

Exploring the Design of Financial Counseling for Mortgage Borrowers in Default¹

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Introduction

In 2005, there were nearly 900,000 properties in stages of the mortgage foreclosure process in the U.S., a 25 percent increase from the previous year (Hairston, 2006). Foreclosure rates for all loans increased by nearly 40 percent from 1994 to 2004 (Mortgage Bankers Association, 2005). One alternative to regulation is to offer borrowers default counseling to avoid foreclosure. Counseling potentially helps borrowers change their financial behavior so they can cure their delinquency, or helps them to sell the home in order to pay off their mortgage. While default counseling potentially helps borrowers avoid foreclosure, it remains underutilized by consumers. While more than 35 million mortgages were originated in 2005, only 150,000 people received counseling (FFIEC, 2006; HUD, 2006).

This report analyzes the delivery of mortgage default counseling for subprime borrowers based on the Chicago Mortgage Default Counseling Survey, a mail survey conducted with 299 predominately low-income, minority households in Chicago in 2005. This survey provides one of the few borrower-level sources of information regarding mortgage default. These data allow for a better understanding of how to design counseling policies to prevent foreclosures.

Overview of Findings

The results suggest borrowers receiving more hours of counseling perceive counseling more favorably than those receiving less counseling. Because perceptions and selection into additional counseling is endogenous, this paper also uses an instrumental variables approach to model counseling time based on measures of marketing and outreach efforts. This approach confirms the positive effect of time in counseling on ratings of counseling. This finding is verified using another model of borrowers selecting to receive additional counseling sessions as a form of revealed preference. There does not appear to be a strong effect of counseling mode, although borrowers on average prefer face-to-face counseling over phone counseling. Further analysis with a sub-sample suggests that borrowers receiving more intensive counseling are also less likely to lose their home in foreclosure. These results indicate counseling could be more widely accepted by borrowers in default if counseling delivery methods are more appropriately designed.

Default Counseling

A leading example of a counseling program designed specifically around default counseling is the Home Ownership Preservation Initiative (HOPI). This program is operated by Neighborhood Housing Services, Inc. of Chicago (NHS) in partnership with the City of Chicago, the Credit Counseling Resource Center (CCRC) and private sector financial institutions. HOPI was started in 2003 to address a rapid rise in foreclosure filings in the city of Chicago, with a 3-year goal of providing counseling to 3,000 households.

¹ By J. Michael Collins, principal PolicyLab Consulting Group, LLC. mcollins@policylabconsulting.com. Also see: www.policylabconsulting.com. A version of this paper is under review by the Journal of Family and Economic Issues. This work was supported by NHS Chicago and the Home Ownership Preservation Initiative (HOPI). Please do not cite or distribute without author's permission.

In January 2004, a mortgage default hotline was launched using Chicago's non-emergency "311" telephone service. Callers have the opportunity to receive telephone counseling from the CCRC, a national alliance of U.S. Department of Housing and Urban Development (HUD)-certified housing counseling agencies funded by the Home Ownership Preservation Foundation and private lenders. Borrowers are then connected to their loan servicer to explore a potential loan workout, or referred to local assistance as appropriate. The city of Chicago sent 25,000 postcards promoting counseling to targeted zip codes, as well as public service announcements, media events and bus and subway advertisements. At the same time, NHS performed outreach to none neighborhoods in which it has offices, also promoting counseling. Over the period of January 2004 to July 2005, approximately 1,300 individuals from the city of Chicago received telephone counseling. Another 800 came to NHS directly seeking face-to-face counseling for their mortgage problems. About one-quarter of borrowers received both telephone *and* face to face counseling.

Previous Research

Benefits of Avoiding Foreclosure. The sale of a home often does not produce enough to pay off unpaid principal and related costs of foreclosure to the lender. According to Cutts and Green (2005), lenders lose an average of \$44,000 to \$58,000 per completed foreclosure depending on the circumstances. The foreclosure process takes 12 to 18 months to resolve, tying up human resources and lender assets. To avoid these costs and delays, lenders will often attempt to provide borrowers with loan workouts, including a temporarily reduced interest rate, a restructured payment or other special agreements. Local communities also face significant costs. Homes in the foreclosure process can become vacant, providing a place for crime or other problems in the neighborhood (Immergluck and Smith, 2005). Estimates of losses to local municipalities range from \$400 to \$34,000 per foreclosure, depending on the condition of the home (Apgar et al, 2005). There is therefore a strong motivation for lenders and local government to work to prevent the number of foreclosures from expanding. Meanwhile, borrowers themselves have much to gain from remaining current on their loan, including avoiding financial losses and long-term damage to their credit record.

