

# Health Status of People Undergoing Foreclosure in the Philadelphia Region

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Mortgage foreclosures were filed on 2.3 million properties nationwide in 2008.<sup>1</sup> In Philadelphia, 15 659 properties received foreclosure filing notices in 2008, an increase of 98% from 2007.<sup>1</sup> The steep rise in foreclosures disproportionately affects vulnerable minority and low-income populations<sup>2,3</sup> and therefore has the potential to exacerbate disparities in health status and health care. Despite the magnitude of the mortgage foreclosure crisis, however, little is known about the relationship between health status and foreclosure.

Although the health status of homeowners has traditionally tended to be better than that of renters,<sup>4,5</sup> the financial and emotional stress of foreclosure may undermine the potential benefits of homeownership. Previous research has linked unaffordable housing (spending more than 30% of one's pretax household income on housing expenses) to reduced spending on health care<sup>6</sup> and a greater likelihood of not having insurance coverage.<sup>7</sup> Housing instability has also been associated with greater cost-related health care nonadherence among low-income individuals.<sup>8</sup> Foreclosure represents the extreme of unaffordable and unstable housing and, as such, might be expected to have similar health consequences.

Poor health may also be an important cause of foreclosure. Media coverage of and policy responses to the mortgage crisis have centered on the problems associated with adjustable-rate and subprime loans, predatory lending practices, and the economic recession.<sup>9-12</sup> However, there is reason to believe that ill health and medical expenses may contribute to delinquency on housing payments as well. Previous studies have shown that medical debt and ill health cause a substantial portion of personal bankruptcies in the United States.<sup>13,14</sup> Robertson et al. conducted a mail survey of individuals undergoing foreclosure in 4 states. They found that illness and medical expenses were among the causes of mortgage default for nearly half of the respondents.<sup>15</sup> In addition, analyses of

**Objectives.** We assessed the health status of people undergoing mortgage foreclosure in the Philadelphia region to determine if there was a relationship between foreclosure and health.

**Methods.** Participants were recruited in partnership with a mortgage counseling agency. Participants' health status and health care use were compared with a community sample from the 2008 Southeastern Pennsylvania Household Health Survey. We used publicly filed foreclosure records to assess response bias.

**Results.** Of the 250 people recruited, 36.7% met screening criteria for major depression. The foreclosure sample was significantly more likely than the community sample to not have insurance coverage (adjusted odds ratio [AOR]=2.28; 95% confidence interval [CI]=1.49, 3.48) and to not have filled a prescription because of cost in the preceding year (AOR=3.44; 95% CI=2.45, 4.83). Approximately 9% of the participants reported that their own or a family member's medical condition was the primary reason they were undergoing foreclosure. More than a quarter of those in foreclosure (27.7%) stated that they owed money to medical creditors.

**Conclusions.** Foreclosure affects already-vulnerable populations. Public health practitioners may be able to leverage current efforts to connect homeowners with mortgage counseling agencies to improve health care access. (*Am J Public Health.* 2009;99:1833-1839. doi:10.2105/AJPH.2009.161380)

2006 data from Freddie Mac showed that family illness caused a fifth of mortgage delinquencies.<sup>16</sup>

We partnered with a mortgage counseling agency to conduct a survey of Philadelphia-area residents undergoing foreclosure between July and October of 2008. Our goals were to assess the health status of people in foreclosure as compared with the general community and to determine how many foreclosures were primarily attributable to health-related causes.

## METHODS

In Pennsylvania, a lender can initiate a judicial foreclosure proceeding when a borrower is at least 60 days late on mortgage payments. The lender sends the borrower an "Act 91 notice," a letter that informs the borrower of his or her options for preventing foreclosure.<sup>17</sup> If the borrower is unsuccessful in repaying or rescheduling the delinquent mortgage debt, the lender can proceed with legal filings that eventually lead to sale of the foreclosed

property at auction. The process of foreclosure can require months or even years to fully play out.

