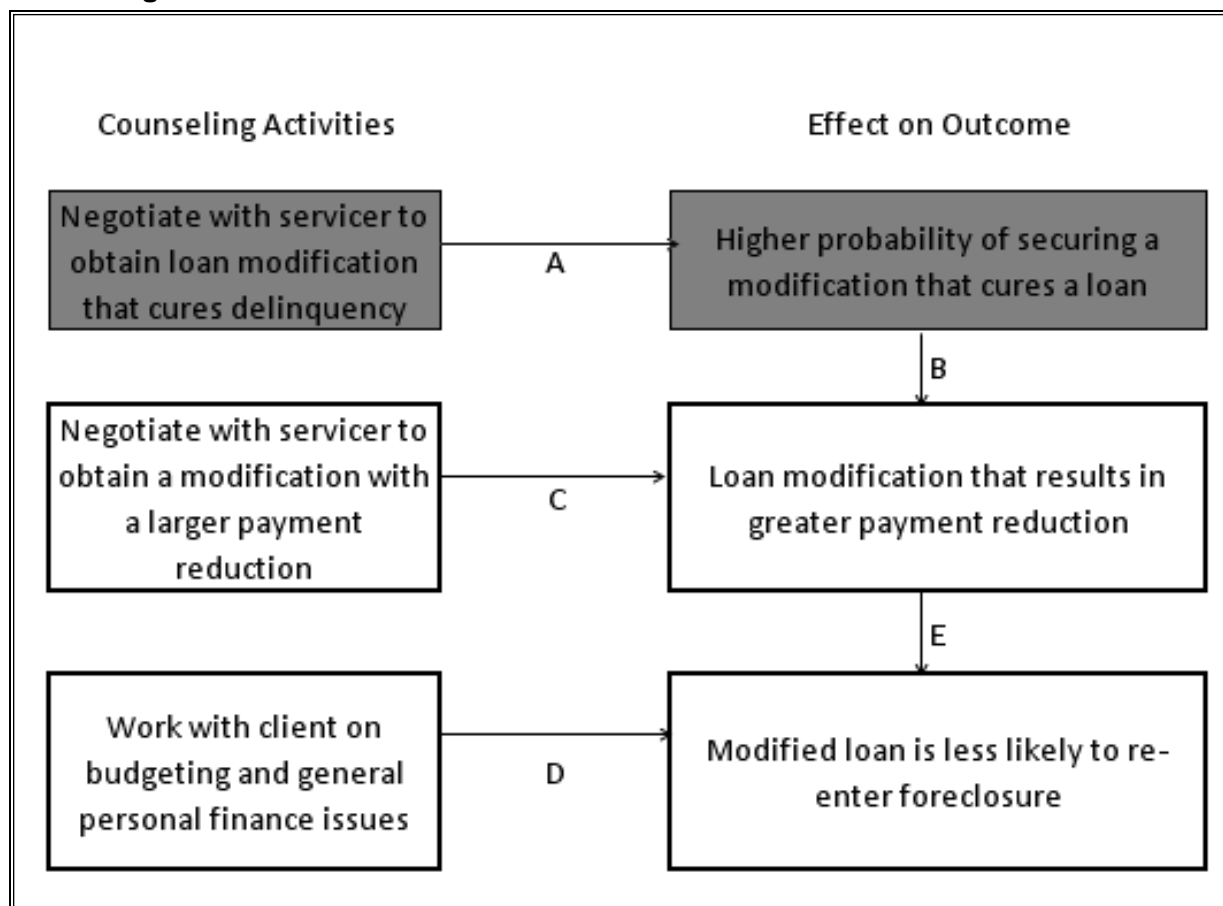
A graphical representation of the structure of counseling's potential impact on sustaining loans cured through modification is presented in the lower four white boxes and arrows C, D, and E of figure 3. The bottom right box represents the desired sustainability result of counseling: reduced recidivism of modified loans. The middle row of boxes represents the possibility of counseling producing larger payment reductions in loan modifications, with resulting effects in reducing recidivism; and the bottom left box reflects the possibility of counseling directly affecting recidivism through financial management assistance and overall support in sticking to modification plans. For this first measure of sustainability, only loans once troubled and then subsequently cured by modifications enter the middle row, then to be sustained or not.

The entire figure 3 diagram encompasses sustainability question 2 as well, addressing counseling's impact first on cure rates and then on sustaining the cures. The shaded top row of boxes representing counseling's effect on modification/cure rates for troubled loans feed into the likelihood of recidivism given that a modification/cure has occurred as shown in the unshaded rows. We will revisit the entire diagram when we discuss our analysis of question 2, the likelihood of curing and sustaining together.

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<sup>30</sup> In a small minority of cases, counseling agencies also had access to emergency and/or longer-term financial assistance, which could also help with sustainability.

**Figure 3: Framework of Counseling's Effects on Loan Curing with Modification and Sustaining Modified Loans**

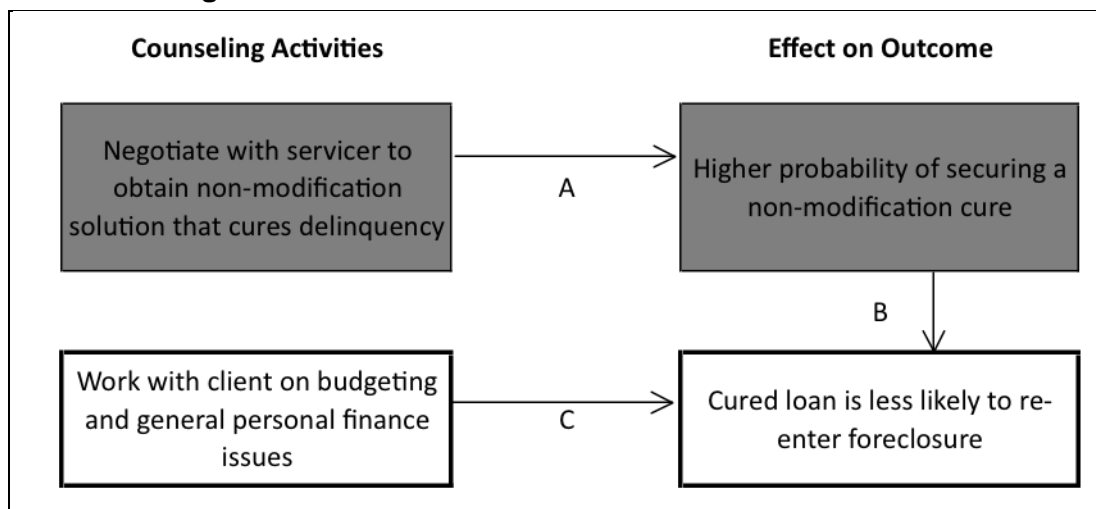


Turning for a moment to loan cures-to-current obtained through means other than modifications, the picture is simpler (figure 4). No modification is involved, so counseling's contribution to the size of payment reduction is not an issue.<sup>31</sup> Counseling contributes to the borrower's financial planning and position to sustain cures (question 1). The full picture outlines counseling potentially affecting non-modification cures and later redefaults of them (question 2).

<sup>31</sup> Counseling could affect the structure and scale of forbearances or repayment plans, with implications for the sustainability of cures, but we do not have the data to explicitly model these factors as we do for modifications.



**Figure 4: Framework of Counseling's Effects on Loan Curing without Modification and Sustaining Outcomes**



### Counseling impacts on sustaining loan modifications

Returning to sustainability question 1, and to sustaining modification cures (versus non-modification cures) in particular, we developed models to examine the effects of counseling on recidivism of modification in two steps. As indicated in the conceptual framework (figure 3), counseling's impact on redefault is influenced by (C) its effect on the size of NFMC clients' *loan modification* and in turn those modifications' effects on the likelihood of redefaults, and (D) the effects of counseling on *financial management* and related borrower action that influence redefault without regard to the reduction in a client's loan payment.

Our key findings were that counseling had a statistically significant impact in reducing recidivism of modification-cured loan loans through *both* increasing payment reductions and providing financial management and other guidance. The combined effect of the two factors reduced the relative odds of redefault by a remarkable three-quarters for borrowers who receive pre-modification counseling. But the impact of aid with financial management and other matters (irrespective of loan modification size) was much larger than the payment reduction effect.

To obtain these estimates for sustainability question 1, we combined two multivariate models, which are summarized mathematically in the first two equations in box 1 on page 65 and described in the next three subsections.

### The loan modification size component of counseling impact on redefault

To determine how counseling affects sustainability through lower monthly payments as a result of a loan modification, we used a two-stage modeling approach. First, we reestimated the effect of counseling on reduction in loan payment, but this time just for those NFMC and non-



NFMC borrowers *receiving modifications that brought them current* (as represented in equation 1 in box 1). Besides a dummy variable representing counseling before a modification, the model also included the standard loan, borrower, and market characteristics used as controls in our other models. It also added a dummy variable for whether the modification occurred before or after HAMP, and an interaction between the counseling and HAMP dummies—representing the possibility of differing counseling impacts in the two periods (just as in the all-modifications payment reduction mode).<sup>32</sup> We then estimated a second model (equation 2) that predicted the probability of borrower redefault as a function of the level of monthly payment reduction (along with other factors). By combining the results of the two models, we were able to estimate the effect of counseling on the relative odds of redefault based on the additional reduction in the monthly payment amount that could be attributed to counseling assistance.

As in our descriptive tabulations, the data used in the sustainability models included round 1 and 2 counseled and non-counseled homeowners, tracked through the end of 2010. Throughout the sustainability modeling analysis, however, we focused exclusively on *loan modifications that resulted in cures of serious delinquencies or foreclosures*. That is, the loan modification must bring a previously defaulting mortgage to current status, with no delinquencies and no pending foreclosure.<sup>33</sup> This differs from our earlier multivariate analysis of loan modification impacts (discussed under “NFMC Program’s Effect on Loan Modifications,” page 47), which looked at all loan modifications, regardless of whether they brought the loan current. The loan modifications examined here represented a specific subset of all modifications.<sup>34</sup>

Consider first the model for payment reduction size in curing modifications (table 10).<sup>35</sup> We used an OLS regression to estimate the effects of counseling on payment reductions. Consistent with our modification-size models earlier in the report, the effects of counseling before receiving a loan modification, compared with counseling after modification or with

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<sup>32</sup> This variable differs from the HAMP-related dummy in the foreclosure cures model discussed earlier, in that it focuses on the timing of modifications (cures) rather than entrance to counseling. Our hypothesis was that payment reduction size would be affected by whether HAMP had begun when the loan was modified, rather than whether HAMP had begun when counseling began.

<sup>33</sup> In operational terms, to be included in this analysis the loan modification had to occur within one month of the loan becoming current on all monthly payments.

<sup>34</sup> It turns out that this difference in modifications considered had very little (\$2) impact on the size of payment reductions.

<sup>35</sup> As we had done previously, we initially estimated two versions of the payment reduction model: one estimating counseling’s impact on monthly payment reduction in absolute size (dollars) and one as a percentage of the pre-modification monthly payment. But because the percentage change model produced much the same results as the dollar version, we conducted the bulk of our analysis and reported the results of only the dollar payment reduction version, in order to reduce the number of analysis option branches in these models. In the one area where differences exist, they are specified in the report.



receiving no counseling at all, were substantial and statistically significant. The difference in size of the payment reduction for a counselor-assisted loan modification was \$178 a month (see table 10; full model results are in appendix M).

Again as we earlier found for all modifications, the dollar amount of the difference between curing modifications to counseled versus non-counseled borrowers did not vary between the pre-HAMP period and the period after HAMP started.<sup>36</sup> For a typical loan, the \$178 difference translated into a \$565 reduction in monthly payment for post-counseling modifications received before HAMP, compared with a \$387 payment reduction for other borrowers—an increase of over 45 percent for counseled borrowers.<sup>37</sup> For modifications made after HAMP, the payment reduction for counseled borrowers was \$730 a month compared with \$552 for non-counseled borrowers, an increase of 32 percent. Because the post-HAMP period saw larger payment reductions in general, the impact of the same \$178 counseling difference after March 2009 made a smaller percentage impact.

Turning to levels of counseling, interestingly for modifications before HAMP began, Level 1 counseling made about the same difference in payment reductions as Level 3 and more than Level 2. Once HAMP began, the higher counseling levels were much more beneficial and the effect of Level 1 counseling by itself declined.

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<sup>36</sup> The term in the model for interaction between pre-mod counseling and whether the modification preceded or followed the introduction of HAMP was not statistically significant. In earlier analysis, we also estimated separate models for only non-NFMC loans along with the NFMC/non-NFMC models, finding no substantial difference in results.

<sup>37</sup> The payment reduction for a “typical loan” was estimated using the mean and mode values for the independent variables in our regression model.



**Table 10: OLS Regression Model Estimates for Counseling Effects on Reduction in Monthly Payment in Dollars Resulting from Loan Modifications That Cured a Serious Delinquency or Foreclosure**

	Parameter estimate	95 percent confidence interval	
Simple counseling effect <sup>a</sup>	178	157	200
Counseling level effects			
Level 1 counseling			
Pre-HAMP	192	162	222
Post-HAMP	103	77	129
Level 2 counseling <sup>a</sup>	163	126	199
Level 3 counseling			
Pre-HAMP	183	152	214
Post-HAMP	234	207	261

Source: OLS model estimates from NFMC program data January 2008 through December 2009 and LPS loan performance data through December 2009.

Notes: Serious delinquency is three or more months.

a. Counseling's effect on a loan modification's payment reduction was the same before and after HAMP began in April 2009. Therefore, we only report one parameter estimate for counseling's effect.

We need now to connect this significant impact of counseling on modification size to the effect of loan modification payment reduction on redefaults and to combine it with the other effects of counseling.



## Box 1. Models Used to Estimate Counseling's Effects on Sustainability

### Equation 1: Effect of counseling on monthly payment reduction

$$M = a*L + b*E + c*H + d*E*H$$

where  $M$  is size of a modification's payment reduction;  $L$  is the many borrower, loan, and market control characteristics;  $E$  is a dummy variable taking the value 1 for borrowers who obtained a modification with counseling assistance and 0 for borrowers who obtained a modification without counseling assistance (people who either did not receive counseling or went to counseling after getting their modification);  $H$  is a dummy variable with value 1 if the modification took place after March 2009; and  $E*H$  is an interaction variable between counseling and the HAMP start-related date for the modification, representing possible differences in counseling's impact once HAMP starts.

### Equation 2: Independent effects of size of payment reduction and non-modification counseling assistance on redefault

$$\text{Probability}(Y=1 \mid \text{loan modified and cured}) = g(M, L, T(t), E(t), C(t), E(t)*C(t), R(t), P(t))$$

where the left side of the equation is the conditional probability that a loan, once cured through a loan modification, falls again into default. It is determined by  $M$ , the size of the loan modification payment reduction;  $L$ , the loan, borrower, and neighborhood and regional characteristics for which we want to control;  $T$ , the time since the loan was cured;  $E$ , a dummy variable valued at 1 for a borrower once (s)he entered counseling if it is before the modification occurred;  $C$ , a dummy valued at 1 if the modification took place after March 2009;  $R$ , a dummy variable valued at 1 in periods before an eventually counseled borrower enters counseling; and  $P$ , a dummy variable valued at 1 if the homeowner entered counseling after the modification. We expected  $M$  to have a negative effect on the probability of recidivism (bigger modification, smaller likelihood of renewed trouble). As shown in equation 1,  $M$  is itself determined in part by pre-modification counseling, if it takes place. The parameter  $E$  represents the effects of counseling assistance independent of the effects of monthly payment reduction from a loan modification (along with the interaction variable  $E*C$ ) and should also have a negative effect on redefault rate.

### Equation 3: Effect of counseling on curing a serious delinquency or foreclosure

$$\text{Probability}(U=1 \mid \text{foreclosed or delinquent, modified}) = h(L, S(t), F(t), D(t), F(t)*D(t), R(t))$$

where the left side of the equation is the conditional probability of a loan cure from being seriously delinquent or in foreclosure using a modification;  $S(t)$  is the time elapsed since entry into foreclosure or serious delinquency;  $F(t)$  represents two dummy variables for entering counseling before cure, one before and one after April, 2009;  $D(t)$  is a dummy variable for pre- and post-April 2009;  $F(t)*D(t)$  is the interaction between counseling start and the start of HAMP;  $R$  is a dummy variable valued at 1 before an eventually counseled borrower enters into counseling; and the other variables are as above.