Underutilization of Counseling Services. Cutts and Green (2005), an expansion of a presentation by Cordell (2001), provide an excellent overview of default and foreclosure processes, with a focus on the ability of loan servicers to develop alternatives to foreclosure. Importantly, Cordell documents the large share of borrowers who never speak with their lender, thus never having the option to explore alternatives before their foreclosure occurs. Cordell noted despite the advances in workout options for borrowers, lenders do not reach about half borrowers until the foreclosure is completed. He concludes that borrowers need to be educated on their workout options to be able to know that there are alternatives to foreclosure. The issue of low contact rates is further documented in Apgar et al (2004) based on data provided by mortgage security ratings agencies. Unpublished results from focus groups conducted by NHS Chicago suggest borrowers avoid their lender due to embarrassment, a lack of knowledge that their lender could help, and fear that the lender will treat them worse if they reveal their payment difficulties (Gottschall, 2006).

Nonprofit financial counselors bring a trusted third-party perspective and can serve as an intermediary between borrowers in crisis and their lender (Quercia et al. 1998). A 2005 poll by Freddie Mac and Roper Public Affairs and Media suggests three-quarters of delinquent borrowers would like to use the services of a counseling agency if they have a default (Roper, 2005). While default counseling collaboratives like the Chicago HOPI program are expanding, there is little evidence of how to structure and deliver counseling in order to best attract and serve borrowers in trouble. There are no standards for how much counseling to provide, nor what format counseling should take.

Effects of Counseling. The literature on mortgage counseling dates back to the late 1960s, during which time the Federal Housing Administration (FHA) mortgage insurance program struggled to manage its troubled Section 235 program (Quercia and Wachter, 1996). A series of studies of FHA default counseling programs were conducted in the 1970s, as cited by Phillips and Strauss (1997). These studies were designed to derive the financial cost-benefit of borrower counseling from the view of the Federal government. However, the design of these studies suffered from a number of flaws, including limited scale, a lack of measures of how the counseling was delivered, and low participation rates. These studies were largely inconclusive (Phillips and Straus, 1997).

Moreno (1994) studied the Mortgage Foreclosure Prevention Program in Minnesota finding that financial assistance has a positive effect on a borrower's ability to avoid foreclosure. The program did not employ an experimental design, but success rates for borrowers only receiving counseling without financial assistance were low. Moreno did not analyze the time in or type of counseling provided, however. Quercia, et al (2004) also studied the Minnesota program, using an expanded dataset. The authors conclude community-based foreclosure prevention services are cost effective compared to industry data on foreclosure times and predicted resolutions. These authors did not examine the amount of counseling provided, the delivery mechanism employed, or client perceptions of services. No other studies of mortgage default counseling appear to have been published.

Ellienhausen, Lundquist, and Staten (2003) studied borrowers with consumer debt who received credit counseling. Although this study was not focused on mortgage default counseling, the authors found evidence using a quasi-experimental design that credit counseling improves borrower credit behaviors, including reducing debt and improving repayment patterns. This study did not examine the length of time each client was in counseling, nor how counseling was delivered.

Hirad and Zorn (2002) analyzed borrowers in a portfolio of mortgage loans made to low-income borrowers in which pre-purchase counseling was provided to a subset of borrowers. Although not a study of default counseling, the authors conclude counseling and education is associated with lowered delinquency probabilities for borrowers. The study also suggests counseling's effect may differ by mode of delivery. The authors found the strongest effects for face-to-face counseling and no effects from telephone counseling. This study did not include an assessment of the amount of time in counseling.

Data

In August 2005, NHS conducted a follow-up survey with 750 face-to-face counseling clients, and 750 clients receiving telephone counseling from the Credit Counseling Resource Center (CCRC). Approximately one-quarter of these households overlapped, receiving both telephone and face-to-face counseling. In addition to demographic and financial characteristics, the 50-item survey included questions related to:

- default counseling services received,
- the borrower's perception of their lender and community programs,
- how and why the borrower took out the mortgage,
- causes of default,
- physical symptoms of stress, and
- financial knowledge.

The 50 item survey instrument was mailed to 1,544 households by NHS in August 2005. The survey used a multiple-wave design, including an advance letter, reminder postcards and a second survey to non-responders (Salant and Dillman, 1994). A total of 299 borrowers fully completed survey. About 20 percent of all addresses resulted in a returned survey, and 25 percent of valid addresses. Among the 293 addresses returned by the post office (20 percent of the total mailing list), an analysis of public records shows 55 percent were foreclosed while 45 percent were sold prior to foreclosure. Given the level of distress among the population being surveyed, a response rate of 25 percent of valid addresses is satisfactory. The sample is biased towards more successful clients due to the inability of households who foreclosed or moved to respond. However, Illinois is a judicial foreclosure state, with an average time from the lender initiating foreclosure to completion of 12 months (RealtyTrac, 2005). A cross-sectional survey should include borrowers at various stages of the foreclosure timeline; thus borrowers who ultimately will foreclose but are early in the process are included in the sample. Measures of the stage of the foreclosure process are included in the data.

Additional public data was matched to borrower responses. Each borrower's neighborhood, defined as a zip code, was matched to the number of City of Chicago "Every minute counts" marketing flyers that were mailed to promote counseling. Zip codes targeted by NHS Chicago for outreach promoting counseling were also flagged. Also, Cook County property records were matched to each respondent, providing information on initial foreclosure filings, the recorded amount of the mortgage lien and if the home was sold or foreclosed. These data reflect all filings from 2002 through March 2006. Thus, the filings capture activity on properties in the six months following the completion of surveys.