In an attempt to decrease the number of foreclosures, a number of municipalities and lenders have proposed moratoria on auction sales of foreclosed properties while owners undergo mortgage counseling.<sup>18-20</sup> The city of Philadelphia was an early adopter of this approach, beginning in April 2008. Widespread media campaigns and a telephone hotline encouraged people in foreclosure to seek counseling services.<sup>21,22</sup> As a result of these efforts, many Philadelphia-area individuals whose homes are foreclosed seek mortgage counseling services.<sup>23</sup>

Our survey of homeowners in danger of foreclosure was conducted in partnership with Consumer Credit Counseling Services (CCCS) of Delaware Valley, a community-based mortgage counseling agency approved by the US Department of Housing and Urban Development that has 11 sites in Philadelphia and the surrounding counties. People are referred to CCCS and to other area counseling agencies via

multiple channels: foreclosure notices sent to property owners include a list of counseling agencies approved by the Department of Housing and Urban Development; Philadelphia's mortgage assistance hotline refers individuals to counseling agencies largely on the basis of the location and availability of counselors; and clients may be directed to CCCS by other service agencies, mortgage lenders, friends, or online searches. CCCS provides services free of charge to its clients.

CCCS mortgage counselors distributed our survey to new clients after intake visits. The survey was self-administered. Clients were eligible to participate if they were at least 2 months behind on their mortgage payments. Recruitment took place between July and October 2008.

### Measures

The survey instrument was developed in conjunction with the agency's mortgage counselors and leadership and pretested with clients. The survey recorded the age, race/ethnicity, education, current monthly household income, and household composition of the client, as well as features of the loan and the home under foreclosure. A single Likert-scale item was used to assess self-rated health status. Respondents were also asked about clinician-diagnosed chronic conditions and depression (via the 8-item Patient Health Questionnaire, which has been shown to have diagnostic validity).<sup>24</sup>

Other items addressed insurance status, cost-related health care and prescription nonadherence, health care use, and health-related behaviors. To determine cost-related health care nonadherence, we asked participants whether, in the preceding 12 months, they had been sick or injured and had not sought health care because of the cost involved. Similarly, the item focusing on cost-related prescription nonadherence asked participants whether they had neglected to fill a prescription because of cost in the preceding 12 months.

Participants were also asked to specify the most important reason they were undergoing foreclosure. Participants who, contra instructions, indicated more than one reason ( $n=76$ ) were excluded from our analyses. Men were more likely to provide a single reason; there were no other significant sociodemographic differences between those providing single and

multiple reasons. Further questions assessed medical spending, whether the respondent or someone in his or her household had experienced a hospitalization or major medical illness in the preceding year, and whether or not the respondent had any medical debts.

### Comparison Sample

To compare people undergoing foreclosure with the overall community, we used the Public Health Management Corporation's 2008 Southeastern Pennsylvania Household Health Survey (HHS),<sup>25</sup> a biennial random-digit-dialing survey. In 2008, 10 007 individuals in Philadelphia and its 4 surrounding counties (Bucks, Chester, Delaware, and Montgomery) took part in the HHS. In households with more than 1 eligible adult, the adult who had the last birthday prior to the interview was selected. Survey weights were employed so that the sample would be representative of the region.

### Statistical Analyses

We used bivariate techniques, the  $\chi^2$  test (for categorical data), the  $t$  test (for continuous variables), and the Wilcoxon rank-sum test (for median values) to compare the sociodemographic and health characteristics of our sample undergoing foreclosure and the community sample. We then estimated weighted, multivariable logistic regression models with foreclosure as the primary independent variable and each health indicator as the dependent variable. We incorporated confounders with known or hypothesized associations with health outcomes and foreclosure in our models, including multiple robust measures of different dimensions of socioeconomic status.<sup>26</sup>

We initially entered age, gender, and race/ethnicity into the models. We then added socioeconomic indicators: level of education, whether a household's income was less than 200% of the federal poverty level, and whether a respondent was unemployed.