### **Modeling redefaults of modifications, including payment size and non-payment-size components of counseling impact**

In the next stage of analysis, we model the probability of redefault of a loan previously cured through modification, as represented in equation 2 on page 65. We estimated the equation as a LOGIT model of the monthly redefault rate (rate of previously modified-and-cured loans becoming seriously delinquent or entering foreclosure in each month), using a method in which we estimate monthly probabilities and apply these estimates to a cohort of loans. The key representation of counseling is a variable representing entry to counseling before modification. A difference was that, because redefaults are measured forward from modifications already made, this variable took a value of 1 in every period if pre-modification counseling occurred. The variable looks backward to a time before this model's observations.<sup>38</sup> These estimates take into account that the amount of monthly payment reduction received from a loan modification was included as an independent variable. This allowed us to measure directly the impact of the size of the payment reduction on the probability of redefault. Consistent with the research literature, one would expect to see a negative effect of payment reduction, with larger modifications producing lower likelihood of redefault.

If we in fact find that size of payment reduction affects redefaults, we can trace the impact of counseling on redefaults by way of its effect on modification size, using the results of the modification-size model (equation 1) and the redefault model (equation 2). As we shall illustrate below, we estimated the change in payment reduction as a result of entering counseling before a modification from the first model. We then plugged that payment change amount into the redefault model to find the effect of counseling on redefault through payment reduction.

The other key component of our redefault model was consideration of the additional ways counseling affected redefault (as conceptualized in figure 3). In addition to the impact of counseling on the size of payment reductions from modifications, our informed observers, surveys of counselors, and case studies suggested that counseling may help borrowers manage their finances (with a given size loan modification) or address other issues that may be affecting their ability to make their mortgage payments. Counseling may help borrowers choose expenses to cut back during a time of mortgage crisis and increase commitment to reducing them; find additional sources of financial assistance, such as for paying utility bills; or generate additional income, for example by renting out a room. Counseling may also be important for supporting and encouraging borrowers to keep focused on meeting revised mortgage obligations or dealing with servicers, in the face of high stress.

We modeled the possible impacts of additional types of counseling assistance by adding a dummy variable representing pre-modification entry to counseling to our redefault LOGIT

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<sup>38</sup> In a later section, we discuss the impact of counseling entered after a modification has already occurred.



model (equation 2), while keeping the payment reduction through loan modification variable in place. Variable  $E$  in equation 2 in the box on page 65 represents counseling begun before a loan modification and estimates the potential independent effect of non-loan-modification-related assistance.<sup>39</sup> Because the payment reduction's impact—and counseling's impact on it—are already accounted for by the payment-reduction variable, the counseling variable in this second model represents the other effects of counseling outside its role in determining the size of loan modifications. We can hypothesize in advance that the additional direct impact of pre-modification counseling on redefault will be negative—that is, the assistance counselors provide on financial management, budgeting, and so on, would make it less likely that a homeowner will redefault. The model also allows the impact to vary based on whether the modification preceded or followed the start of HAMP, using variables controlling for the interaction between counseling and modification timing.<sup>40</sup>

As a further model control variable, we added the time since the loan modification occurred, since one would expect to observe a lower likelihood of redefault once a borrower has successfully made several payments. Further, to control for any unobserved differences between people choosing to enter counseling and those not, we employed a dummy variable (*preEC*) for people who eventually entered counseling in the periods before they entered,<sup>41</sup> as explained in the section on selection bias on page 37. Finally, we used a dummy variable representing the pre- and post-HAMP initiation period interacting with a modification taking place after counseling.

Once again, the data used in this redefault model included Round 1 and 2 counseled and corresponding non-counseled homeowners. Their performance was tracked through the end of 2010 to provide significant time for curing and redefault, for loans in seriously delinquency or foreclosure that had previously been brought current by modification. The key results of this second model are summarized in table 11 (complete models are in appendix N). The impact of the size of the monthly payment reduction ( $M$ ) was significant and negative, indicating that larger monthly payment reductions resulted in lower probabilities of subsequent redefault. In addition, the separate effect of counseling on recidivism ( $E$ ) was large, negative, and statistically significant. Indeed, the effect of non-modification counseling impacts was far

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<sup>39</sup> For borrowers obtaining counseling before their loan modifications.

<sup>40</sup> Mechanically, the impact of counseling is the sum of the impact of  $E$  and the interaction term for post-HAMP modifications. Note that the HAMP-timing variable ( $C$ ) in the re-default model differs from the HAMP-related variable in foreclosure cures models because the former represents whether cures preceded HAMP, rather than the calendar period during which counseling may (or may not) be occurring and loans are being observed. We believe it is the timing and thus quality of the cure relative to HAMP's initiation that should be expected to affect later possibility of redefault.

<sup>41</sup> This *preEC* variable necessarily indicates people who will enter counseling after their cure occurs, since the model only observes borrowers who have already cured their loans.



larger than the effect of counseling through loan modification size, indicating that these counseling effects made a greater impact on reducing the likelihood of redefault than did the simple reduction in monthly loan payment.

More specifically, the model results indicated that a \$1,000 reduction in payments through modification reduced the relative odds of redefault by 20 percent.<sup>42</sup> From our modification-size model, we know that counseling produces \$178 in additional payment reductions, which is about 18 percent of \$1,000. *Therefore, counseling created about a 3.5 percent<sup>43</sup> reduction in the relative odds of modification cure redefaults through its effect on size of payment reductions* (represented by arrows C and E and the boxes they connect in figure 3). The impact was the same both before and after HAMP.

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<sup>42</sup> The percentage reduction in the odds ratio is 1 minus the odds ratio. One minus odds ratio 0.80 = 0.20.

<sup>43</sup> 20 percent times 0.18.





**Table 11: LOGIT Model Odds Ratio Estimates for Counseling Effects through Loan Modification Size and Directly on Likelihood of Redefault**

	Net odds ratio	95 percent confidence interval	
Effect of payment reduction (per \$1,000) <sup>a</sup>	0.80	0.78	0.82
Direct effect of any pre-modification counseling outside payment reductions			
Pre-HAMP <sup>b</sup>	0.23	0.20	0.26
Post-HAMP <sup>c</sup>	0.27	0.24	0.30
Direct effect of levels of pre-modification counseling outside payment reductions			
Level 1			
Pre-HAMP <sup>b</sup>	0.22	0.19	0.25
Post-HAMP <sup>c</sup>	0.25	0.22	0.28
Level 2			
Pre-HAMP <sup>b</sup>	0.22	0.19	0.25
Post-HAMP <sup>c</sup>	0.28	0.24	0.32
Level 3			
Pre-HAMP <sup>b</sup>	0.22	0.19	0.25
Post-HAMP <sup>c</sup>	0.27	0.23	0.31

Source: LOGIT model estimates from NFMC program data January–December 2009 and LPS loan performance data through December 2010.

<sup>a</sup> Counseling's effect on a loan modification's payment reduction was the same before and after HAMP began.

Therefore, we only report one parameter estimate for counseling's effect.

<sup>b</sup> The pre-HAMP net odds ratio reflects netting out the effect of unobservable differences between NFMC and non-NFMC borrowers.

<sup>c</sup> The post-HAMP net odds ratio reflects netting out those unobservable differences and including the interaction between counseling and the HAMP environment.

The model estimates further indicated a much larger reduction in redefaults of modifications from the financial management and other impacts of counseling (the bottom two boxes and arrow D of figure 3).<sup>44</sup> Before HAMP, *the relative odds of redefault declined by 77 percent as a result of counseling's effects beyond payment size. With HAMP in place, the relative odds of redefault dropped as a result of counseling by a slightly smaller 73 percent (table 11).* These results established a very substantial and direct impact of pre-modification

<sup>44</sup> The percentage reduction in relative odds is 1 minus the odds ratio, or  $1.0 - 0.23 = 0.77$  for the pre-HAMP model and  $1.0 - 0.27 = 0.73$  for the post-HAMP model.



counseling on reducing rates of recidivism, including effects independent of counselors' efforts to obtain better loan modifications for clients.<sup>45</sup>

The combined impact of counseling from these two sources—impact on modification size and impact outside modification size—is multiplicative.<sup>46</sup> The effect of modification size was so small, however, for the \$178 difference counseling makes, that this multiplication (after rounding to two digits) leaves the combined downward effect of counseling on the relative odds of redefault little changed at 78 and 74 percent, respectively, for the pre-HAMP and post-HAMP periods.<sup>47</sup> Alternative modeling using a percentage rather than absolute measure for the size of payment reductions produced a somewhat larger effect for counseling through modification size relative to counseling's other effects, but the non-payment-reduction component of counseling's impact still dominated, and the combined effect was changed only minimally.

The effects of the three different levels of counseling provided within NFMC were not substantially different from the overall effect. The impacts on relative odds of redefault were identical for the three levels before HAMP. The small difference between levels 1 and 2 once HAMP began was not statistically significant (see table 11).

Putting our key results more positively, for people receiving modifications before HAMP, the relative odds of sustaining a cure are increased by about 355 percent for borrowers who enter counseling before obtaining a modification, compared with those who do not.<sup>48</sup> For modifications after HAMP had begun, the relative odds are increased by about 285 percent.

Because odds ratios can be somewhat difficult to interpret, we also estimated the cumulative probability of a modification redefaulting, with and without counseling, for a typical loan in our sample, based on the means and modes of the explanatory variables. Means were

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<sup>45</sup> One further complication in obtaining these estimates might cause them to be adjusted somewhat downward. The effect of characteristics of people selecting to enter counseling before modifications is, in our redefault models, necessarily based on the experience of that effect for people who enter counseling after modification, who may have done so because of a second round of negative events (job loss etc.). That may overstate the apparent negative effects of self-selection into pre-modification counseling and of unobserved variables and thus overstate the positive program effects of counseling. If, for example, the self-selection before modification and unobservables had neutral effects, impacts of counseling on odds ratios for redefault would still be 60 percent pre-HAMP and 53 percent post-HAMP.

<sup>46</sup> The specific structure of LOGIT models, in which log of the odds ratio of the dependent event variable is a linear function of the independent variables, assures that the odds ratio for impact of two separate independent variables is the product of the individual odds ratios.

<sup>47</sup> These are obtained by multiplying the odds ratio for non-modification impact by the odds ratio for modification impact—the latter already multiplied by the size of the modification reduction under counseling—and then subtracting from 1. For pre-HAMP model:  $1 - 0.96 \times 0.23 = 0.78$ . For post-HAMP model:  $1 - 0.96 \times 0.27 = 0.74$ .

<sup>48</sup> A pre-HAMP 78 percent reduction in relative odds of recidivism with counseling, to 22 percent of the odds without counseling, is algebraically equivalent to an increase in sustainability (the opposite of recidivism) by a factor of  $(1/0.22) = 4.55$ , or 355 percent over the original odds ratio. The post-HAMP figure is  $(1/0.26) = 3.85$ .



used for continuous variables (such as income), modes (or most frequent values) were used for discrete or dummy variables (such as whether the loan was subprime). We estimated the cumulative rates of redefault for counseled homeowners and people with those same characteristics, observable and nonobservable, had they not received counseling.<sup>49</sup> This cohort simulation is explained more fully earlier in the report, in the Methodology section.

Figure 5 illustrates the difference between the rate of curing loan modifications being sustained by borrowers receiving pre-modification counseling and the rate for modifications sustained by borrowers receiving no (or post-modification) counseling. It tracks the cumulative percentage of homeowners who have sustained their loans by the same given period after they received their modifications.<sup>50</sup> The levels of sustained modifications were provided separately for loans modified before and after HAMP began.

For pre-HAMP modifications, nine months after homeowners received their curing modifications 78 percent of those with counseling had avoided redefault (a recidivism rate of 22 percent), compared with only 34 percent of those who obtained curing modifications on their own (recidivism rate of 66 percent).<sup>51</sup> Non-counseled borrowers with modified loans redefaulted at a rate of 8 to 9 percent a month, compared with less than half that—3 to 4 percent—for counseled borrowers. The 44 cumulative percentage point difference in sustainability rates by the ninth month means that counseling lowered recidivism rates in these modifications by two thirds (from 66 to 22 percent) over nine months.

For modifications obtained after the start of HAMP, the effect of counseling on redefault was very similar to that before HAMP. Borrowers who received counseling had an 89 percent probability of sustaining their modified loans over nine months, compared with a 63 percent probability for those without counseling. Only about 1 percent of the homeowners with counseling and these later modifications redefaulted each month, compared with 4 to 5 percent for those without counseling assistance. The 26 cumulative percentage point difference in sustainability rates by the ninth month means that counseling lowered recidivism rates in these modifications by 70 percent (from 37 percent to 11 percent), compared to the 67 percent lower recidivism rate for pre-HAMP counseled modifications noted above.

The advent of the HAMP environment, by itself, also significantly influenced redefaults. For homeowners without counseling, recidivism rates were 89 percent lower among those who obtained their modifications after the start of HAMP instead of before. For homeowners with counseling, those obtaining post-HAMP modifications had recidivism rates 14 percent lower than those who got modifications before HAMP began.

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<sup>49</sup> This is different from the rate for non-counseled people, who may be different from those who sought counseling in ways we cannot fully specify.

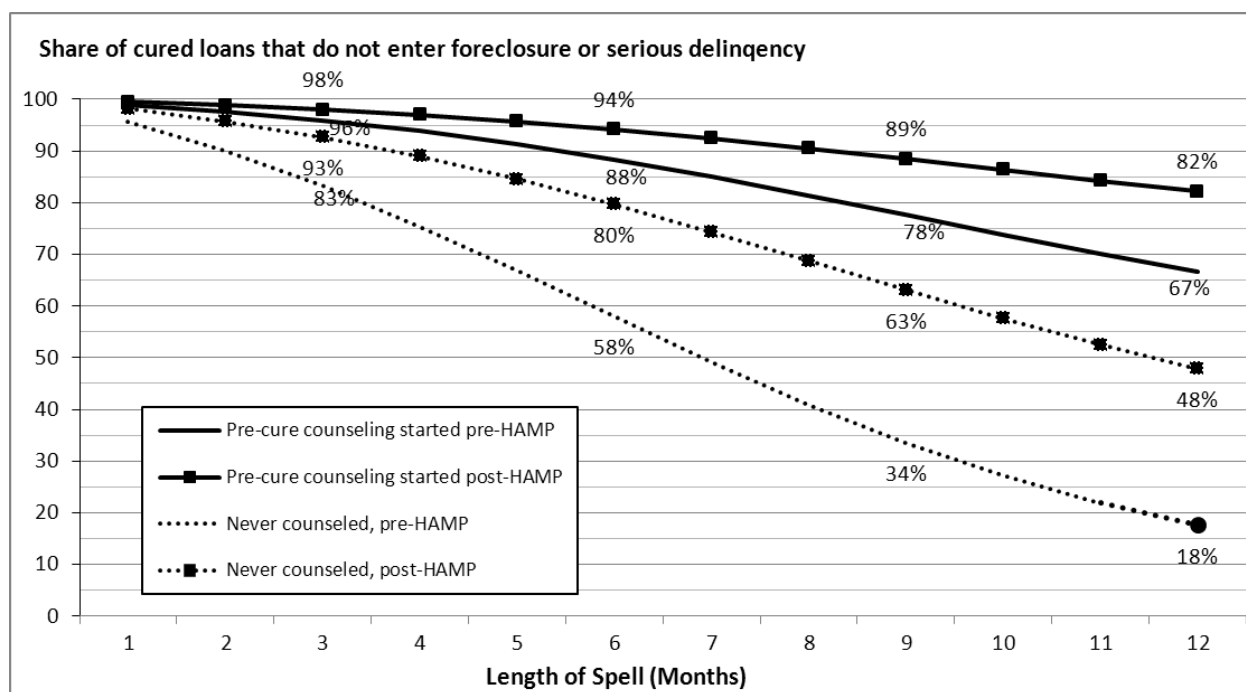
<sup>50</sup> See appendix R for a summary of the calculations used to produce the figure.