Demographic Characteristics of Borrowers in Default Counseling

Figure 1 displays summary statistics by the type of counseling received. Out of a total of 299 valid responses, 129 clients received only telephone counseling (43 percent), 113 received only face to face counseling (38 percent), and then 57 received both telephone and face-to-face counseling (19 percent). Foreclosures in Chicago are concentrated in predominately minority neighborhoods; as a result, 97 percent of respondents are non-white and 73 percent are African American. More than two-thirds have some college education. The median household income is \$25,000, with 55 percent of respondent's incomes under \$30,000 and only 14 percent of respondents indicating incomes over \$60,000. Twenty-two percent of defaulted borrowers in the survey are retired from the workforce. The mean ownership time is 11.6 years. Face-to-face clients are less likely to have any education beyond high school and on average have lower incomes than those receiving telephone counseling.

	Telephone		Face-to-Face		Both Modes		Full Sample	
Observations	129		113		57		299	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
% African American	78%	0.42	72%	0.45	66%	0.48	73%	0.45
% Some College Ed.	69%	0.47	62%	0.49	77%	0.42	68%	0.47
% Income < \$30K	47%	0.50	68%	0.47	53%	0.50	55%	0.50
% Retired From Work	22%	0.42	24%	0.43	19%	0.39	22%	0.42
Years In Home	11.3	8.48	12.2	8.73	11.2	8.47	11.6	8.55

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey

Causes of Delinquency

Respondents were asked what caused them to become delinquent on their mortgage. Table 2 shows the results by the mode of counseling. The survey permitted selection of multiple causes, with combinations of employment issues and health problems, common. There is not much variation across counseling mode, although clients with injuries and medical problems are less likely to use telephone counseling only and more likely to use both face-to-face and telephone counseling.

Table 2. Causes of Delinquency: Self-Reported (Exceed 100%)

	Telephone		Face-to-Face		Both Modes		Full Sample	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Loss of Job	41%	0.49	47%	0.50	59%	0.50	47%	0.50
Credit Card Mismanagement	18%	0.39	13%	0.34	12%	0.33	15%	0.36
Home Repair/Improvement	18%	0.39	18%	0.39	22%	0.42	19%	0.39
Death in Family	11%	0.32	17%	0.38	33%	0.47	18%	0.38
Unfair Loan Terms	21%	0.41	19%	0.39	19%	0.40	20%	0.40
Injury/Accident	17%	0.38	17%	0.38	29%	0.46	19%	0.40
Tax Problem	13%	0.34	12%	0.33	9%	0.28	12%	0.32
Income Reduction	21%	0.41	21%	0.41	17%	0.38	20%	0.40
Divorce/Separation	6%	0.23	13%	0.34	9%	0.28	9%	0.29
Medical Problem	24%	0.43	30%	0.46	33%	0.48	28%	0.45

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n=299

Overall reasons cited for delinquency track findings in other studies, including Quercia et al (2004), as illustrated in Table 3. Like Minnesota, Chicago's borrowers in default most often experience employment disruptions, although Chicago's borrowers appear more likely to be laid off than simply face a reduction in pay.

**Table 3. Causes of Delinquency: Compared to Quercia, et al (2004)
(Recoded Combined Categories)**

	Chicago	Minneapolis St. Paul
Laid off	46%	38%
Cut in pay/income reduction	20%	39%
Health problems	33%	23%
Domestic problems	9%	8%
Money management	31%	42%
Other	18%	22%

Source: recoded tabulations of 2005 Chicago Mortgage Default Counseling Survey to match Quercia et al (2004) tabulations.

Table 4 shows the average time in counseling by cause of delinquency and counseling mode. Borrowers with health problems or a death in the family required more counseling time, compared to those who experienced job or income loss. These problems represent more difficult challenges to remedy than simply a loss of income. Once a worker is injured or ill, their ability to generate income is reduced and thus require more support to manage a default. Likewise, borrowers caring for a family member who undergoes a health emergency may also have a reduced ability to generate income. Variation in causes of foreclosure is not significantly different across modes of counseling.

	Telephone		Face-to-Face		Both	
	Mean	SD	Mean	SD	Mean	SD
Job or Income Loss	1.2	0.6	2.0	1.5	2.6	1.7
Health / Death in Family	1.4	1.1	2.7	1.6	2.7	1.4
Both Job and Health	1.3	0.8	2.1	1.7	2.1	1.3
Other	1.4	1.2	1.9	1.3	2.3	1.2
Total	1.3	0.8	2.2	1.6	2.4	1.5

Source: author's recoded tabulations of 2005 Chicago Mortgage Default Counseling Survey.

Financial and Credit Characteristics of Borrowers in Default Counseling.