In our sensitivity analyses, we used multiple chained imputations for missing items. In the case of measures for which more than 5% of values were missing (self-reported psychiatric conditions, cost-related prescription nonadherence, and household income below 200% of the federal poverty limit), we compared the sociodemographic characteristics of responders and nonresponders. No significant differences

were identified. Additional sensitivity analyses excluded participants in foreclosure who lived outside the 5 counties included in the HHS sample ( $n=10$ ) and limited the sample to people living in Philadelphia. Stata version 10.0 (StataCorp LP, College Station, TX) was used in conducting all of the analyses.

### Assessing Selection Bias

We assessed the potential for selection bias in 2 ways. First, we compared the average loan amount and value of the Philadelphia properties undergoing foreclosure in our sample ( $n=96$ ) with the analogous values for all owner-occupied properties in Philadelphia County that had undergone foreclosure between January 1 and October 30, 2008. Listings of properties, which are publicly filed court documents, were obtained from Realtytrac.com. In total, 8215 properties in Philadelphia were foreclosed during this period.

To limit our comparisons to owner-occupied properties, we excluded from the Realtytrac listing properties owned by banks or corporations ( $n=898$ ), owners who had more than one property in foreclosure ( $n=981$ ), and properties without information on property values ( $n=3763$ ) or loan amounts ( $n=5613$ ). In total, 2573 owner-occupied properties were compared with our sample to assess property values, and 723 were compared to assess loan amounts. The Wilcoxon rank-sum test was used to compare median values and amounts.

Second, CCCS provided sociodemographic data and property information for all individuals who received home foreclosure counseling between July and October 2008, regardless of whether they completed our survey ( $n=890$ ). We conducted bivariate analyses to compare our sample recruited through CCCS with the entire population served by CCCS.

## RESULTS

Two hundred fifty people were recruited into the study. Table 1 presents the sociodemographic characteristics of this population. Relative to members of the weighted community sample, members of the foreclosure sample were more likely to be female, to be Black, and to have children living at home. The socioeconomic status of our study participants tended to be lower than that of the community

**TABLE 1—Sociodemographic Characteristics of Foreclosure and Community Samples: Philadelphia Region, July–October 2008**

	Foreclosure Sample, No. (%) or Mean or Median (IQR)	Community Sample, <sup>a</sup> No. (%) or Mean or Median (IQR)	<i>p</i> <sup>b</sup>
Total, no. (%)	250 (100)	10 007 (100)	
Gender, no. (%)			.054
Male	99 (39.9)	4603 (46.0)	
Female	149 (60.1)	5404 (54.0)	
Age, y, mean	46.7	48.5	.241
Race/ethnicity, no. (%)			<.001
White	133 (53.4)	7038 (71.7)	
Black	95 (38.2)	2081 (21.2)	
Other	21 (8.4)	697 (7.1)	
Educational level, no. (%)			<.001
College graduate	74 (29.7)	4096 (41.2)	
Some college	87 (34.9)	2038 (20.5)	
High school or less	88 (35.3)	3818 (38.4)	
Marital status, no. (%)			.023
Married	140 (56.5)	6290 (63.5)	
Single	108 (43.5)	3615 (36.5)	
Children living at home, no. (%)			<.001
No	92 (37.6)	6435 (64.3)	
Yes	153 (62.5)	3572 (35.7)	
Employment status, no. (%)			<.001
Employed full or part time	172 (69.1)	6234 (62.7)	
Unemployed	51 (20.5)	656 (6.6)	
Retired or unable to work	26 (10.4)	3052 (30.7)	
Income <200% FPL, no. (%)			<.001
No	100 (48.8)	7535 (75.3)	
Yes	105 (51.2)	2471 (24.7)	
Lives in Philadelphia, no. (%)			>.30
No	153 (61.2)	6344 (63.4)	
Yes	96 (38.4)	3663 (36.6)	
Home value, \$, median (IQR)	210 000 (130 000–300 000)	...	
Loan amount, \$, median (IQR)	107 000 (65 000–185 000)	...	
No. of months behind in mortgage payments, median (IQR)	3.5 (3–6)	...	