<sup>51</sup> Recidivism rate is simply 1 minus the rate of modifications sustained, as shown in figure 6.



Notably, the combination of NFMC counseling and the implementation of HAMP was able to lower recidivism rates for borrowers curing loans through modifications by 83 percent (from 66 to 11 percent) cumulatively over the course of nine months for a typical counseled loan. That meant changing redefaults from a huge factor undercutting the value of modifications to a far more limited issue. Without question, the impact of counseling in reducing recidivism by recipients of curing modifications was very powerful, both on its own and in concert with the creation of HAMP. This is a result of counseling's separate effects on loan modification size—a smaller effect—and on some mix of aid to borrowers in budgeting, other financial management, and, in a few cases, financial assistance—a much larger effect—and their combination.

**Figure 5: Estimated Cumulative Rates for Avoiding Redefault of Modification Cures for Counseled and Non-Counseled Homeowners**



Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2010.

Note: The calculations for this figure are explained in appendix R.

### Modifications with principal reduction

We explicitly modeled the inclusion of a reduction in loan principal as part of the loan modification, as a dummy variable in our model, because some observers have suggested principal reduction would help prevent redefaults. Our findings, already controlling for many other variables including the size of payment reduction provided by a loan modification, indicate that principal reduction was associated with a significant decrease in the rate of redefault, consistent with the effects observed by Quercia and Ding (2009). The relative odds of redefault



were reduced by an additional 20 percent when principal reduction was provided, for a given size of monthly payment reduction. Principal reduction offers its own separate impetus to sustaining a loan modification.

### **Interaction models**

We examined potentially differing impacts of counseling on redefaults of modified loans depending on borrower, loan, and metropolitan area/neighborhood characteristics using interactions between those characteristics and the prime counseling indicator variable in the redefault model, entry to counseling before receipt of a modification, as explained on page 38.

The largest interaction effect on counseling's impact on modification-cure redefaults involved not those three sets of characteristics but our indicator of whether the modification itself took place after HAMP started (table 12). Its interaction with pre-modification counseling, viewed by itself, raised monthly redefault rates. What this means is that the effect of pre-modification counseling and the HAMP environment together was somewhat less than the sum of the two interventions' separate individual effects would be. However, even with that interaction, the probability of redefault with these two interventions was far lower than that with just one or neither present.

Turning to the other control characteristics, every borrower population group, and households with every type of mortgage loan and in every set of market circumstances received substantial benefits from counseling resulting in decreasing loan modification redefaults. This conclusion held both before and after the start of HAMP. There were nonetheless some smaller variations in the size of counseling's effect on redefaults following curing modifications, as follows.

- African American borrowers received modestly less benefit from counseling in terms of lower modification redefaults than did non-Hispanic whites. But African Americans started out with fewer redefaults, other things equal, in the non-counseled case. They benefited significantly from counseling in reducing modification-cure redefaults and were much better off in terms of redefaults than without it. But, if they cured their loans after HAMP had begun, they received get modestly less of a redefault reduction than did white non-Hispanics.
- Hispanics had a slightly larger benefit from counseling in reducing redefaults than did non-Hispanics.
- ARMs and option ARMs borrowers received modestly less benefit from pre-modification counseling than did fixed-rate borrowers.
- Subprime borrowers received slightly less benefit. This is, as we shall see, the opposite of the effect of counseling for cures, in which counseling was of more help to the borrowers with initially riskier loans.



The complete set of effects of other characteristics on counseling impacts on loan-modification cure redefaults, before and after HAMP began, is summarized in table 12.

**Table 12: Summary of Interaction Effects of Counseling on Probability of Redefault After Loan Modification Cure**

Variable	Significant at $p < .05$ ?	Direction
Black	Yes	Positive
Asian	No	n/a
Ethnicity	Yes	Negative
Income	No	n/a
Original loan amount	Yes	Negative
Current interest rate	Yes	Positive
Subprime (mortgage grade B,C)	Yes	Positive
ARM	Yes	Positive
Interest of other type	No	n/a
Option ARM	Yes	Positive
Agency loan	No	n/a
Government loan	No	n/a
Portfolio loan	No	n/a
Jumbo loan	No	n/a
Modification cure occurs post-HAMP	Yes	Positive
Tract loan approval rate	Yes	Negative
Tract median mortgage amt.	No	n/a
Change in unemployment rate	Yes	Negative
Percent change in house price index	Yes	Negative
Loan to value ratio	Yes	Positive
Loan to value ratio not 80	No	n/a

Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2010.

Note: We used a method outlined by Norton et al. (2004) to measure interaction effects and their statistical significance.

### **The effect of post-loan-modification counseling on redefault**

We considered a final component of this analysis of sustainability question 1: the effect on redefault of counseling that begins only *after* the homeowner has obtained a curing mortgage modification. Counseling started after a modification could still reduce recidivism as a result of



its usefulness from a financial management side, helping a borrower budget, deal with non-mortgage debt, or obtain a second modification or other workout. Adding another dummy variable to the LOGIT analysis, this time for entry to counseling after modification,<sup>52</sup> allowed us to examine that possibility.

One might expect the apparent effect of counseling received after a loan modification to be negative in our LOGIT model of redefaults, with counseling decreasing the rate of recidivism. On the other hand, borrowers who chose to obtain counseling even after receiving a modification that brought them current might be relatively rare and concentrated among people who suffer a second misfortune (job loss, health problem) that would make them more likely to redefault. Indeed, our tabulations indicated that only about 7 percent of the once-cured potential recidivists who entered counseling did so after modifications. The bulk of post-modification entrants to counseling were already seriously delinquent, or about to become so, when they sought counseling. Our dummy variable for post-modification entrants to counseling before their actual entry represented possible additional adverse events although we cannot individually measure them. Netting out that variable's effect from that of the post-modification counseling entrance variable should indicate whether later counseling can offset the likely problems leading to late-entry counseling for those who obtained it.

The result of our modeling analysis was that post-modification counseling was *unable* to offset the extra challenges that people who sought it likely faced. The net odds ratio for redefault was the same for people who entered post-modification counseling both before and after they sought NFMC assistance and was identical to the odds for those with similar characteristics who never received counseling at all. In other words, NFMC counseling entered belatedly, most likely when a second round of trouble arose, was generally unable to fend off redefault.

Our findings that pre-modification counseled borrowers fared substantially better than latecomers is consistent with other evidence that homeowners are better served by starting counseling earlier. This has important implications for policy, as well as future research. Experiments and studies that concentrate solely on post-modification counseling may observe only counseling's limitations in offsetting renewed difficulties. They could miss the strong effects that pre-modification counseling has.

### **Modeling redefaults of non-modification cures**

Defaults of delinquency and foreclosure cures that took place without loan modifications were more straightforward to model, because there was no payment reduction

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<sup>52</sup> We already have dummy variables representing entry into counseling before a modification and periods before entry into counseling but after a modification. The "counseling begun after modification" dummy is a time-varying covariate that becomes 1 when the borrower enters counseling after a modification and remains so thereafter; the prior-to-entry dummy becomes 0 at that same time. The excluded category is that of no counseling, with all three dummies set to 0.



effect to consider. Non-modification cures may include “self-cures,” where borrowers are able to pay their arrearages without any intervention on the part of the mortgage servicer, or they may involve forbearance plans that do not change the interest rate, principal balance, or other loan terms.<sup>53</sup> We followed the core of our modification-cure redefault modeling approach (see equation 2, box 1), except that the outcome to be explained was non-modification cures in redefault. The data were for all loans that had non-modification cures, and the modification payment reduction size variable and the payment size counseling effect equation behind it were eliminated. The primary NFMC counseling variable became counseling before non-modification cures. As with modification redefaults, we hypothesized that HAMP’s principal effect on counseling’s impact on redefault would be through HAMP’s effect on quality of cures, so the interaction-with-counseling variable we included was whether the cure preceded the start of the HAMP program.

Key results are summarized in table 13. (The complete modeling results are in appendix O.) The relative odds of a redefault for non-modification cures for homeowners with counseling before their cure were only 34 percent of those without counseling before HAMP’s start. In other words, before HAMP, counseling reduced the odds of redefault after a non-modification cure by 66 percent. After the start of HAMP, the relative odds of redefault for counseled borrowers were only 61 percent of those for non-counseled borrowers, or a 39 percent reduction.<sup>54</sup> Counseling impacts did not differ significantly for different levels of counseling before HAMP, though the point estimates showed slightly higher impacts for levels 2 and 3. After HAMP, however, counseling levels 2 and 3 produced significantly higher levels of impact than did level 1.

The impacts of NFMC counseling on lowering non-modification cure redefaults were smaller than the corresponding counseling impacts for cures *with* modifications, shown in table 12. Counseling impacts were especially smaller for non-modification cures after HAMP’s initiation. But the impacts of counseling in reducing redefaults were nonetheless very substantial for both modification and non-modification cures.

The impact of counseling on non-modification cure redefaults underlines the importance of counseling apart from helping homeowners obtain a larger payment reduction in their modification. Obviously in the non-modification case, there was no impact of modification size, but the impact of counseling on sustaining cures remained strong.

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<sup>53</sup> Non-modification cures may also include borrowers who received loan modifications at some point but where the modification occurred more than one month before or after mortgage was brought current.

<sup>54</sup> As with modification-cure redefaults, we note the issue of how well post-modification entrants to counseling represent pre-modification entrants, with the possibility that differences could result in overstating counseling’s impact on non-modification cure redefaults. If, for example, we again used the strong assumption that the self-selection before modification and unobservables had neutral effects, impacts of counseling on odds ratios for redefault would still be 45 percent before HAMP but 2 percent after HAMP.





**Table 13: LOGIT Model Odds Ratio Estimates for Counseling Effects on Likelihood of Redefault of Non-Modification Cures, Rounds 1 and 2, NFMC and Non-NFMC Loans**

	Net odds ratio	95 percent confidence interval	
Effect of entering counseling pre-non-modification cures--any counseling			
Pre-HAMP <sup>a</sup>	0.34	0.31	0.37
Post-HAMP <sup>b</sup>	0.61	0.55	0.67
Level 1 counseling			
Pre-HAMP <sup>a</sup>	0.35	0.32	0.38
Post-HAMP <sup>b</sup>	0.65	0.60	0.70
Level 2 counseling			
Pre-HAMP <sup>a</sup>	0.34	0.30	0.38
Post-HAMP <sup>b</sup>	0.58	0.52	0.64
Level 3 counseling			
Pre-HAMP <sup>a</sup>	0.33	0.30	0.36
Post-HAMP <sup>b</sup>	0.56	0.50	0.62

Source: LOGIT model estimates from NFMC program data January–December 2009, and LPS loan performance data through December 2010.

<sup>a</sup> The pre-HAMP net odds ratio reflects netting out the effect of unobservable differences between NFMC and non-NFMC borrowers.

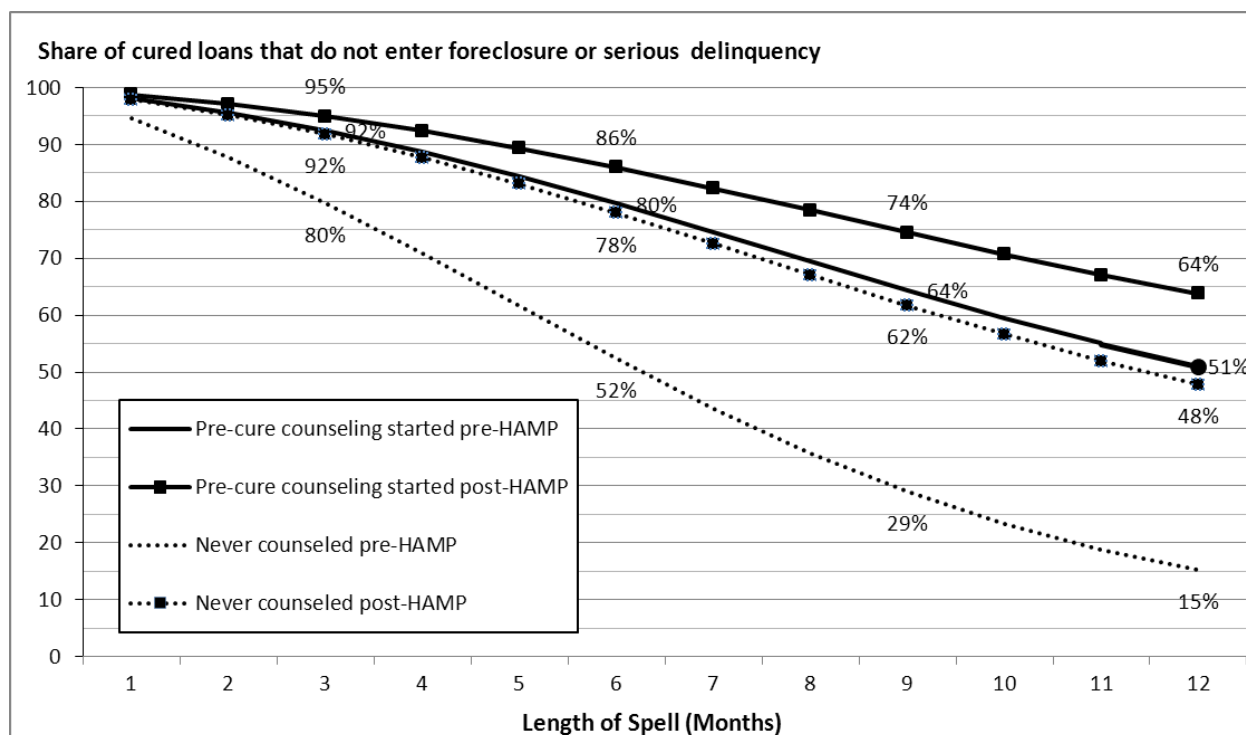
<sup>b</sup> The post-HAMP net odds ratio reflects netting out those unobservable differences and including the interaction between counseling and the HAMP environment.



Figure 6 translates the non-modification cure redefaults odds ratios to cumulative percentages of loans not redefaulting, using means and modes levels for non-counseling variables. Before HAMP, non-counseled borrowers redefaulted at a rate of 8 to 9 percent a month, compared with only 4 to 5 percent for borrowers who received counseling. As a result, counseling increased the overall percentage of borrowers avoiding recidivism from 29 to 64 percent after nine months, which corresponds to lowering the cumulative redefault rate from 71 to 36 percent, or a reduction of 49 percent.

For non-modification cures obtained once HAMP began, the effect of counseling on redefault is again smaller than the pre-HAMP impact but still substantial. After the start of HAMP, only about 2 to 4 percent of the homeowners with counseling redefaulted each month, compared with 4 to 5 percent among those without counseling assistance. Borrowers who received counseling had a 74 percent probability of sustaining their cured loans over nine months, compared with a 62 percent probability for those without counseling. The 12 percentage point difference in sustainability rates by the ninth month means that counseling lowered recidivism for these cures by nearly 32 percent (from 38 to 26 percent).

**Figure 6: Estimated Cumulative Rates for Avoiding Redefault of Non-Modification Cures for Counseled and Non-Counseled Homeowners**



Source: LOGIT model estimates from NFMC program data for 2008 and 2009 and LPS data for outcomes through December 2010.

Note: The calculations underlying this figure are contained in appendix R.



The presence of HAMP also significantly affected non-modification-cure redefaults, as it did modification-cure redefaults, for both counseled and non-counseled borrowers. For people without counseling, recidivism rates were lower for those who obtained their modifications after HAMP started. In fact, the size of the effect was similar to the reduction in redefaults that non-counseled borrowers would have incurred had they received pre-HAMP counseling. Similarly, for people with counseling, the advantage to those obtaining non-modification cures after HAMP was about as great as the benefit from receiving counseling in that period. In aggregate, then, the combined impact of curing without a loan modification in the post-HAMP period and obtaining counseling was a 63 percent reduction in redefaults (from 71 to 26 percent), compared with borrowers with pre-HAMP cures and no counseling assistance.