Table 5 summarizes borrower financial characteristics by mode of counseling. Two-thirds of borrowers surveyed are delinquent on a home refinance mortgage, not the original home purchase mortgage. In fact, 20 percent of borrowers have refinanced 3 or more times. Borrowers who refinance do so every 4.5 years at the median. More than one-third (35 percent) of borrowers took out their refinance mortgage for a home improvement, and 23 percent to consolidate other debt.

Most of the borrowers surveyed (69 percent) are first-time home buyers, and just over half (54 percent) are first-time mortgage refinancers. The typical borrower in the survey has a mortgage of \$112,500. About 27 percent of borrowers self-identify as having been in through a foreclosure on a mortgage before. On average borrowers have been delinquent for 4.5 months, although some borrowers suggest delinquencies of as long as 3 years. An astounding 58 percent say they or their spouse/partner has filed for bankruptcy at some point in their lives. Only 11 percent have a savings account or any funds in case of needed home repairs.

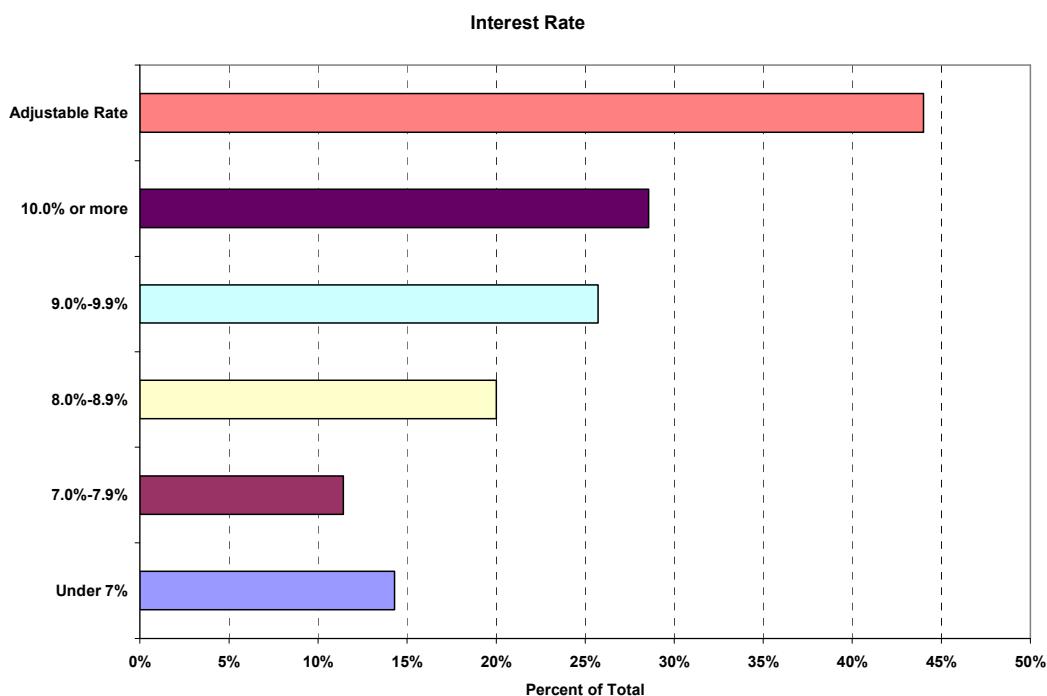
Although most respondents (73 percent) say they should have been approved for their loan, more than one-third (37 percent) wish they had shopped around before taking their current mortgage.

	Telephone		Face-to-Face		Both Modes		Full Sample	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Amount of Mortgage	\$119,130	55512	\$103,116	52445	\$115,491	58462	\$112,481	55259
Number of Refinance Loans Taken Out	1.5	1.20	1.7	1.34	1.2	1.20	1.5	1.26
Number of months delinquent	5.0	4.46	4.8	6.0	3.6	2.6	4.5	4.9
% Using Home Equity For Home Improvement	38%	0.49	38%	0.49	22%	0.42	35%	0.48
% With Any Savings Account	13%	0.34	8%	0.28	14%	0.35	11%	0.32
% Past Bankruptcy	64%	0.48	53%	0.50	55%	0.50	58%	0.49
% Past Foreclosure	25%	0.43	28%	0.45	29%	0.46	27%	0.44
% First Time Borrower or Refinance	55%	0.50	54%	0.50	52%	0.50	54%	0.50
% "I should have been approved for this loan"	71%	0.45	74%	0.43	75%	0.44	73%	.45
% "Wish I shopped around more".	42%	.049	33%	0.47	31%	0.47	37%	0.48

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey

Figure 1 illustrates the interest rate distribution of mortgages in the survey. About 44 percent of mortgages have adjustable rates. Overall, rates tend to be relatively high, as is typical in the subprime market for borrowers with a history of bankruptcy and default. Given the high rates of past foreclosure and bankruptcy in the sample, this population clearly represents the "blemished credit" borrower who has been offered expanded access to credit over the last decade.

Figure 1



Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n=299

The Delivery of Default Counseling

Table 6 shows time in counseling by the mean rating of the counseling session. The more total time the borrower spends in counseling, the stronger their rating of counseling. There is also more variation in the borrower's rating of counseling around the mean for both the one and three hour total counseling times.