Note. FPL = federal poverty level; IQR = interquartile range.

<sup>a</sup>Data were from the 2008 Southeastern Pennsylvania Household Health Survey. Survey responses were weighted.

<sup>b</sup> $\chi^2$  test for categorical variables, *t* test for continuous variable (age).

at large, with fewer college graduates, more unemployed individuals, and more individuals with household incomes below 200% of the federal poverty level.

### Health Status

Table 2 shows the health status of the foreclosure sample in comparison with the community sample. Although people undergoing

foreclosure reported significantly worse overall health than the general population, this finding was no longer significant after socioeconomic characteristics had been taken into account. Rates of asthma, arthritis, and diabetes did not differ significantly between the foreclosure and community samples. Members of the foreclosure sample were significantly more likely to have hypertension and heart disease.

Members of the foreclosure sample were significantly more likely than members of the community sample to have a clinician-diagnosed psychiatric condition, including depression and anxiety. Approximately 47% of the individuals undergoing foreclosure met screening criteria for depression (major or minor), and 36.7% met screening criteria for major depression. Among those meeting screening criteria for major depression, 44% had not been diagnosed with a psychiatric condition by a health professional. In comparison, 12.7% of the community sample had been diagnosed with depression by a medical professional; the rate at which members of the community sample screened positive for depression was unavailable.

Twenty-two percent of the foreclosure sample had no medical insurance, as compared with 8.2% of the community sample. After adjustment for demographic and socioeconomic characteristics, members of the foreclosure sample continued to be significantly more likely to not have insurance coverage. Rates of cost-related health care and prescription non-adherence were also significantly higher in the foreclosure sample than in the community sample, even after control for other socioeconomic indicators. No significant differences were noted with respect to emergency department use in the preceding 12 months.

Approximately one third of our participants were smokers, and 65% of these individuals reported an increase in smoking after receipt of their notice of foreclosure. Although the likelihood of smoking was higher in the foreclosure sample than in the community sample, this difference was no longer significant after control for socioeconomic characteristics. Nearly a third (31.0%) of the foreclosure sample reported binge drinking in the past month, with a median of 4 days of binge drinking per month (range: 1–30 days). More than half of the foreclosure sample (57.7%) reported food insecurity (assessed as skipping or delaying meals as a result of cost).

Sensitivity analyses in which missing data were imputed, in which people living outside the 5 counties included in the HHS, or in which the data set was limited to Philadelphia revealed similar patterns of results. In analyses involving imputed values and a sample limited to those living in Philadelphia, self-rated health was not

**TABLE 2—Health Status–Related Characteristics of Foreclosure (n=250) and Community (n=10 007) Samples: Philadelphia Region, July–October 2008**