### **Interaction models**

We examined potentially different impacts of counseling on redefaults of non-modified cured loans depending on borrower, loan, and metropolitan area/neighborhood characteristics. This involved interactions between those characteristics and the prime counseling indicator variable—this time, entering counseling before obtaining a non-modification cure. As in the case of modification cures, the largest interaction was actually between entering counseling and the HAMP period, which we discussed above.

Turning to the other control characteristics, again every borrower population group, and households with every type of mortgage loan and in every set of metropolitan area/neighborhood circumstances received substantial benefits from counseling, decreasing non-modification cure redefaults. The conclusion held both before and after the start of HAMP. There were some smaller variations in the size of counseling's effects on redefaults following the non-modification cures. They were predominantly among loan characteristics, not borrower or location characteristics.

- Just as with modification-cure redefaults, African American borrowers received modestly less benefit from counseling in terms of lowered redefaults than did non-Hispanic whites, but they did get substantial benefit nonetheless. Non-counseled African Americans started out with fewer redefaults than whites, other things equal. They benefited significantly from counseling in reducing non-modification-cure redefaults and were very much better off in terms of redefaults than without it. But if they cured their loans after HAMP had begun, they did get a modestly smaller reduction in redefaults than white non-Hispanics did from counseling—perhaps because they started from a higher non-counseling base.
- Other population groups shared the benefits of counseling equally, and counseling's effect was not sensitive to differences in metropolitan areas or neighborhoods, except very minimally.



- ARM and especially subprime loan borrowers obtained somewhat less counseling benefit in terms of likelihood of non-modification cure redefaults than did fixed-interest and prime mortgagees.
- Borrowers with loans held by portfolio lenders started from a lower level of redefaults and benefited slightly less from counseling.

The complete effects of other characteristics on counseling impacts on non-modification cure redefaults, before and after the start of HAMP, is summarized in table 14.

**Table 14: Summary of Interaction Effects of Counseling on Probability of Redefault after Non-Modification Cure**

	Significant at $p < .05$ ?	Direction
Black	Yes	Positive
Asian	No	n/a
Ethnicity	No	n/a
Income	No	n/a
Original loan amount	Yes	Positive
Current interest rate	Yes	Positive
Subprime (mortgage grade B,C)	Yes	Positive
ARM	Yes	Positive
Interest of other type	No	n/a
Option ARM	No	n/a
Agency loan	Yes	Negative
Government loan	No	n/a
Portfolio loan	Yes	Positive
Jumbo loan	No	n/a
Cure occurs April '09 or later	Yes	Positive
Tract loan approval rate	Yes	Negative
Tract median mtg. amount	Yes	Positive
Change in unemployment rate	Yes	Positive
Percent change in house price index	Yes	Negative
Loan-to-value ratio	No	n/a
Loan-to-value ratio not 80	Yes	Negative

Source: LOGIT model estimates from NFMC program data for January 2008—December 2009 and LPS loan performance data through December 2010.

Note: We used a method outlined by Norton et al. (2004) to measure interaction effects and their statistical significance.



### **Descriptive analysis of obtaining and sustaining cures**

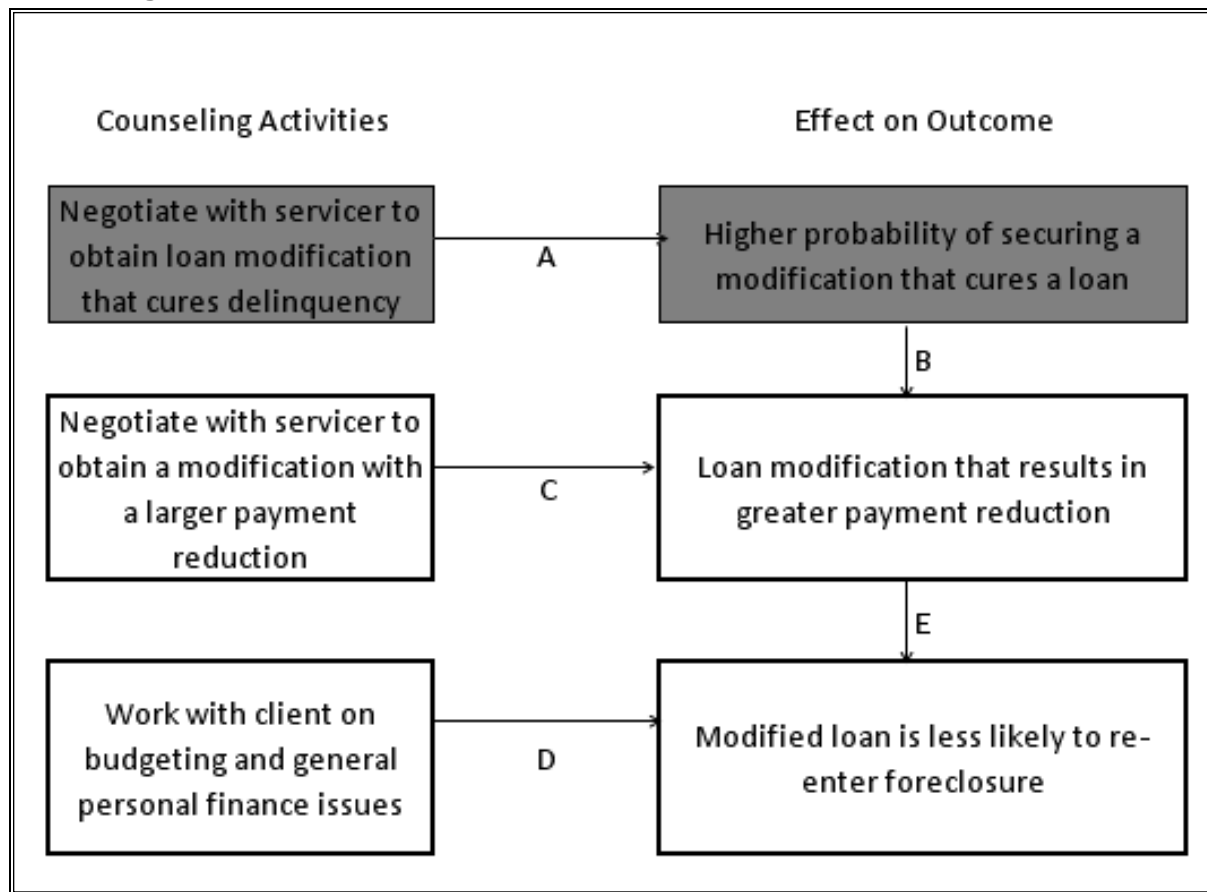
Because the recidivism impacts of counseling for recipients of non-modification cures were smaller than the impact figures for redefault of modification cures, the number of sustained cures—combining modification and non-modification cures—is dependent not only on the *total* number of homeowners obtaining cures and seeking counseling, but also on the mix of cures with modifications and without. This section looks at the determination of numbers of cures obtained and counseling's impact on those numbers. It then couples the impact of counseling on cures and on sustaining those cures. We look first at modification cures and non-modification cures separately, then at their combination.

All the recidivism analysis reported to this point, aimed at answering sustainability question 1, takes the initial curing of loans as a given and analyzes the sustainability of those cures from that point. But, as we have seen earlier, cures are in part a result of counseling. Ultimately, an important part of what we care about is curing defaulted loans for people in difficulty with their mortgages and keeping them cured. Our second sustainability measure, discussed below, combined the likelihood that a troubled loan was cured and that a cure was sustained. These two likelihoods could be used to compute the rate at which defaults became sustained cures, both with counseling help and without.

To illustrate this combined effect, we repeat the analytic framework in figures 3 and 4 here as figures 7 and 8. Consider first loan modifications that cure troubled loans. The top two boxes of figure 7 represent the first portion of this model: counseling improving loan-cure rates, through modification, for initially seriously troubled loans. These cured loans then feed into the middle and bottom rows of boxes, which determine what share of modification-cured loans are thereafter sustained. The entire figure represents the combining of increased curing and increased sustaining given a cure. Here we outline the analysis of the top two boxes regarding loan-cure rates and then the combined impact of counseling within the entire figure, covering cure rates and sustaining the cures.

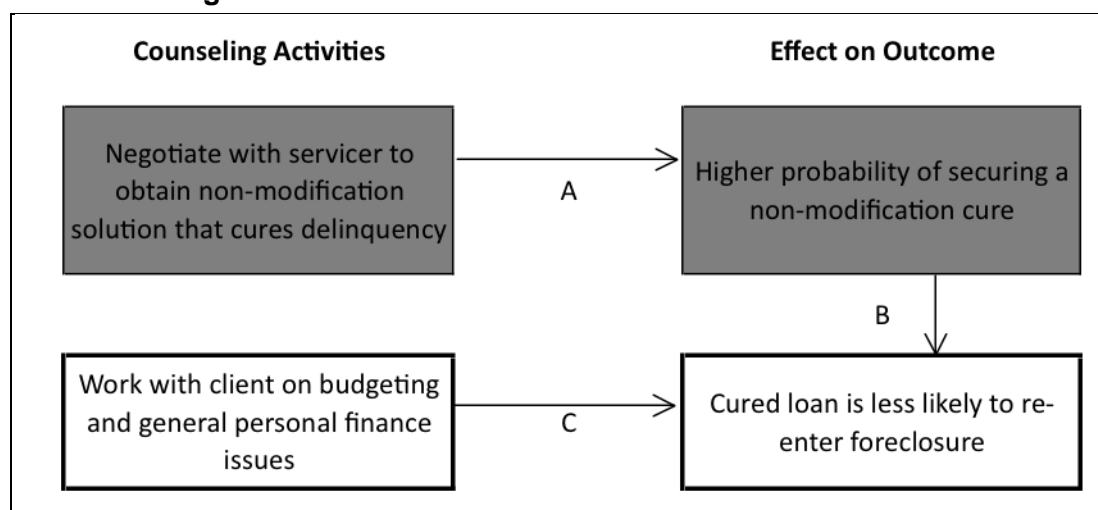
Next, consider loans cured without modifications. The top two boxes of figure 8 represent the first portion of the model, again showing counseling potentially improving loan-cure rates but absent modification. The cured loans then feed into the bottom row of boxes which determine what share of them are sustained, in this case without a separate consideration of the size of modification payment reduction.

**Figure 7: Framework of Counseling's Effects on Loan Curing through Modification and Sustaining Outcomes**





**Figure 8: Framework of Counseling's Effects on Loan Curing without Modification and Sustaining Outcomes**



We have already seen that cures are more common for NFMC-counseled loans than for non-counseled loans, with 50 percent of all serious delinquencies and foreclosures cured to current with counseling compared with 38 percent without such aid (table 10). Further, a higher percentage of counseled cures were associated with loan modifications than cures of non-counseled loans. The redefault modeling reported found that loans cured with NFMC help were more frequently sustained than were non-NFMC loans, and that this was especially true for loans cured with modifications. That combination of findings suggests that NFMC homeowners more often both cured and avoided redefault, because they cured more defaults to begin with, sustained more cures overall, and produced more curing modifications that in turn were more likely sustained than other cures.

To pin down these differences in sustained cures more fully, we first turn to multivariate analysis of curing troubled loans with and without counseling. Then we combine those modeling results for cures with those already obtained for sustaining cures, to compute differences in the rates of both curing and sustaining troubled loans.

### **NFMC program's effect on both curing and sustaining together**

Turning to multivariate analysis of the two-part, cure-and-sustain impact of counseling, we combined two sets of models:

1. redefault models for modification and non-modification cures just reported, and
2. modification and non-modification cure models



The modification and non-modification cure models estimated the probability of bringing to current mortgages that were previously in serious delinquency or in foreclosure, and included variables to measure the impact of counseling, the start of HAMP, and the interaction between counseling and the presence of HAMP. We estimated the cure models twice, to represent the probability of modification cures and non-modification cures.

Table 15 reports the key parameters of cure models, while the equation itself is equation 3 in box 1 (page 65) and the full model estimations are in appendix P. For the simple entry to counseling before a modification, the relative odds of obtaining a modification cure from a serious delinquency or foreclosure increased by 89 percent from the odds without counseling assistance in the pre-HAMP environment. The increase in relative odds was 97 percent in the post-HAMP case. Impacts of levels 2 and 3 of counseling were substantially larger than for level 1 before HAMP and somewhat less so once HAMP began but still significant for level 3. Perhaps HAMP loan modification guidelines helped people gain modifications without extensive counseling, although some counselors we interviewed said getting a HAMP modification was tough without continued counseling support.

**Table 15: LOGIT Model Odds Ratio Estimates for Counseling Effects on Likelihood of Modification, NFMC and non-NFMC**

	Point estimate	95 percent confidence interval	
Entered counseling pre-HAMP	1.89	1.73	2.05
Entered counseling post-HAMP	1.97	1.87	2.07
Counseling level effects			
Level 1, pre-HAMP	1.35	1.28	1.42
Level 1, post-HAMP	1.69	1.56	1.82
Level 2, pre-HAMP	2.03	1.92	2.14
Level 2, post-HAMP	1.88	1.70	2.06
Level 3, pre-HAMP	2.14	2.03	2.25
Level 3, post-HAMP	2.31	2.14	2.48

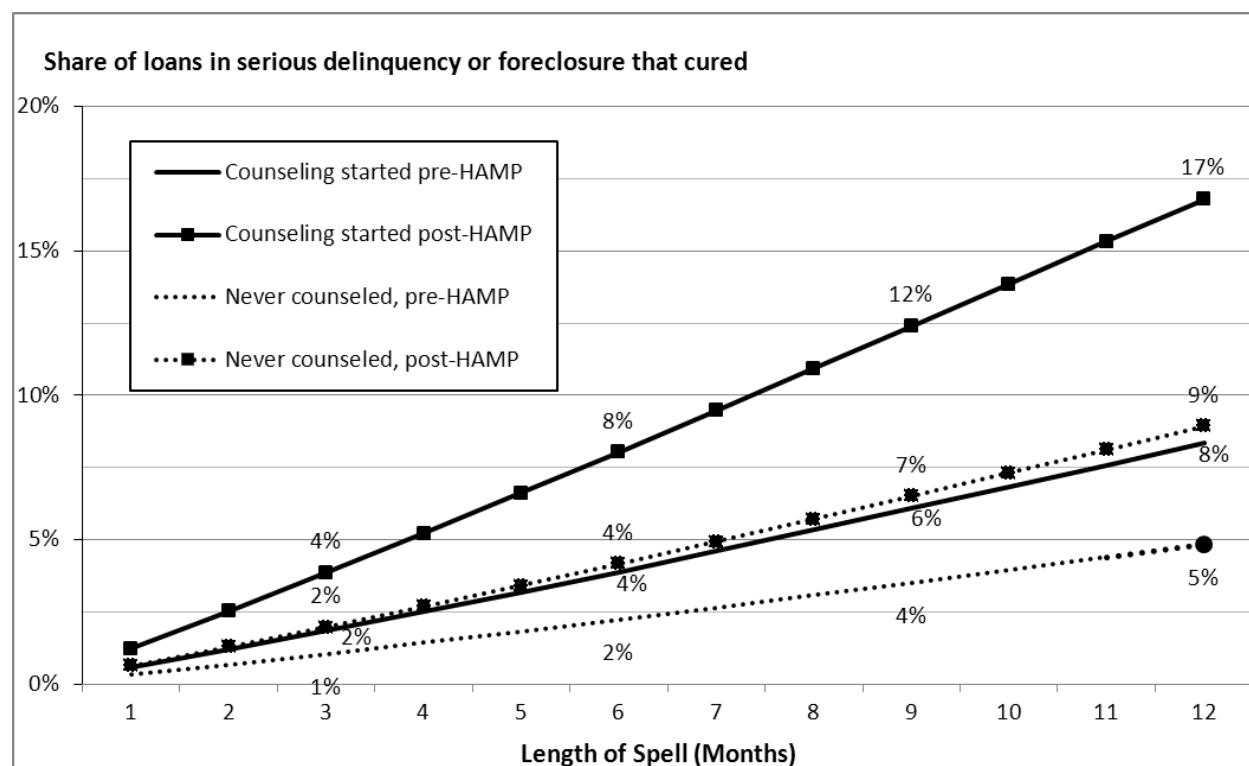
Sources: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

Translating these relative odds to percentages of modification cures obtained, after 12 months, homeowners receiving counseling assistance had modification cures for 8 percent of loans, compared with 5 percent for those without counseling, in the period before HAMP—a 60 percent increase with counseling (figure 9). The companion figures were 17 percent and 9 percent with and without counseling after HAMP—an 88 percent increase with counseling.