	Mean	SD
1 Hour	2.02	1.15
2 Hours	2.52	1.01
3 Hours	2.52	1.25
4 Hours	3.15	0.99
5 Hours	3.36	0.75

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n=299

Table 7 shows survey respondents recall participating in 2.2 counseling sessions for a total of 1.9 hours of counseling. As may be expected, clients receiving both face-to-face and telephone counseling tended to receive more counseling sessions and a longer overall counseling time. Nearly half (46 percent) of telephone clients suggested "I already knew or was doing what the counselor suggested," compared to only 17 percent of clients receiving both phone and face-to-face counseling. This suggests some sorting of borrowers by the type of counseling received.

	Telephone		Face-to-Face		Both Modes		Full Sample	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Time Counseled (Hours)	1.3	0.78	2.2	1.13	2.6	1.23	1.9	1.14
Number of Counseling Sessions	1.5	0.93	2.2	1.01	2.9	1.11	2.0	1.11
% "Already Know" Counseling Content	46%	0.50	25%	0.44	17%	0.38	31%	0.47
Rating of Counseling Helpfulness (1-4)	1.94	1.09	2.61	1.17	2.76	1.05	2.38	1.16

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n=299

Table 8 partially illustrates why telephone counseling receives lower average ratings. While 82 percent of phone sessions are 1 hour, only 46 percent of face-to-face sessions are. Very few clients receiving phone counseling received more than two hours of services. Clients receiving face-to-face or a mix of both modes of counseling are more likely to have longer total counseling durations than telephone sessions.

	1 Hour	2 Hours	3 Hours	4 Hours	5 Hours	Total
Telephone	80%	14%	2%	1%	2%	100%
Face-to-Face	27%	51%	6%	8%	7%	100%
Both	23%	28%	29%	9%	11%	100%
Total	49%	31%	9%	5%	6%	100%

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n=299

Table 9 shows which clients are most likely to receive each type of counseling by race and income. Multivariate models of the variation in borrower selection into counseling mode are largely insignificant. However, low-income status and African American race do reveal some differences in counseling mode. Among African American borrowers with incomes over \$30,000, telephone counseling is more frequently used. These differences disappear among low-income African Americans, however. For higher-income borrowers the opportunity costs of going to face-to-face meetings or pursuing multiple modes of counseling are relatively large compared to low-income borrowers. Thus the convenience of telephone counseling may be preferred. Low-income clients have the most significant limitations on their ability to repay even an restructured loan are therefore also more likely to seek out more time intensive counseling

	% Telephone	% Face-Face	% Both
Income > 30k			
Non-African American	32%	24%	44%
African American	59%	24%	17%
All Income < \$30k	53%	24%	23%
Income <= \$30k			
Non-African American	38%	38%	24%
African American	38%	42%	20%
All Income < \$30k	38%	41%	21%

Source: author's tabulations of 2005 Chicago Mortgage Default Counseling Survey, n=299

Self Assessed Financial Knowledge and Stress Levels The Chicago Mortgage Default Survey included a number of questions regarding the frequency of various symptoms of stress, including fatigue, headaches, fear of losing control, loss of appetite, stomach or back pain and nightmares. These symptoms were mentioned by many respondents, with almost one in four mentioning that they experience all seven symptoms as frequently as sometimes or more. Although the sample overall experiences symptoms of stress, there is little variation by counseling mode.

A similar index can be compiled from a series of seven questions regarding the respondent's self-assessment of financial behavior and knowledge. Again, there is little variation across types of counseling, but the overall sample provides interesting insights into subprime borrowers in default. Respondents view themselves as better at providing for their family than most other categories. They perceive their knowledge about investing and their ability to actually save money as low, however. A surprisingly large share, given their default status, view themselves as "okay" or better at controlling their spending and knowing their credit rating. Self-assessed measures have inherent problems with comparability and reliability, however in this survey they provide an indication of borrower behavior and attitudes.

Table 9 a. Stress Symptoms and Financial Knowledge								
	Telephone		Face-to-Face		Both Modes		Full Sample	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Stress Index (1-5 scale) *	2.7	1.0	2.5	1.1	2.5	1.2	2.6	1.1
Sometimes, Often or Always for All Symptoms	23%	42%	20%	41%	28%	45%	23%	42%
Frequency of Headaches	3.0	1.2	2.7	1.4	2.9	1.5	2.9	1.4
Frequency of Extreme Fatigue	2.9	1.3	2.7	1.3	2.6	1.3	2.8	1.3
Frequency of Fear of Losing Control	2.8	1.2	2.7	1.4	2.4	1.4	2.7	1.3
Frequency of Stomach/Back Pain	2.7	1.3	2.4	1.4	2.4	1.5	2.5	1.4
Frequency of Embarrassment	2.6	1.4	2.4	1.3	2.5	1.4	2.5	1.3
Frequency of Nightmares (1-5 scale)	2.4	1.4	2.5	1.4	2.4	1.3	2.4	1.4
Frequency of Loss of Appetite	2.4	1.3	2.2	1.2	2.2	1.2	2.3	1.2
Financial Literacy Index **	2.5	0.90	2.6	0.84	2.7	0.93	2.6	0.89
Self-grade Providing for Family	3.3	1.21	3.4	1.26	3.7	1.12	3.4	1.21
Self-grade Controlling Spending	2.8	1.14	2.9	1.15	2.8	1.30	2.9	1.17
Self-grade Know Credit Rating	2.7	1.34	2.6	1.18	2.8	1.53	2.7	1.32
Self-grade Planning for Future	2.2	1.22	2.3	1.17	2.6	1.36	2.3	1.23
Self-grade Finding a Mortgage	2.2	1.19	2.4	1.16	2.3	1.32	2.3	1.21
Self-grade Saving Money	2.0	1.11	2.2	1.18	2.3	1.30	2.1	1.18
Self-grade Know About Investing	1.8	1.11	1.8	1.06	2.2	1.33	1.8	1.15