	Foreclosure Sample, No. (%)	Community Sample <sup>a</sup> , No. (%)	P <sup>b</sup>	Model 1, AOR (95% CI)	P	Model 2, AOR (95% CI)	P
Fair or poor self-rated health <sup>c</sup>	74 (30.3)	1946 (19.5)	.004	1.50 (1.10, 2.05)	.011	1.32 (0.93, 1.85)	.116
Chronic conditions <sup>d</sup>							
Hypertension	99 (40.6)	3026 (30.3)	<.001	1.91 (1.43, 2.57)	<.001	1.67 (1.21, 2.32)	.002
Heart disease	30 (12.4)	1039 (10.4)	>.30	1.66 (1.07, 2.57)	.023	1.77 (1.11, 2.80)	.016
Diabetes	31 (12.7)	1039 (10.4)	>.30	1.17 (0.76, 1.79)	>.30	1.31 (0.83, 2.07)	.246
Asthma	36 (14.9)	1410 (14.1)	>.30	1.01 (0.69, 1.47)	>.30	0.88 (0.58, 1.34)	>.30
Arthritis	52 (22.1)	2269 (22.8)	>.30	1.18 (0.82, 1.70)	>.30	0.90 (0.59, 1.37)	>.30
Psychiatric conditions	83 (35.0)	1761 (17.7)	<.001	2.54 (1.91, 3.37)	<.001	1.96 (1.40, 2.73)	<.001
Health care use							
No insurance coverage	55 (22.5)	821 (8.2)	<.001	3.08 (2.17, 4.37)	<.001	2.28 (1.49, 3.48)	<.001
Emergency department visit in past year	97 (38.8)	3883 (38.8)	>.30	0.87 (0.67, 1.15)	>.30	0.74 (0.54, 1.01)	.056
Cost-related health care nonadherence	78 (32.2)	1159 (11.6)	<.001	3.26 (2.41, 4.42)	<.001	2.43 (1.71, 3.47)	<.001
Cost-related prescription nonadherence	106 (47.8)	1549 (15.5)	<.001	4.34 (3.23, 5.83)	<.001	3.44 (2.45, 4.83)	<.001
Current smoker	81 (32.7)	2033 (20.4)	<.001	1.69 (1.28, 2.24)	<.001	1.18 (0.84, 1.66)	>.30

Note. AOR = adjusted odds ratio; CI = confidence interval. Model 1 was adjusted for age, gender, race/ethnicity, and Philadelphia city residence. Model 2 was adjusted for age, gender, race/ethnicity, Philadelphia city residence, education, income below 200% of the federal poverty level, and unemployment status.

<sup>a</sup>Data were from the 2008 Southeastern Pennsylvania Household Health Survey. Survey responses were weighted.

<sup>b</sup> $\chi^2$  test.

<sup>c</sup>The foreclosure sample responded on a 5-point Likert scale; the community sample responded on a 4-point Likert scale.

<sup>d</sup>Based on a doctor or other health professional's diagnosis. In the foreclosure sample, psychiatric conditions were included in a single item addressing depression, anxiety, or other psychiatric problems. In the community sample, we used 2 separate items: "Have you ever been diagnosed with clinical depression?" and "Have you ever been diagnosed with any other mental health condition including anxiety or bipolar disorder?"

significant in the basic model, rates of asthma were significantly lower in the foreclosure sample, and differences in the likelihood of individuals not having insurance coverage were nonsignificant after control for socioeconomic indicators. Rates of smoking remained significantly higher among people undergoing foreclosure in the model that adjusted for socioeconomic status with the imputed data set.

### Reasons for Foreclosure

The most commonly reported reasons for foreclosure were not health related: 52.9% of the participants attributed their foreclosure mainly to job loss or a change in income, and 14.4% attributed it to changes in mortgage rates or utility costs (Table 3). However, 8.6% of people reported that their own or a family member's medical condition was the primary reason they were undergoing foreclosure, and an additional 6.3% cited death of a family member as the primary cause. More than a quarter of the members of the foreclosure sample (29.2%) had medical bills in excess of

\$1000 that were not covered by insurance, and 27.7% reported that they owed money to medical creditors.

### Selection Bias

Median property values were higher in our sample of Philadelphia homeowners than in a sample of properties undergoing foreclosure in Philadelphia during a similar time frame (\$130 000 vs \$104 000;  $z=3.29$ ;  $P<.01$ ).