**Figure 9: Estimated Differences in Cumulative Cures by Modification between Counseled and Non-Counseled Homeowners**



Source: LOGIT model estimates from NFMCC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

Note: Computations underlying the figure are contained in appendix R.

We also find as a byproduct of our analysis of counseling that the HAMP environment had about the same impact, with and without counseling, as did counseling before and after the beginning of HAMP. In addition, we tested whether borrower, loan, and metropolitan area/neighborhood characteristics significantly affected the impacts of counseling on the likelihood of curing loans with modifications. Our findings about these interactions, beyond the interaction of counseling and HAMP already discussed, were as follows:

- Once again, every borrower population group and households with every type of mortgage loan received substantial benefited from counseling, before and after HAMP, in increasing loan modification cures.
- Most interactions between counseling, borrower, and metropolitan area/neighborhood characteristics were either not statistically significant or small in scale compared with the overall probabilities of modification cures. Counseling increased modification cures in about the same substantial amounts regardless of variations in borrower and location characteristics.



- Loan characteristics did, in many cases, affect the size of counseling impacts significantly.
- Among borrower characteristics, the only substantial interaction effect was a larger benefit from counseling for African Americans entering counseling before HAMP than for whites. No racial, ethnic, or income subgroup obtained a substantially smaller benefit than non-Hispanic whites. In most cases, the benefits of counseling in obtaining loan modification cures were essentially identical.
- None of the neighborhood and regional characteristics substantially affected counseling's impact on modification cures.
- People with ARMs received reduced benefits from counseling, compared with those with fixed-rate mortgages, after HAMP began. Both subprime borrowers and Option ARM borrowers got higher benefits before HAMP and smaller ones after. Apparently, counseling was initially slightly more help in getting modification cures to people with riskier mortgages; but once HAMP began to set modification standards, counseling was somewhat more helpful to those with standard fixed-rate loans.
- Higher interest rate borrowers also got more benefit from counseling than others before HAMP, and less after HAMP started, though the differences were modest. That may reflect counseling's aid in getting lowered interest on expensive ARMs that dominated in the earlier part of the mortgage crisis.
- People with loans held in portfolio by original lenders got more benefit from counseling in terms of additional modification cures before HAMP than did others, and very little benefit thereafter. Perhaps portfolio lenders were easier for counselors to work with earlier on, given that portfolio lenders, by holding loans on their own books, have more discretion to modify loans. This relative discretion decreased over time, as servicers of loans held in trusts started to modify more loans once HAMP standards were in place.

The complete effects of other characteristics on counseling impacts on loan modification cures, before and after HAMP began, are summarized in table 16.



**Table 16: Interaction Effects of Counseling on Probability of a Loan Modification Cure**

	Entered Counseling pre-HAMP		Entered Counseling post-HAMP	
	Significant at $p < .05$ ?	Direction	Significant at $p < .05$ ?	Direction
Black	Yes	Positive	No	n/a
Asian	Yes	Negative	No	n/a
Ethnicity	No	n/a	No	n/a
Income	Yes	Positive	Yes	Positive
Original loan amount	No	n/a	No	n/a
Current interest rate	Yes	Positive	Yes	Negative
Subprime (mortgage grade B,C)	Yes	Positive	Yes	Negative
ARM	No	n/a	Yes	Negative
Interest of other type	No	n/a	No	n/a
Option ARM	Yes	Positive	Yes	Negative
Agency loan	Yes	Negative	Yes	Positive
Government loan	No	n/a	No	n/a
Portfolio loan	Yes	Positive	Yes	Negative
Jumbo loan	Yes	Positive	No	n/a
Tract loan approval rate	No	n/a	No	n/a
Tract median mortgage amount	Yes	Positive	No	n/a
Change in unemployment rate	No	n/a	No	n/a
Percent change in house price index	Yes	Positive	No	n/a
Loan-to-value ratio	No	n/a	No	n/a
Loan-to-value ratio not 80	No	n/a	No	n/a

Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

Turning to the impact of counseling on *non-modification cures*, the results were very different from those for modifications (table 17). Counseling assistance was associated with *fewer* non-modification cures, overall and at all counseling levels. The relative odds of a non-modification cure decreased over 30 percent for counseled loans both before and after HAMP. The drop was mostly consistent across levels of counseling, except that after HAMP began the drop for counseling levels 2 and 3 were larger. The full model results are presented in appendix Q.



Apparently, some people who would have obtained non-modification cures without counseling were able to instead obtain cures with modifications with counseling assistance. That reduced non-modification cures for people with counseling. The effect was especially strong once HAMP modifications became available (and set standards for other modifications), particularly for people who received higher levels of counseling, which observers we interviewed indicated was often needed to bring about successful modifications.

**Table 17: LOGIT Model Odds Ratio Estimates for Counseling Effects on Likelihood of Non-Modification Cure for Seriously Delinquent and Foreclosed Loans**

	Point estimate	95 percent confidence interval	
Entered counseling pre-HAMP	0.68	0.64	0.72
Entered counseling post-HAMP	0.68	0.62	0.74
<i>Counseling level effects</i>			
Level 1, pre-HAMP	0.70	0.67	0.73
Level 1, post-HAMP	0.73	0.67	0.79
Level 2, pre-HAMP	0.71	0.67	0.75
Level 2, post-HAMP	0.62	0.54	0.70
Level 3, pre-HAMP	0.70	0.66	0.74
Level 3, post-HAMP	0.64	0.58	0.70

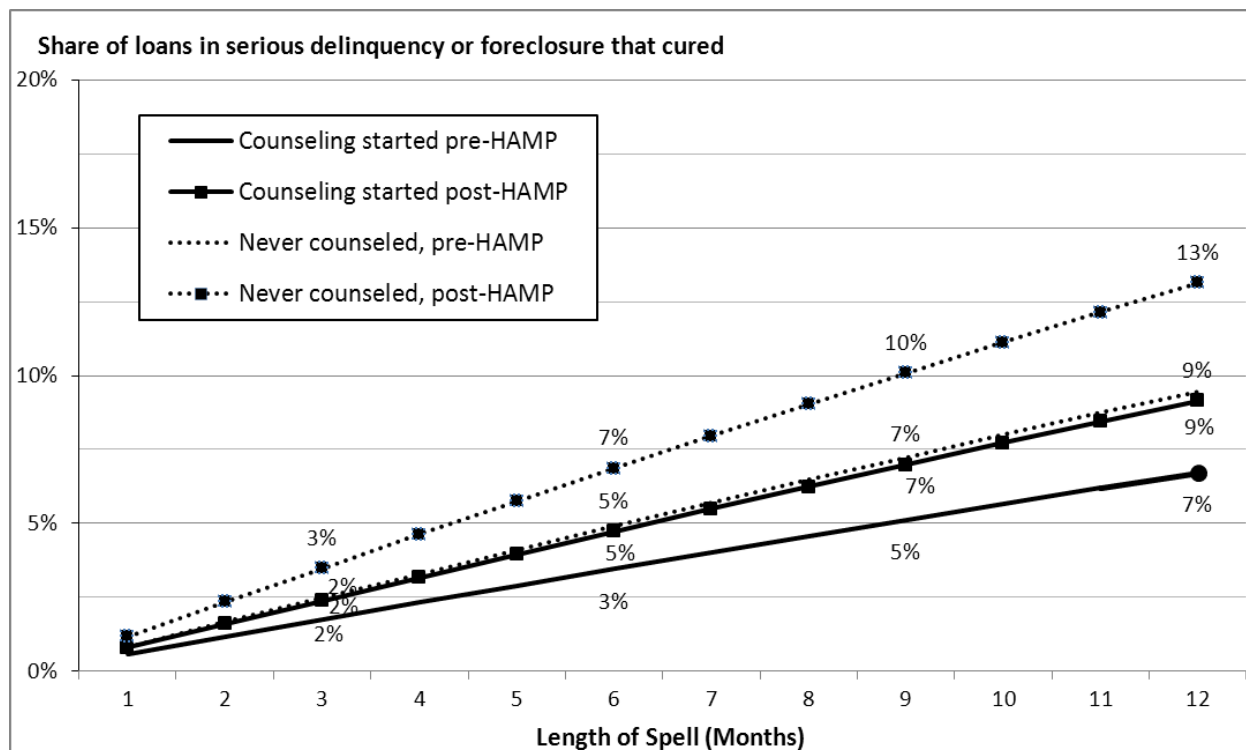
Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

In figure 10, we again convert odds ratios to percentages of troubled loans curing without modifications with and without counseling. At 12 months after loans became seriously delinquent or entered foreclosure, cure rates were 9 percent without counseling compared with 7 percent with counseling pre-HAMP, and 13 percent without counseling to 9 percent with counseling thereafter.<sup>55</sup> In addition, the HAMP environment increased non-modification cures, as it had done for modification cures.

<sup>55</sup> For reasons related to how our analysis evolved, with separate models for cures with modification and without, we estimated the two cures models separately with binomial LOGIT analysis rather than combining the two cures outcomes in a single multinomial LOGIT. We then corrected for the timing of competing hazards using the method outlined in Begg and Gray (1984).



**Figure 10: Estimated Differences in Cumulative Non-Modification Cures between Counseled and Non-Counseled Homeowners**



Source: LOGIT model estimates from NFMCC program data for January 2008 through December 2009 and LPS Loan Performance data through December 2009.

Note: The calculations underlying this figure are contained in appendix R.

These negative impacts of counseling on non-modification cures were not fundamentally altered by particular borrower, loan, or metropolitan area/neighborhood characteristics. Nearly every population, loan, and metropolitan area/neighborhood had the same or fewer non-modification cures with counseling than without, the opposite of the result for modification cures. Some differences in counseling impacts were noticeable, almost all of them in loan characteristics.

- Asian Americans were the only population segment with a significant interaction with counseling. As a result, Asians obtained a positive counseling impact on non-modification cures, rather than the negative results for other populations, in the post-HAMP period. As with modification cures, no subgroup received lower benefits (i.e., fewer non-modification cures) as a result of counseling than white non-Hispanics; most received the same.
- Borrowers with riskier loan types received better benefits or smaller losses from counseling in terms of non-modification cures than did others, both before and after HAMP began but especially after. Holders of ARMs had enough of an increase in non-modification cure benefits from counseling (compared to fixed-rate mortgages) to leave



them with unchanged numbers of non-modification cures even as overall non-modification cures declined with counseling.

- Similarly, subprime borrowers had less negative counseling effect on non-modification cures both before and after HAMP began, and holders of Option ARMs brought their counseling effects on non-modification cures to neutral.
- Counseling reductions in non-modification cures were relatively larger for agency loans pre- and especially post-HAMP, and portfolio lenders had those same results post-HAMP. Private investor-securitized loans had relatively more benefit from counseling.
- Jumbo loan holders did very significantly better than others in effects on non-modification cures from counseling after HAMP began, with the result that they had the same likelihood of non-modification cures with counseling as without.
- High loan-to-value borrowers lost more non-modification cures with counseling after HAMP than did lower LTV borrowers.

The complete effects of other characteristics on counseling impacts on non-modification cures, before and after HAMP began, are summarized in table 18.



**Table 18: Interaction Effects of Counseling on Probability of a Non- Modification Cure**

	Entered Counseling before 4/1/09		Entered Counseling after 3/31/09	
	Significant at $p < .05$ ?	Direction	Significant at $p < .05$ ?	Direction
Black	Yes	Positive	No	n/a
Asian	No	n/a	Yes	Positive
Ethnicity	Yes	Negative	Yes	Negative
Income	Yes	Positive	Yes	Positive
Original loan amount	Yes	Negative, unless loan exceeds about \$700,000	No, unless loan exceeds \$600,00	n/a
Current interest rate	Yes	Negative	Yes	Negative
Subprime (mortgage grade B,C)	Yes	Positive	Yes	Positive
ARM	Yes	Positive	Yes	Positive
Interest of other type	No	n/a	No	n/a
Option ARM	No	n/a	Yes	Positive
Agency loan	Yes	Negative	Yes	Negative
Government loan	No	n/a	No	n/a
Portfolio loan	No	n/a	Yes	Negative
Jumbo loan	No	n/a	Yes	Positive
Tract loan approval rate	Yes	Negative	No	n/a
Tract median mortgage amount	Yes	Positive	Yes	Positive
Change in unemployment rate	Yes	Positive	Yes	Positive
Percent change in house price index	Yes	Positive	Yes	Negative
Loan to value ratio	No	n/a	Yes	Negative
Loan to value ratio not 80	No	n/a	Yes	Negative

Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

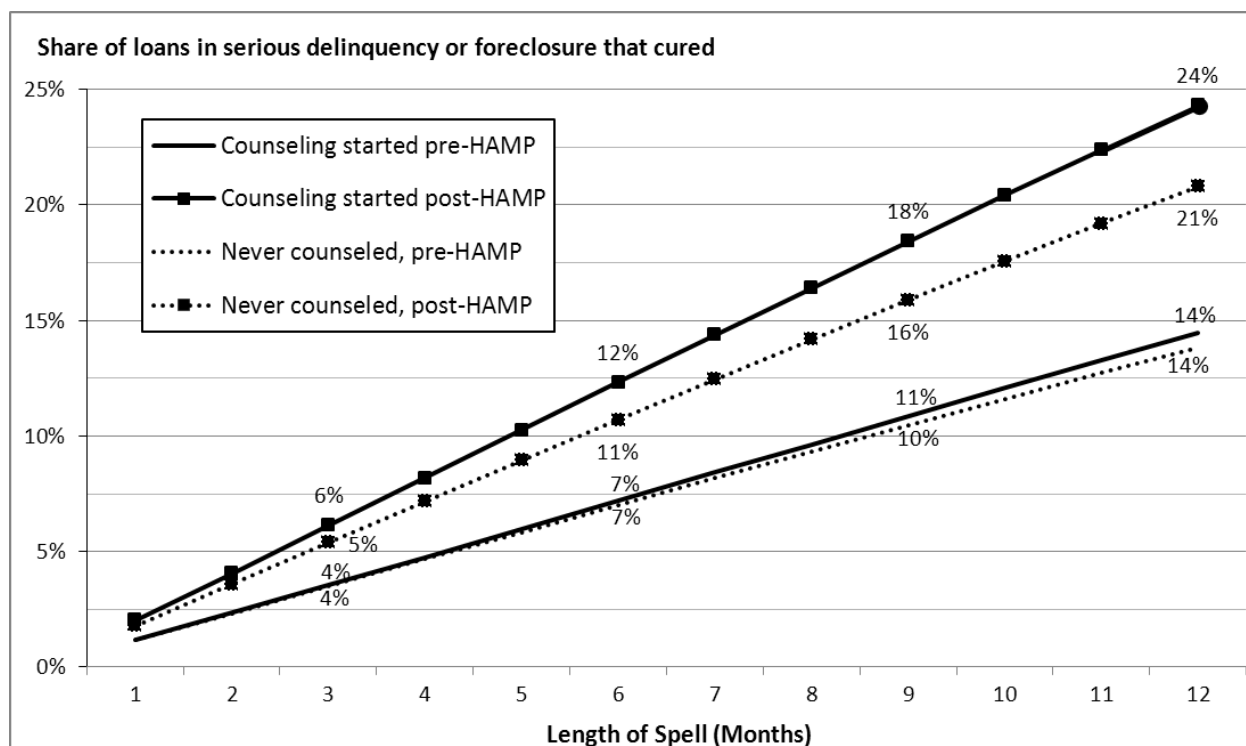
Thus, counseling lowered the probability of non-modification cures and raised the probability of cures through modification. Unless one believes that counseling hurts a person's chances of getting a cure, one portion of the impact of counseling on modifications appears to



have come from moving people who would have received non-modification cures on their own into cures with modifications. Modifications benefit homeowners by lowering their payments. Because modification cures in general had lower redefault rates, this change could also benefit homeowners by increasing the number of sustained cures. And we have seen that counseling provided more of a boost in sustaining modified cures, so increasing those cures better positions borrowers to take advantage of NFMC services.