Source: tabulations of 2005 Chicago Mortgage Default Counseling Survey

** Indices based on constructed scale. Average interitem covariance: 1.022 for stress and 0.679 for financial literacy; Scale reliability coefficient (Cronbach's alpha statistic): .8994 and 0.8760, respectively.

Outcomes

Borrower perception of counseling are based on responses to the following survey question:

Q. "How would you rate the helpfulness of the counseling services you received on your situation?"

Low — I already knew or was doing what the counselor suggested.

Fair — the counselor presented useful options.

Moderate — because of the counseling I am able to handle my situation better.

High — without this counseling I would not have known what to do.

Foreclosure outcomes are measured for a small subset of the data. A total of 150 survey responses show that an initial foreclosure filing was recoded Cook County public property records. Of these 14 transitioned to a foreclosure sale or lender taking the property in the six months after the survey was conducted (from September 2005 through March 2006). An additional sixteen transitioned from no foreclosure filing, to having a foreclosure filing. While this panel of survey respondents is small, the results can be suggestive of the impact of counseling.

Estimation

The rating of counseling model is estimated using the following specification, in reduced form:

$$Y (\text{rating}) = \alpha + \beta_1 (\text{hours counseled}) + \beta_2 (\text{telephone counseling dummy}) + \beta_3 (\text{mix of phone and face-to-face counseling dummy}) + \beta_4 (\text{financial knowledge index}) + \beta_5 (\text{retired from work dummy}) + \beta_6 (\text{loan amount}) + \beta_7 (\text{physical indicators of stress}) + \beta_8 (\text{foreclosure process started dummy}) + \beta_9 (\text{ever filed bankruptcy dummy}) + \varepsilon$$

The dependent variable, Y, is a continuous 1 to 4 scale of the helpfulness of counseling on the client's situation, as discussed above. Counseling time is measured in hours. Counseling mode can be telephone, face-to-face or a mix of both types, indicated using a dummy variable. Face-to-face counseling is in the omitted category.

Since counseling is intended to overcome gaps in borrower financial literacy, it is assumed borrower financial knowledge and behavior will effect both the perception of and willingness to attend counseling. A series of eight questions in the survey asks the respondent to self-grade themselves on a five-point scale on a series of financial, credit and budget issues. Perry and Morris (2005) used similar questions to construct measures of financial knowledge and behavior. These questions include topics of spending and budgeting, financial planning, providing for the household, saving and investing, the ability to find credit and knowledge of credit ratings. Responses were compiled into an a single aggregated index, ranging from one to five.²

While a number of demographic variables are included in the survey, including race, age and income, all were highly correlated. Since a critical factor in managing a mortgage default is a borrower's ability to earn income, retired borrowers will be less likely to recover from default. This the dichotomous indicator for a retired household is consistent with the theoretical construction of the model, and serves as a proxy for borrowers of older ages and lower incomes.³

Previous research (Quercia, 2005) shows larger debts present added difficulties in repayment. Because mortgage amount and income are correlated, loan size also proxies for income. Loan amount is measured based on publicly recorded filings of mortgage liens in thousands of dollars.

The degree of stress due to trigger events and pressure to repay a delinquent mortgage is likely to have an effect on borrower's perceptions of counseling and level of cooperation. The survey includes seven questions regarding the frequency of insomnia, headaches, back pain, fatigue, loss of appetite, and feelings of embarrassment and loss of control. Frequency was reported on a five-point scale, ranging from "almost never" to "almost always". Like financial knowledge, these questions have been aggregated into a single five-point index.⁴

Based on public records, about half of the sample had been served with initial foreclosure filing proceedings at the time of the survey. In this model a filing is an indicator of the severity of the borrower's situation.

² Average inter item covariance: 0.667; Scale reliability coefficient: 0.8723 (Cronbach's alpha)

³ Specifications using age, income, race and other demographic factors did not yeild significant coefficients or change the magnitude or direction of other coefficients.