The combined impact of counseling on all cures of loans in serious delinquency or foreclosure to current—both with and without loan modifications—is shown in figure 11. Before HAMP’s implementation, total cures were virtually identical with counseling and without. After the start of HAMP, total cures were higher with counseling, at 24 percent of loans, versus 21 percent without counseling. Interestingly, pre- versus post-HAMP cure rates for both counseled and non-counseled loans showed a more substantial difference than did counseling itself.

**Figure 11: Estimated Differences in Cumulative Total Cures between Counseled and Non-Counseled Homeowners**



Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

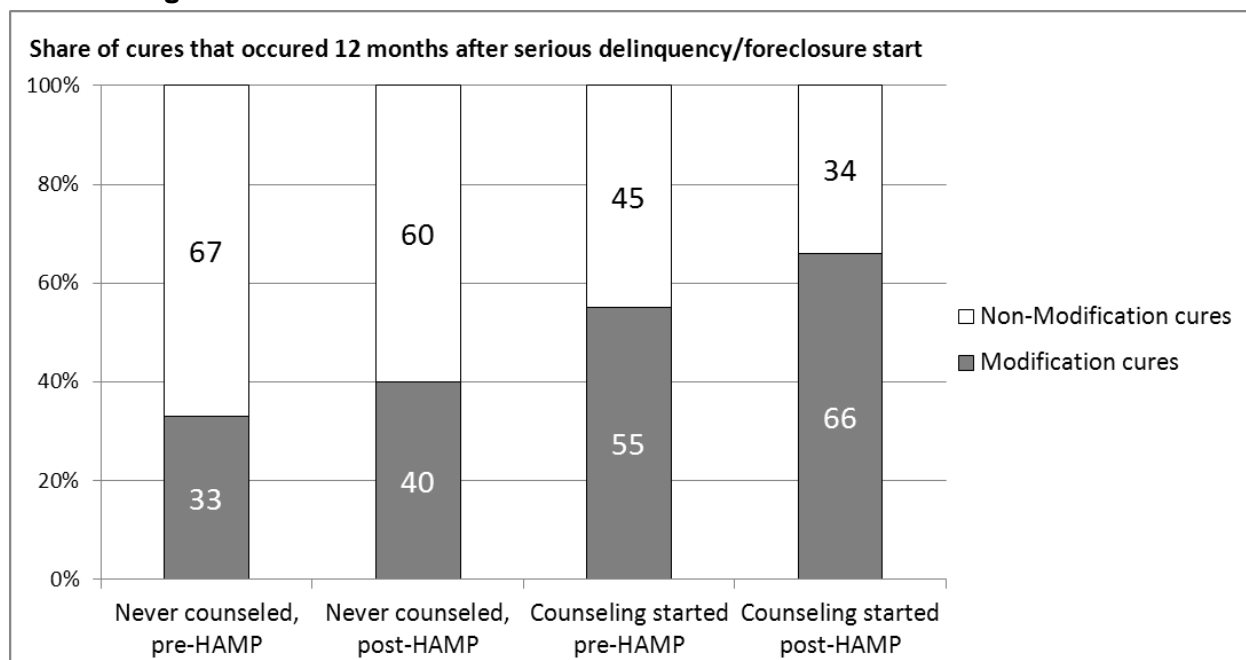
Note: The calculations underlying this figure are contained in appendix R.

The mix of cures produced, between those with modifications and without, changed more sharply between loans with counseling and those without, as shown in figure 12. Without counseling and HAMP, cures by modification made up only one-third of all cures, other factors



equal. The modification cures numbers rose and non-modification cures numbers fell both with counseling and with HAMP's arrival, so counseled homeowners after HAMP obtained two-thirds of their cures through modifications.

**Figure 12: Percentages of Cures With and Without Loan Modifications, With and Without Counseling**



Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009.

We now have all the information needed to answer our second sustainability question: how counseling affects the probability of achieving sustained cures for troubled loans, in the two steps of gaining cures and preventing recidivism. The cures models estimate the effects of counseling on cures as represented in the first row of boxes in figures 7 and 8. The redefault models represent what happens in terms of increased sustainability of those cures (the lower rows of the two figures) as a result of counseling.

We have previously seen that counseling has larger-scale effects in sustaining additional cures for cures that result from loan modifications than for those that use other means. Thus the answer to our second sustainability question, how counseling affects the probability of obtaining sustained cures, is dependent not only on how many *total* cures are generated with and without counseling but also on their *mix*. And then those cure effects are strongly magnified by the large counseling effects in reducing redefaults of cures in general and cures by modification in particular. The *mix* of cures between modifications and non-modifications matters. Total cures rose with counseling, with a heavy emphasis on modification cures. Both types of cures are much more likely to be sustained if they were obtained with counseling assistance. The



combined effect on probabilities of loans proceeding from troubled mortgage to sustained cure will be most driven by the effects of counseling on redefault rates. But there will be two further smaller boosts, from the increase in total cures and from the counseling-assisted shift away from non-modification cures and toward modification cures where counseling effects on recidivism are larger.

Computing the impact of counseling on the probability of sustained cures for a group of loans in serious delinquency or foreclosure from our five models<sup>56</sup> requires assumptions about the timing of events. We have separate estimates of counseling effects before and after HAMP: in the cures models, for entry to counseling before and after HAMP; and in the redefault model, for cures occurring before and after HAMP began. For purposes of this estimate, we will assume that loans are either pre-HAMP in both entry to counseling and receipt of cures or post-HAMP in both circumstances. Our computation is then for the cumulative probability for loans curing by 10 months following serious delinquency or foreclosure and sustaining cures for 9 months following their cures.<sup>57</sup> The results are summarized in table 19 as percentages cured and sustained out of a cohort of loans initially in trouble.

**Table 19: Percentage of Loans Cured and Sustained With and Without Counseling**

	Loans Cured and Sustained per 100 Loans in Serious Delinquency or Foreclosure			
	With Counseling		Without Counseling	
	Pre-HAMP	Post-HAMP	Pre-HAMP	Post-HAMP
Modification cures sustained	5.5	12.5	1.4	4.4
Non-modification cures sustained	3.8	5.9	2.3	6.8
Total loans cured and sustained	9.3	18.4	3.7	11.2

Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2009 for cures and December 2010 for redefaults.

The table shows that the cumulative total percentage of loans cured and sustained with counseling in the pre-HAMP period (9.3 percent) was two-and-a-half times the percentage without counseling (3.7 percent), reflecting principally the large difference between redefault rates of cures once obtained. In the period with HAMP in place, the percentage of loans cured

<sup>56</sup> Modification cures, non-modification cures, modification cure redefaults, non-modification cure redefaults, and modification amount.

<sup>57</sup> Ten and nine are the mean number of months for which we observe defaulted troubled loans in the cure analysis and cured loans in the redefault analysis, respectively.



and sustained with counseling (18.4 percent) was nearly two-thirds higher than the percentage without counseling (11.2 percent). Counseling in both periods showed strong effects in helping people become current on their loans and stay that way. Counseling and the HAMP environment together raise the rate of sustained cures by a factor of five.<sup>58</sup>

Note, however, that most seriously delinquent loans and foreclosure starts were not cured and therefore not able to be sustained in cures. In the HAMP period, even with counseling, modification plus non-modification cures totaled 24 percent of significantly troubled loans. Most homeowners who achieved cures stayed current, but cures were very limited. Homeowners are suffering extensive losses of homes once they get into seriously trouble. Counseling and HAMP are making big differences, but the problem persists.

#### *NFMC Cost-Benefit Analysis: Foreclosure Completions Averted*

The previous analyses show that NFMC counseling has several benefits: it results in loan modifications with larger payment reductions, helps homeowners cure seriously delinquent loans, and results in more sustainable cures. To determine if these effects helped clients remain in their homes, we estimated LOGIT models that measured the impact of counseling on the likelihood of foreclosure completion, which would result in the homeowner losing his or her home.<sup>59</sup> As discussed earlier, we cannot use a model that corrects for potential selection bias because there are so few observations in which a loan completed foreclosure before counseling, and so we cannot use *preEC* (a dummy variable that equals 1 for periods observed before an NFMC client enters counseling) as a variable in the model.

Instead, we ran two LOGIT models that correspond to a world with counseling and a world without counseling. The WWOC model was estimated from a dataset that censored monthly loan observations for clients upon entry into the NFMC program, in addition to when a foreclosure completed or at the end of the observation period, whichever came first. In contrast, the WWC model did not censor observations at the start of counseling; observations were only censored at the time a foreclosure completed or at the end of the observation period, whichever came first. In addition, the WWC model included dummy variables that identified NFMC clients who entered counseling after March 31, 2009, so we could determine if the presence of HAMP changed the effect of counseling on foreclosure completions. In both models we included a counter that measures the number of months that a loan is observed after January 2008, which is the earliest intake month that we have for a client; this counter allows us to estimate the change in foreclosure completion rates over time.

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<sup>58</sup>  $18.4/3.7 = 5.0$ .

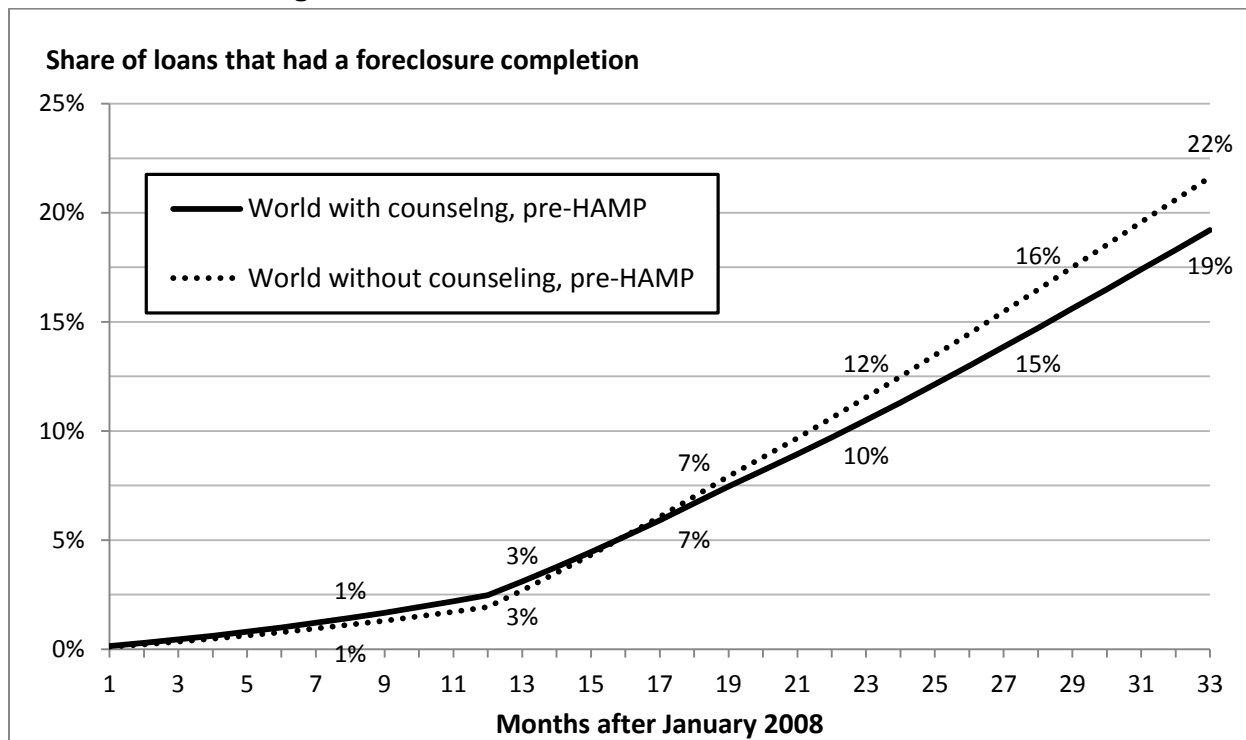
<sup>59</sup> The LPS data define a foreclosure completion as a foreclosure sale, a short sale, or a deed-in-lieu. As noted earlier, the data do not permit us to distinguish between these different loan outcomes.



To measure the program effect, we produced separate survivor curves using the parameter estimates from the WWC and WWOC models and the means from the sample used to estimate the models. In other words, we simulated what share of loans would have a foreclosure completion in a world with the NFMC program (WWC model) and a world without the NFMC program (WWOC). The difference in the share of loans that complete a foreclosure between the two models reflects the impact of NFMC counseling on the overall number of foreclosed loans that do not complete—and so provides an estimate of foreclosures avoided by NFMC clients. As noted, the inclusion of the HAMP dummy variable allowed us to test whether counseling's effect on foreclosure completions differed before and after HAMP.

The results (presented in the following figures; full model results are in appendix S) show that NFMC clients who entered counseling before HAMP would have had about the same number of completed foreclosures by the end of December 2010 (the last observed month), whether or not the NFMC program was available (figure 13). The average number of months observed for clients who entered counseling pre-HAMP was 16, and at which point we estimated that there was no statistically significant difference in the share of loans that completed a foreclosure (about 4 to 5 percent) in the WWC and WWOC models.

**Figure 13: Estimated Share of Loans That Had a Foreclosure Completion, With and Without Counseling, Pre-HAMP**



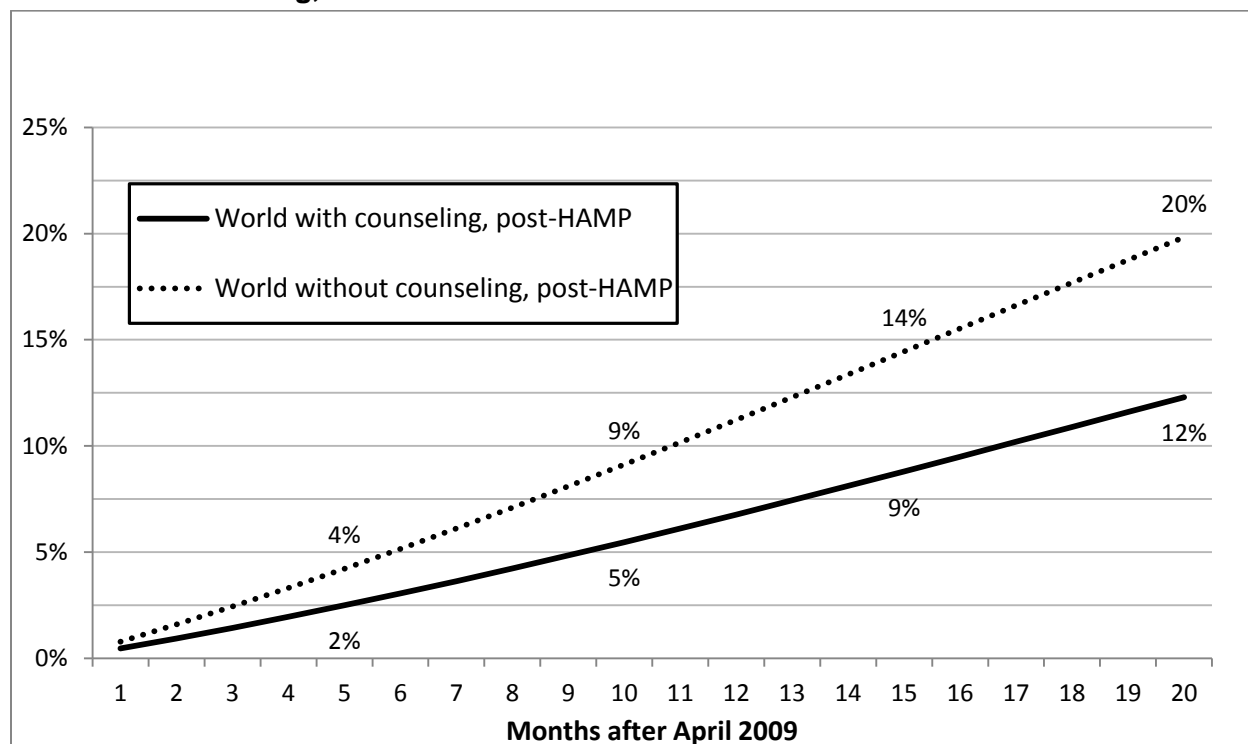
Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2010.



This is not the case for clients who entered counseling after HAMP: our simulations indicated that about 6 percent of NFMC clients who entered counseling after March 2009 would have had a foreclosure completion within 11 months (the average number of observations for these clients) compared with 10 percent if NFMC counseling had not existed (figure 14). These results indicate that counseling's ability to help homeowners avoid foreclosure completions increased after the start of HAMP.

The estimated differences in the share of loans that complete a foreclosure using the WWC/WWOC method were nearly identical to those calculated using the parameter results from the WWC but setting the counseling flags to 0. (This is the same method that we used in the cure analyses simulations.) Therefore, there appears to be little selection bias affecting the results, which show an odds ratio for clients who entered counseling before HAMP of 0.80 and 0.57 for clients who entered counseling after HAMP. These results confirmed that NFMC clients had a lower probability of having a completed foreclosure in months after the HAMP program started.

**Figure 14: Estimated Share of Loans That Had a Foreclosure Completion, With and Without Counseling, Post-HAMP**



Source: LOGIT model estimates from NFMC program data for January 2008–December 2009 and LPS loan performance data through December 2010.



Our modeling results showed that counseling helped clients who entered counseling avoid having their foreclosed loan completed. We estimated the number of foreclosures avoided using information on clients who entered counseling post-HAMP; our sample data show that about 72,000 NFMC clients entered counseling after March 31, 2009. Using the means of our observations, we estimated the number of foreclosure completions for NFMC clients who entered counseling after the start of HAMP for each month between May 2009 and December 2010.

This analysis indicated that counseling resulted in about 13,000 fewer foreclosure completions for NFMC clients by the end of December 2010.<sup>60</sup> Based on simulations of foreclosure completions for loans that entered foreclosure (compared with all loans), about one-third of the total number of foreclosures avoided result from loans that entered foreclosure but did not complete the process due to counseling.<sup>61</sup> The remaining two-thirds of the foreclosures avoided through December 2010 result from loans that avoided entering foreclosure in the first place, because of counseling's impact on increasing the likelihood of curing a loan and that such cures are more likely to have a loan modification with counseling and are more likely to avoid redefault.

The costs resulting from a foreclosure are substantial, and so we performed a benefit/cost estimate to determine if the savings resulting from avoiding foreclosures is greater than the cost of the NFMC program. These estimates assume that the 13,000 foreclosures avoided through December 2010 do not complete at some point in the future, and so the differential with counseling represents a permanent reduction in foreclosures completed.

Our benefit/cost calculation of the NFMC program is based on a methodology used by HUD (n.d.) for its Regulatory Impact Analysis of another foreclosure prevention effort, the Emergency Homeowners' Loan Program. In that study, HUD estimated costs created by foreclosures for four stakeholders: the homeowner of the foreclosed property, lenders, local governments, and surrounding property owners. We detail these costs and present estimates for each.

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<sup>60</sup> This estimate results from applying the difference in the estimated share of loans with a foreclosure completion (4 percent) between the WWC and WWOC after 11 months starting in May 2009 for the 72,000 clients who entered counseling after March 2009. We estimated from the sample that 2,900 fewer loans in the sample had a foreclosure avoided through the end of December 2010; our analyses are based on a 22 percent sample of NFMC clients, so 2,900 loans in the sample represents a total of about 13,000 NFMC clients.

<sup>61</sup> We estimated models (WWC and WWOC) but limited the analysis to loans that entered foreclosure. The models included a counter for the number of months a loan is observed after the foreclosure spell started. Using means and modes, we simulated the share of loans that entered foreclosure that would complete the process with and without counseling for clients who entered counseling either before or after HAMP started. These simulations estimate the number of foreclosed loans that would complete a foreclosure but do not take into account counseling's potential impact on clients avoiding a foreclosure start.



## **Homeowners**

Owners of foreclosed properties incur moving costs, legal fees, and administrative charges. In a 1995 study of the Mortgage Foreclosure Prevention Program in Minneapolis and Saint Paul, Minnesota, Moreno estimated that owners pay a total of \$7,200 in such costs. HUD adjusted this figure for inflation, and derived an estimate of about \$10,000 (in 2010 dollars) for homeowner costs of a foreclosures.

These costs, of course, are in addition to the emotional stress of being forced from one's home and possibly a higher cost of housing in the future due to a poor credit rating. Since it is difficult to attach an estimated dollar value to these other costs, neither are included in the cost-benefit analysis. Nonetheless, they should be recognized as important benefits to homeowners for avoiding a foreclosure.

## **Lenders**

Lenders realize significant losses on foreclosed properties. Recent data indicate that the loss severity (which is calculated by dividing the total loss amount by the unpaid principal balance of the loan at the time it becomes inactive) is about 50 percent. The mean unpaid principal balance of NFMC clients whose loans enter foreclosure is \$225,000 at the time the loan enters foreclosure. As a result, the total lender loss avoided when preventing a foreclosure is \$112,500.

But, as HUD points out in its Regulatory Impact Study, the total prevented loss to the lender from avoiding foreclosure is not the same as the social cost of foreclosure. The reason is that a portion of the losses realized by the lender reflect transfers, rather than a deadweight loss to society. For example, some lender losses result from owners' non-payment of their mortgage. This is a loss to the lender, but a gain to the owner. In addition, some lender losses result from declines in overall market property values, which do not happen because of the foreclosure.

As a result, HUD does not include transfers in its calculation of lender losses. Rather, in its Regulatory Impact Study HUD includes legal fees, court fees, maintenance and upkeep expenses, and broker fees when calculating lender losses. The reason is that these costs would not have been paid if the property had not been foreclosed upon and sold, and do represent transaction costs that decrease social welfare. In a 2008 study of recently foreclosed properties, Cutts and Merrill (2008) estimate that these costs make up 25 percent of the total costs realized by the lender, and we use that estimate for our analysis.

In addition, some of the loss realized by the lender results from properties being sold for lower than their appraised value because REO property owners (lenders) that hold these assets want to dispose of the properties as quickly as possible. (This is sometimes called a liquidating discount.) Pennington-Cross (2006) finds that REO properties suffer a 22 percentage point discount in appreciation, meaning that REO homes do not sell for as high a price as non-REO



properties. HUD indicates that a portion of this discount can be considered a transfer from the lender to the purchaser of the property who acquires the home at a discount.

However, HUD counts a portion of this discount as a deadweight loss because owners whose homes end up in foreclosure will likely cease to maintain and upgrade the property, and may even actively disinvest. Cutts and Merrill (2008) explain that homeowners often damage property before losing a home through foreclosure, including damaging walls and windows and inducing flooding by clogging drains. The depreciation to the property is structural and real: the new owner must invest resources to restore the property to its pre-foreclosure state. Therefore, HUD assumes that half the liquidating discount on the property is a deadweight loss. HUD applies half the liquidating discount to the total unpaid principal balance of the mortgage, and so this cost is 11 percent of the total unpaid principal balance (UPB) of the mortgage (or 22 percent of the realized loss). Therefore, HUD estimates that the deadweight loss constitutes 36 percent of the total lender loss (25 percent transaction plus 11 percent damage), and we use the same assumption in our calculation.

### **Local government**

A number of studies estimate costs borne by local governments resulting from foreclosure. HUD restricts its estimate to the costs estimated by Apgar, Duda, and Gorey (2005) in a scenario in which the property is vacant for a time, there is modest criminal activity, and the property is sold at auction. The study estimates local governments bear a total of \$6,500 in costs during such a scenario. These costs are generated by administrative and legal costs and specifically exclude property tax losses, unpaid property taxes not recovered, utility taxes forgone, water bills unpaid, and property maintenance because these costs are actually a transfer from the local government to the owner.

### **Neighbors**

Foreclosures resulting in long-term vacancies have a negative impact on the value of neighboring properties by reducing the physical appearance of the neighborhood, attracting crime, and depressing the local economy. Immergluck and Smith (2006) estimate that a foreclosure reduces each surrounding property's value by 0.9 percent. Assuming an average property value of \$171,100 (the mean value of sales prices for existing homes in 2010), HUD estimates each foreclosure creates a total of \$13,900 in reduced property values. We use the same estimate in our calculation.





**Table 20: Calculation of NFMC Program Benefit/Cost Analysis**

Homeowner costs		\$10,000
Local government costs		6,200
Surrounding owners' costs		13,900
Homeowner, local government, and surrounding owners' costs		<u>\$30,100</u>
Mean unpaid principal balance for loans of NFMC clients who entered counseling after March 2009 at the time of the foreclosure start	\$225,000	
Loss severity rate	50%	
Total unrealized loss by lender	\$112,500	
Portion of unrealized loss that is a deadweight loss	36%	
Lender loss		<u>40,500</u>
<b><i>Estimated deadweight loss for each foreclosure avoided</i></b>		<b><u>\$70,600</u></b>
Estimated foreclosures avoided		13,000
Total estimated deadweight loss avoided		\$917,800,000
Round 1 funding		\$130,000,000
Round 2 funding		177,500,000
Total Round 1 and Round 2 NFMC funding		\$307,500,000
<b><i>NFMC benefit/cost ratio</i></b>		<b><i>3.0</i></b>
Total estimated per client cost for counseling		\$500
Total per client benefit		\$1,195
<b><i>Total counseling benefit/cost ratio</i></b>		<b><i>2.4</i></b>

Sources: For estimated homeowner, local government, surrounding property owners' losses and share of lender losses that is a deadweight loss, HUD (n.d.); for loss severity, TCW (2011).

As detailed above, by applying HUD's methodology we estimate that each foreclosure for NFMC clients generates \$70,600 worth of deadweight losses. Note that this estimate is about the same as the \$80,000 estimate by the Joint Economic Committee (2007).



We estimate that 13,000 fewer foreclosures were completed through December 2010 as a result of the NFMC program. Applying an estimated \$70,600 social cost per foreclosure, we find that the NFMC program resulted in about \$920 million in reduced deadweight losses. The first two rounds of NFMC program funding provided Grantees with \$307.5 million. Based on our analysis, the overall benefit from the number of foreclosures avoided is 3.0 times the total amount of funding in rounds 1 and 2. However, NFMC funding does not cover all costs associated with counseling. According to our survey of Grantees and Subgrantees, it costs anywhere from \$200 to \$500 to provide counseling services to a typical client, depending on the counseling's level of service. Therefore, even assuming that all clients received Level 3 counseling, which costs \$500 per client, counseling appears to pay for itself, as the average savings of \$1,195 per client is 2.4 times as great as the cost to provide counseling services.

This NFMC program's benefit/cost ratio is higher when considering NFMC as a loss mitigation strategy. We estimate that lenders would realize an average loss of \$112,500 when selling NFMC clients' homes acquired through a foreclosure. In total, the NFMC program helped lenders avoid realizing \$1,460,000,000 in losses, which is 4.75 times greater than NFMC financing for rounds 1 and 2 and roughly 3.8 times larger than the estimated counseling cost of \$500 per client. Therefore, foreclosure prevention counseling may provide even larger benefits to lenders than to society as a whole, thereby creating an incentive for lenders to support future counseling efforts.



## FINDINGS AND LESSONS FROM THE NFMC PROGRAM

This evaluation looked comprehensively at the NFMC program and its effects on troubled homeowners and on the foreclosure crisis more broadly. We have identified three main areas in which this evaluation has illuminated key contributions of the NFMC program:

- Building the national capacity for foreclosure mitigation counseling
- Improving outcomes for troubled homeowners and reducing the overall number of completed foreclosures
- Identifying challenges and best practices for foreclosure counselors

Findings and lessons from each of these areas are summarized below.

### **Building National Capacity for Foreclosure Mitigation Counseling**

The NFMC program was designed to increase the capacity of housing counseling organizations to provide foreclosure prevention counseling services in response to higher foreclosure rates. It should be remembered that, before the national housing crisis, foreclosure counseling composed a relatively small share of the services provided by housing counseling organizations, which were more typically focused on counseling for first-time homebuyers or homeowners seeking reverse mortgages. The rapid rise in foreclosures and mortgage delinquencies necessitated a shift in priorities for counseling organizations and required them to ramp up rapidly their capacity and capability to provide a larger volume of foreclosure mitigation counseling.

The NFMC program helped increase the nation's capacity to assist troubled homeowners in several ways. First, and perhaps most important, by providing more funds to counseling organizations, the program increased national capacity to provide foreclosure counseling services. As detailed below, the additional funding provided by the NFMC program, which included both counseling and program support dollars, allowed Grantee and Subgrantee organizations to expand their coverage areas, hire more counselors, access training opportunities, and invest in infrastructure and systems to improve performance.

Based on the responses from two web-based surveys of Round 1 and Round 2 Grantees and Subgrantees, the NFMC program allowed funding recipients to serve more clients and provide services in larger geographic areas. Round 1 NFMC program Grantees and Subgrantees reported that the median number of clients served in 2008 was 233, nearly three



times the median number of clients respondents served in 2007. Because some organizations provided services to a relatively large number of clients, the mean number of clients served by respondents in 2008 (853) was about twice as great as the mean number of clients served by respondents in 2007. Some of this increase in volume resulted from respondents increasing their coverage area: 51 percent of respondents indicated that they expanded their coverage areas with program funds.

The large growth in clients served by respondents in 2008, compared to 2007, was accomplished by a small increase in the number of counselors added in 2008, suggesting that counseling organizations improved their efficiency to serve clients in the face of growing demand for foreclosure assistance. The median counseling organization employed one full-time foreclosure prevention counselor in 2007 and, by the end of 2008, had two such counselors. Although this is a 100 percent increase, it still means that at least half of the respondents had no more than two full-time foreclosure counselors at the end of 2008. Organizations may provide foreclosure prevention counseling through staff who provide other services, so more than two people may actually be providing foreclosure prevention counseling, but they do not spend 100 percent of their time on such services. Although respondents typically did not add many counselors, 66 percent of respondents indicated that they provided a wider array of foreclosure counseling services with their NFMC program funds than what they could offer before the program.

The responses from the web survey of Round 2 NFMC Grantees and Subgrantees were consistent with findings from Round 1. The median number of clients served by organizations that received Round 1 funds increased by 76 percent, from 203 in 2008 to 359 in 2009. Respondents who did not receive Round 1 funds had an even larger increase of 116 percent, from a median of 74 clients served in 2008 to 157 in 2009. The expanded volume of clients served was achieved with relatively small increases in the number of full-time equivalent (FTE) counselors. The median increase for Round 1 recipients was 25 percent (from 2.0 to 2.5 FTEs), while respondents who did not receive funding in Round 1 reported an increase in the median number of counseling FTEs from 1.0 to 2.0.

As with Round 1 respondents, some of the increase in volume resulted from respondents increasing their coverage area: 46 percent of respondents indicated that they expanded their coverage areas with program funds. It is interesting to note that the same share of respondents who received funding in Round 1 increased their coverage area as respondents who did not receive Round 1 funds. Therefore, respondents who received Round 1 funds were able to expand their services to an even larger area than they served in Round 1. The same was true for the types of services offered by respondents. Whether they received funding in Round 1 or not, about two-thirds of respondents indicated that they were able to use Round 2 funding to add services for their clients.



The NFMC program also helped to build the national capacity of foreclosure mitigation counseling in other ways. Survey and case study respondents were asked to indicate the most important ways they expanded their organizational capacity to handle increased client flow. The most frequently cited method was to send existing staff to training to learn to handle foreclosure work. Experience as counselors was also highly valued but sometimes in short supply because of the demands for expansion of the counseling industry. This redoubled the importance of training.