⁴ Average inter item covariance: 0.103 Scale reliability coefficient: 0.8333 (Cronbach's alpha)

A mortgage borrower in bankruptcy, depending on the phase and chapter of filing, has some protections under the law, as well as reduced direct interactions with creditors. Bankruptcy is respondent reported, and measures if the borrower has ever filed for bankruptcy. In this model it is an indicator of a borrower with poor credit behavior.

Tests for interactions between counseling mode and income, education, and race were not significant. Other models including loan amount squared and other nonlinear specifications also did not yield useful results. A summary of the variables used in the model is shown in table 10.

Table 10: Means, Standard Deviation and Range

DEPENDENT VARIABLES		n	mean	Std Dev	Min	Max
1	Rating of Counseling	179	2.38	1.16	1	4
2	Obtained Additional Counseling	296	0.59	0.49	0	1
3	Foreclosure Completed/Lost Home	76	0.13	0.39	0	1
INDEPENDENT VARIABLES		n	mean	Std Dev	Min	Max
$\beta 1$	Counseling Time (hours)	299	1.86	1.14	0	5
$\beta 2$	Only Phone Counseling; Y/N	299	0.43	0.50	0	1
$\beta 3$	Both Phone and Face-to-Face: Y/N	299	0.19	0.39	0	1
$\beta 3$	Financial Literacy Index (1-5)	299	2.59	0.86	1	5
$\beta 4$	Retired from Work: Y/N	299	0.23	0.40	0	1
$\beta 5$	Loan Amount (000s)	261	112.48	55.26	18.98	411
$\beta 6$	Physical Indications of Stress	271	2.61	1.09	1	5
$\beta 7$	Past Bankruptcy: Y/N	299	0.58	0.46	0	1
$\beta 8$	Foreclosure Process started	274	0.55	0.50	0	1

Results

Rating of the Helpfulness of Counseling

The table below displays the specification for the borrower's rating of counseling. The models include both counseling time and mode of counseling. Since phone counseling tends to have reduced total time in counseling, it appears the effect of mode is the result of counseling time. Stress symptoms and foreclosure status has significant and negative effects. These models show an additional hour in counseling increases borrower ratings of counseling by 0.29 to 0.31, or one-quarter of a standard deviation.⁵

Table 11 Rating of Helpfulness		
	1	1
	OLS Rating - time and mode	Ordered Probit Rating - time and mode
Counsel Time	0.29	0.313
	[0.072]**	[0.082]**
Number of Sessions		
Only Phone Couseled	-0.313	-0.349
	[0.218]	[0.237]
Both Phone Face-to-Face	0.098	0.119
	[0.229]	[0.237]

⁵ Tests of multicollinearity show no problems; the variance inflation factor is less than 1.6 for all variables and 1.2 overall.

Financial Knowledge	-0.01	-0.039
	[0.109]	[0.113]
Retired From Work	-0.233	-0.33
	[0.194]	[0.232]
Loan Amount	-0.002	-0.002
	[0.002]	[0.002]
Stress Symptoms	-0.183	-0.203
	[0.074]*	[0.084]*
Foreclosure Started	-0.303	-0.401
	[0.175]+	[0.200]*
Filed Bankruptcy	-0.153	-0.157
	[0.183]	[0.200]
Constant	2.884	
	[0.499]**	
Observations	151	151
R-squared	0.25	0.11

Instrumenting for Counseling Time

A potential problem with the finding of a positive marginal effect of an additional hour of counseling is that borrowers who have a negative perception of counseling are not likely to cooperate and will refuse to participate in more counseling. A means of addressing counseling time being jointly determined with rating is to use an instrumental variable for counseling time. The city of Chicago and NHS promoted counseling times in targeted areas. Thus, the number of flyers promoting counseling mailed per neighborhood (defined by zip code), as well as neighborhoods targeted by NHS, can serve as an instrument for counseling time. Each observation was matched with the number of flyers promoting counseling in that zip code, as well as a binary variable for a zip code being an NHS target area. In theory higher numbers of mailings combined with being in a target area result in a greater probability of a borrower obtaining counseling, especially multiple sessions or a mix of modes. The marketing effort is unrelated to borrower rating but can be used to predict the amount of time in counseling.⁶ Similarly, the number of sessions can be instrumented using the same approach. Table 12 shows the results of these models. Note mode was excluded in these models, based on previous results and its correlation with variable being instrumented. In both Models 3 and 4, more counseling results in more positive ratings. The findings are significant at the 1 percent level and suggest a magnitude greater than half a standard deviation. As in previous models physical stress indicators have significant and negative effect on ratings of counseling.