NeighborWorks® America housing counselor trainings and housing counselor certifications were well regarded by our survey and case study respondents. Training was important in helping counselors experienced in pre-purchase work to transition to foreclosure prevention counseling. Because many new programs for foreclosure prevention and mitigation have been rapidly introduced and frequently modified (most notably the Home Affordable Modification Program), training in the program specifics—for both public and private loan modifications and other solutions—has been important and eagerly pursued by organization directors and counselors at successful agencies.

In the course of the NFMC program, NW America also established a members' web site and message board that has allowed counselors to share questions, best practices, and other information across a national network. Survey respondents indicated that these media were helpful, with 44 percent saying that they were either useful or very useful. In addition, NW America held monthly WebEx sessions with NFMC Grantees and Subgrantees and periodic calls regarding HAMP guidelines. A majority of respondents indicated that both these sessions were either useful or very useful.

### **Improving Outcomes for Troubled Homeowners**

While increasing the availability of foreclosure mitigation counseling services was an important NFMC goal, the ultimate measure of the success of the program was whether such assistance actually helped troubled homeowners achieve better outcomes, such as avoiding foreclosure sale or obtaining mortgage modifications that allowed them to remain in their homes. Determining whether the program helped homeowners attain positive outcomes, therefore, was the main focus of the NFMC evaluation.

There was no reason, *a priori*, to assume that foreclosure mitigation counseling services would be able to help homeowners. For example, clients' situations might be too severe for counseling to make any difference, especially if homeowners do not seek counseling assistance until late in the foreclosure process. Or, perhaps only the most seriously troubled homeowners would decide to get help—homeowners who would have little hope of getting a positive outcome despite counselors' best efforts. Alternatively, perhaps the loan modifications or other remedies being offered by mortgage servicers to troubled homeowners would be prove to be insufficient to provide any real possibility of sustainable solutions. Or maybe the introduction of HAMP in



the second year of NFMC would obviate the need for counseling, since everyone who was eligible would get a standard HAMP loan modification.

Despite these potentially overwhelming obstacles, analysis of the NFMC program's activities and the subsequent performance of counseled and non-counseled mortgages found consistent, compelling, and robust evidence that the program has provided substantial benefits to homeowners facing foreclosure. Counseling reduced loss of homes to owners in a range of stages of default, producing increases in multiple positive outcomes rather than the completion of foreclosures. In almost all cases, counseling has remained effective in obtaining positive outcomes, even after HAMP was introduced in April 2009. These findings have been described in a series of modeling reports, culminating in the analysis presented earlier in this report. The most important conclusions are summarized here.

*The NFMC program has helped homeowners get more affordable loan modifications.*

NFMC client loans modified in 2008 and 2009 had resulting monthly payments that were \$176 less, on average, than the non-counseled loans that received modifications. This corresponds to an average payment that was 7.8 percent less than would have been the case without counseling. The ability of counseling to obtain lower monthly payments for clients was the same both before and after the start of HAMP, indicating that counseling retained its positive benefits even with the existence of HAMP loan modification guidelines.

*The NFMC program has helped homeowners cure serious delinquencies and foreclosures and subsequently remain current on their loans.*

NFMC-counseled homeowners were more than two-thirds more likely to remain current on their mortgages after curing a serious delinquency or foreclosure than were those without counseling. Counseling lowered redefault rates by two thirds (67 percent) over nine months for loans cured with a loan modification before the start of HAMP, and by 70 percent over nine months for modification cures obtained after HAMP. The combination of the two federal interventions (NFMC counseling and HAMP implementation) lowered redefault rates for borrowers curing loans through modifications from 66 to 11 percent (an impressive 83 percent reduction) over the course of nine months for a typical counseled loan.

Only a small part of the reduction in redefaults was attributable to counseling's effect on the size of monthly payment reductions from loan modifications. The great bulk of the sustainability benefit resulted from other impacts of counseling, such as helping borrowers improve their financial management skills, assisting them in managing relationships with servicers and investors, and providing other types of support. Nonetheless, although very few modifications included this feature, the relative odds of redefault were reduced by an additional 20 percent when the loan modification curing a serious delinquency or foreclosure included principal reduction.



For cures obtained *without* loan modifications, counseling also had a positive impact on sustainability. Before HAMP, counseling lowered the redefault rate from 71 to 36 percent, or a reduction of 49 percent, nine months after the cure of a serious delinquency or foreclosure without a loan modification. Once HAMP began, the effect of counseling on redefault was smaller but still substantial. Counseling lowered recidivism for post-HAMP non-modification cures by nearly 32 percent after nine months. As with modification cures, the combined impacts of NFMC counseling and the presence of HAMP yielded a substantial reduction in redefaults of non-modification cures, from 71 to 26 percent over nine months.

In addition to increasing the sustainability of cures, NFMC counseling improved client outcomes by increasing the likelihood that a borrower would bring a loan in serious delinquency or foreclosure back to current status. NFMC counseling came close to doubling the odds of modification cures compared with those for non-counseled borrowers. For those entering counseling before HAMP, the relative odds of obtaining a modification cure from a serious delinquency or foreclosure increased by 89 percent, compared to the odds without counseling assistance; after HAMP, the odds increased by 97 percent.

Translating these relative odds to cumulative percentages of modification cures, after 12 months (the average observation period for loans after they became troubled), 8 percent of homeowners before HAMP receiving counseling assistance had modification cures, compared with 5 percent among borrowers without counseling—a 60 percent increase with counseling. After HAMP, 17 percent of homeowners with counseling assistance cured their serious delinquencies or foreclosures after 12 months, compared with 9 percent without counseling—an 88 percent increase attributable to counseling.

The impacts of counseling on the rates of non-modification cures were very different from those for modification cures. Counseling assistance was associated with *fewer* non-modification cures, overall and at all levels of counseling. At 12 months after loans became seriously delinquent or entered foreclosure, cure rates were 9 percent without counseling compared with 7 percent with counseling pre-HAMP, and 13 percent without counseling to 9 percent with counseling thereafter. A likely interpretation of this finding is that some people who would have obtained non-modification cures without counseling were, with counseling, able to obtain cures with modifications instead. Indeed, the decrease in non-modification cures was more than offset by the increase in modification cures for counseled homeowners, resulting in a modest improvement in overall cures of serious delinquencies and foreclosures attributable to NFMC counseling.

A crucial outcome for borrowers is curing loans in serious delinquency or foreclosure combined with sustaining those cures (i.e., avoiding redefault). When the results of the sustainability and cure analyses, described above, are synthesized, they demonstrate that NFMC counseling nearly doubled the rate of curing and sustaining troubled loans. The total percentage of loans both cured and sustained with counseling was two-and-a-half times the



percentage without counseling before HAMP, and nearly two-thirds higher than the percentage without counseling after HAMP. Counseling in both periods showed strong effects in helping people become current on their loans and stay that way. NFMC counseling and the HAMP environment together raised the rate of sustained cures by a factor of five.

*The NFMC program significantly reduced foreclosures completed among homeowners, which has in turn yielded substantially social savings well in excess of the program's costs.*

One of the most significant impacts of the NFMC program on the national foreclosure crisis is in increasing the number of foreclosures ultimately avoided. Between January 2008 and December 2010, 10.3 percent of round 1 and 2 NFMC clients had a foreclosure completion.<sup>62</sup> Without counseling, this percentage would have been 1.15 times as great. Extrapolating the modeling results from the estimation sample to all clients who received counseling in rounds 1 and 2, the NFMC program resulted in 13,000 fewer foreclosure completions by the end of 2010. In other words, the NFMC program prevented nearly one in seven foreclosures that would have been completed without counseling. These results were driven by NFMC performance after HAMP, which reduced the total number of foreclosure completions by 36 percent. Before HAMP, there was no statistically measurable difference in foreclosure completion rates between counseled and non-counseled borrowers.

Since foreclosure sales create costs for homeowners, lenders, local governments, and society at large, avoiding foreclosures generates social cost savings. Each foreclosure prevented by the NFMC program was estimated to have saved an average of \$70,600 in avoided costs. These savings included \$10,000 in moving costs, legal fees, and administrative charges for homeowners; \$40,500 in deadweight lender loss to society, which represents 36 percent of the total lender loss; \$6,500 in local government administrative and legal costs; and \$13,900 in reduced neighboring property values.<sup>63</sup>

Assuming the 13,000 loans that avoided foreclosure through December 2010 because of counseling do not complete foreclosure at some point in the future, the NFMC program has helped save local governments, lenders, and homeowners \$920 million, which is about \$1,200 per client served by the NFMC program in 2008 and 2009. These savings translated to 3.0 times the total round 1 and 2 NFMC funding provided to support counseling services to these homeowners. When the full costs of providing counseling services to these clients, including funding from other sources, is accounted for, the savings represented a total counseling benefit-to-cost ratio of 2.4,

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<sup>62</sup> Foreclosure completion includes foreclosure sale, short sale, and other involuntary losses of a home through foreclosure-related actions.

<sup>63</sup> See pages 98–101 of the main report for further details on the derivation of these cost figures.





## Challenges and Best Practices

As this report is being written, millions of homeowners in the United States are still facing the possibility of foreclosure and the loss of their homes. Counseling organizations across the country are still working with many of these homeowners to allow them to avoid foreclosure and, hopefully, keep their homes. Through the course of the NFMC program evaluation, we have gathered extensive information from counseling agencies, through web surveys and interviews, on the challenges of obtaining good outcomes for their clients. We have also learned about some of the strategies and best practices that some of the more successful counseling organizations have employed.

When asked to identify the major challenges to achieving successful outcomes for clients, Grantee and Subgrantee representatives said that two issues were most problematic: (1) servicers were not sufficiently responsive and (2) clients, when entering counseling, were typically facing financial difficulties usually resulting from a loss in income. The organizations providing counseling services with NFMC funding developed a number of strategies to address the two major challenges, which are discussed below. In addition, counseling agencies stressed the importance of working with clients so they are empowered and, after meeting with their counselor, ready to take the required next steps with the lender. The following discussion details the strategies used to overcome the two main issues and to interact with clients so good outcomes are maximized.

### *Increasing Servicer Responsiveness*

The inability to obtain good servicer responses to resolve troubled loans was the challenge or obstacle most frequently cited by counselors as impediments to obtaining successful outcomes for clients (although by only a narrow margin over borrowers' loss of income). Staff most frequently mentioned three challenges as severe: slow response or lack of response by servicers to applications for loan modifications, servicers losing documents submitted, and servicers switching clients' cases from one staff person to another. Other severe challenges concerned the decision-making standards and processes used by servicers: clients being turned down for HAMP modifications, even when they met payments during their temporary modifications; servicers' unwillingness to offer adequate modification or forbearance opportunities to fit homeowner needs; and a lack of clear and transparent standards by which servicers determine what, if any, workout solution was offered.

According to our case study interviews, successful counseling agencies responded to challenges in working with servicers in five ways, which we have cited as best practices for foreclosure mitigation counseling. These are summarized briefly here and discussed more fully in our report on the case study findings.

- *Reducing the chaos and delay from lost documents.* Difficulties transmitting the necessary documents for loan modifications and other solutions, confirming their



receipt, avoiding their loss at the servicer end, and identifying missing documents so they can be re-submitted have been a major obstacle to effective foreclosure prevention. In nearly every case, well-performing counseling agencies have invested substantially in addressing this issue, including adopting HOPE LoanPort™ or their own electronic systems for tracking documents and negotiation.

- *Developing contacts and relationships with servicers and learning whom to go to for cooperation, escalation, and quick response.* Successful counseling organizations consider building contacts and relationships with servicers crucial. Organizations need to know the right people to call for cooperative problem-solving, finding non-foreclosure solutions, and moving stuck cases forward.
- *Knowing how servicers are likely to assess a proposed modification, forbearance, or other proposal.* Assessing what servicers will approve and creating proposals that work for the client and the servicer are important counselor goals. Some counselors focus on getting there with their initial proposal; others anticipate frequent negotiation. In both cases, a key ingredient is a counselor who understands how underwriting works so he or she can provide realistic options that the servicer will entertain.
- *Following up persistently.* Counselor persistence is central to many aspects of preventing foreclosure, including submitting applications and proposals to servicers, monitoring progress, and pursuing solutions that work for their clients. But persistence also includes negotiating solutions creatively. Successful counselors never take “no” for an answer, if analysis suggests that preventing or mitigating a foreclosure is at all feasible.
- *Structuring single-servicer events, live contact between servicers and clients, and live contact between servicers and counselors.* Direct in-person contact between servicers and counselors and homeowners can be valuable, if structured properly. The key is to put together the necessary pieces for actual loan modifications and other solutions to be reached *on site, during the event*.

### *Dealing with Major Income Reductions*

Counselors indicated that most clients seek foreclosure prevention services because of a drop in income, often from a job loss. Serving these clients is especially challenging because servicers are more likely to approve a loan modification for clients who can document that their income reduction is temporary. In fact, one counselor said that he/she doesn't even contact servicers for clients who are unemployed because of the low probability of getting any modification approved for clients with no income. Nonetheless, counselors use several strategies when working with clients with an income reduction.



- *Conducting a detailed crisis budgeting analysis.* The first step when working with clients who have experienced an income reduction is to develop a crisis budget. One benefit of developing a crisis budget is that it acts as an opening to credit counseling by prioritizing expenses. By putting expenses and income down on paper, clients can easily see how they are spending their money, which they can continue to monitor even after their income increases.
- *Pursuing forbearances.* Getting loan modifications approved for clients with no income is problematic. If a job or income loss is temporary, counselors can pursue forbearance agreements with servicers. In particular, a forbearance plan can work well for people who expect to be reemployed, but such an approach is not appropriate for clients on fixed incomes.

#### *Working Successfully with Clients*

Counselors can only be as effective as their clients. Given the demand for foreclosure prevention services, effective organizations get clients proactive and engaged in the process. In addition, successful organizations provide realistic evaluations to their clients regarding the chances of obtaining loan modifications and other retention solutions. Two areas that representatives indicated were most important when working with clients are that (1) clients bring all required information to their initial one-on-one counseling session and (2) clients take ownership of the foreclosure counseling process.

- *Ensuring that clients bring all required information to the initial one-on-one counseling session.* Counselors stressed that servicers will not make any decision on a client's proposed loss mitigation solution, which often include a request for a loan modification, directly. Rather, servicers often require authorization forms from lenders, budgets, and hardship letters, and these requirements can vary by servicer. Agencies have instituted strategies (checklists, pre-counseling orientation meetings) to ensure that clients bring the required documents to their first counseling session so the counselor can contact a client's servicer during that session.
- *Empowering clients so they successfully manage the foreclosure prevention process.* Agencies do not have the resources to manage all aspects of a client's case. Therefore, counselors said that it is critical to work with a client who knows about getting loan modifications or other outcomes, has a realistic understanding of the options available given his or her circumstances, and will provide loan servicers with the documents and follow-up needed to reach a decision. Many agencies, as a first step, provide details about the foreclosure process during an initial group counseling session. The group sessions help clients start thinking



about a preferred solution, which may not include retaining ownership of their home, and increase the effectiveness of subsequent one-on-one counseling.

## **Conclusion**

The National Foreclosure Mitigation Counseling program started in 2008 to help homeowners facing foreclosure. To measure how well the program met this objective, the Urban Institute conducted a three-year evaluation of the program. Through this evaluation, we have interviewed mortgage industry and program participants, reviewed program reports and documents, surveyed counseling organizations, and conducted an in-depth statistical analysis of outcomes for mortgages of counseled homeowners compared with outcomes for homeowners without counseling assistance.

The NFMC program has been an important and successful tool in addressing the record number of troubled homeowners who have faced, and continue to face, loss of their homes because of foreclosure. While counseling cannot solve to the foreclosure crisis, it nonetheless has helped homeowners achieve better outcomes, which in turn has benefited the country by reducing the numbers of nonperforming and failed mortgages, avoiding social costs associated with foreclosures, and allowing more people to retain their homes.

As the housing crisis continues to play out over the coming months and years, we hope that the information provided through this evaluation will help guide policymakers and practitioners toward solutions that will provide much-needed help to the nation's struggling homeowners.



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## **APPENDICES**

Appendices are provided as a separate documents to this report.