	3	4
	IV 2SLS Counsel Time	IV 2SLS Sessions
Counsel Time	0.647	
	[0.191]**	
Number of Sessions		0.662
		[0.223]**
Financial Knowledge	-0.113	0.114
	[0.130]	[0.120]
Retired From Work	-0.267	-0.257
	[0.241]	[0.248]
Loan Amount	-0.001	-0.002
	[0.002]	[0.002]
Stress Symptoms	-0.209	-0.272
	[0.086]*	[0.089]**
Foreclosure Started	-0.399	-0.189
	[0.205]+	[0.203]
Filed Bankruptcy	-0.055	-0.145
	[0.216]	[0.214]

⁶ Using a two stage least squares model, counseling time is effectively modeled, resulting in a first stage f-test of 4.2 with significance of $p < 0.0014$; sessions resulted in an f-test of 3.6 and $p < 0.0008$

Constant	2.253 [0.573]**	1.75 [0.719]*
Observations	137	137
Standard errors in brackets + significant at 10%; * significant at 5%; ** significant at 1%		

Foreclosure Avoidance

The final approach used is to model the incidence of foreclosure conditional on having an initial foreclosure filing before the survey was conducted. Because this is only a six month follow up period, and the sample size is small, these results are suggestive but not conclusive. Table 13 displays the results. (Note that financial literacy and stress are not included in this model, as these are borrower level measures which are expected to effect expectations and perceptions of counseling, but not foreclosure outcomes.) In each case worsened status is a binary variable estimated using a probit model (marginal effects presented). Model 5 includes mode, finding only that borrowers in retirement are more likely to foreclose. This is consistent with the negative effect of income constraints on default discussed earlier. Model 6 includes only hours in counseling, finding a negative relationship. The magnitude is weak, with an additional hour reducing the probability of foreclosure by 3.5 percent. Model 7 includes sessions, with no notable results except a small effect of a larger mortgage owed. Models 8 and 9 include measures of more hours or sessions of counseling and mode of counseling. More counseling still is associated with reduced foreclosure probabilities. Borrowers receiving both phone and face-to-face counseling have an increased probability of foreclosing. However, this is likely due to borrowers with the most problems seeking multiple sources of help as the threat of foreclosure becomes more immanent.

	-5	-6	-7	-8	-9
	Worsened Foreclosure Status - mode	Worsened Foreclosure Status - time	Worsened Foreclosure Status - sessions	Worsened Foreclosure Status - time & mode	Worsened Foreclosure Status - sessions & mode
Only Phone Counseled	0.05 [0.056]			0.011 [0.023]	0.031 [0.053]
Both Phone Face-to-Face	0.203 [0.127]			0.29 [0.154]+	0.227 [0.133]+
Counseling Time		-0.035 [0.021]+		-0.041 [0.023]+	
Counseling Sessions			-0.011 [0.018]		-0.024 [0.018]
Retired from Work	0.074 [0.041]+	0.039 [0.040]	0.048 [0.044]	0.027 [0.025]	0.07 [0.040]+
Mortgage Amount	0 [0.000]	0.001 [0.000]*	0.001 [0.000]*	0 [0.000]	0 [0.000]
Filed Bankruptcy	0.019 [0.038]	0.009 [0.038]	0.013 [0.043]	0.005 [0.016]	0.015 [0.037]
Observations	148	148	148	148	148
Standard errors in brackets + significant at 10%; * significant at 5%; ** significant at 1%					

Findings

There is a positive relationship between time in counseling and the borrower's perception of being helped. More counseling, as measured in hours or number of sessions, results in more positive ratings of counseling and greater uptake of counseling sessions. There is not significant variance in the borrower's perception of being helped based on the mode of counseling provided. There is weak evidence phone counseling results in lower ratings or reduced preferences, however most of this effect appears to be due to telephone counseling being shorter and less likely to result in multiple sessions. Although the sample is small and the time period short, there is some evidence to support the hypothesis that more counseling results in a reduced probability of a negative foreclosure outcome.

Implications and Recommendations

This survey provides insights into mortgage borrowers in default and the role of counseling. The marginal effect of additional hours of counseling are positive. There is little evidence of differences in the mode of counseling overall, although face-to-face counseling is more frequently used and rated more highly among low-income borrowers than telephone counseling. The two modes appear to serve complementary roles for some borrowers, especially those with multiple problems, and both are rated highly by some survey respondents. Counseling does appear to have a positive effect on borrower's ability to avoid foreclosure, although the results remain preliminary.

Subprime lenders and other lenders should examine the potential for default counseling in their operations. Institutions should pay attention to the production function for default counseling services, particularly the duration of services, in order to develop positive outcomes more efficiently.

Finally, policymakers should assess public support for counseling. Although the federal government provides approximately \$40 million for housing counseling annually, there is a focus on using these funds to promote the purchase of homes by first-time buyers, not counseling on mortgage refinance or for borrowers in foreclosure.

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Selected Questions from Survey Instrument:

How do you grade yourself in the following areas? (✓ one answer for each row)

	<i>Poor</i>	<i>Fair</i>	<i>Okay</i>	<i>Good</i>	<i>Excellent</i>
Controlling my spending	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paying my bills on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Planning for my financial future.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing for myself and my family.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saving money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowing how to find a mortgage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowing my current credit rating.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investing money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How often do you have the following symptoms? (✓ one answer for each row)

	Almost Never	Seldom	Some- times	Often	Almost always
Nightmares, insomnia, or restless sleep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Headaches/migraines <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stomach or back pain <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extreme tiredness or fatigue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feelings of embarrassment or inadequacy <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of appetite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of losing control <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>