There was no statistically significant difference in home loan median amount (\$65 000 in our sample vs \$71 314 in the general foreclosed population;  $z=-1.28$ ;  $P=.20$ ). Our participants were not statistically different from all clients seen at CCCS for mortgage counseling with respect to age, gender, race/ethnicity, whether they had children living at home, or income. Our sample was less likely to live in Philadelphia (38.6% vs 47.1%;  $\chi^2=5.71$ ;  $P=.02$ ), had

**TABLE 3—Primary Reasons Reported by Members of the Foreclosure Sample (n=174) for Being Behind on Mortgage Payments: Philadelphia Region, July–October 2008**

Primary Reason	Foreclosure Sample, No. (%)
Loss of job or decrease in income	92 (52.9)
Increase in mortgage payments	21 (12.1)
Medical costs, illness, or hospitalization	15 (8.6)
Death of a household member	11 (6.3)
Divorce or separation	9 (5.2)
High utility payments	4 (2.3)
Other	22 (12.6)

higher median home values (\$210 000 vs \$180 000;  $z=3.01$ ;  $P=.01$ ), and had lower median loan amounts (\$107 000 vs \$132 905;  $z=-2.54$ ;  $P<.01$ ) compared to the CCCS clientele in general.

## DISCUSSION

Our study indicates that people undergoing foreclosure in Philadelphia are a vulnerable population characterized by low socioeconomic status and high rates of chronic illness. Rates of major depression and cost-related medical nonadherence were quite high, even in comparison with other disadvantaged Philadelphia-area residents.

Our survey provides a cross-sectional view of the health of individuals in the midst of foreclosure, which is a process that can span months or even years. Without longitudinal data, we can only speculate about causal relationships; however, mechanisms linking foreclosure to worsened health both as a cause and as an effect can be postulated. Our findings suggest that a number of these mechanisms could be at work.

Mortgage foreclosure may be a result of poor health for a substantial subset of the population. Although ill health was not the most commonly reported reason for foreclosure in this study, many of our respondents attributed problems paying mortgage bills directly to poor health. The potential reasons for this situation are many: poor health may lead to job and income loss; illness in a family may force wage earners to forgo income to take care of sick loved ones; and high medical bills may cause people to fall behind on mortgage payments. The fact that many people in our sample had significant out-of-pocket medical expenses and owed money to medical creditors underlines the potential importance of this finding.

Conversely, poor health may be a result of foreclosure. The financial hardship associated with foreclosure may lead homeowners to cut back on “discretionary” health spending (e.g., spending on medications, doctor visits, and healthy food).<sup>27</sup> If sustained over time, the high rates of cost-related nonadherence and food insecurity seen in our survey seem likely to lead to poor health outcomes.

Foreclosure is also often accompanied by severe stress,<sup>28</sup> which may contribute to

health-undermining behaviors and to physical and mental illness. Although members of the foreclosure sample were not more likely than members of the community sample to smoke after socioeconomic factors had been taken into account, a substantial proportion did report an increase in both smoking and drinking after initiation of the foreclosure process. We also found that our sample had an exceptionally high rate of depressive symptoms (46.9%) and that a high percentage met screening criteria for major depression (36.7%), even in comparison with a national sample of people living in poverty (12.8% with major depressive disorder).<sup>29</sup>

Because the foreclosure process is lengthy, the stress associated with the process is likely to be ongoing in nature. The contrast between the dreams and expectations associated with home ownership and the experience of foreclosure may have played a role in the high rates of depressive symptoms observed in our study.

Foreclosure may also affect health through other mechanisms not assessed in our study, including disruption of social networks and health care arrangements,<sup>30,31</sup> decreasing tax revenues for municipal governments that provide health services for the needy,<sup>2</sup> and degradation of the social and physical infrastructure of neighborhoods heavily affected by foreclosure.<sup>32,33</sup> Finally, housing is one of the most important sources of wealth for low-income households in the United States,<sup>26,33,34</sup> and to the extent that wealth is a determinant of health status,<sup>35,36</sup> housing loss would be expected to have substantial effects on health.

In addition to harming the health of the individual undergoing foreclosure, these community-level mechanisms can be expected to have a detrimental effect on the health of community members who are not themselves undergoing foreclosure. Given the concentration of foreclosure in lower income neighborhoods and neighborhoods with higher percentages of residents of minority backgrounds,<sup>37</sup> there is the potential for this situation to further exacerbate health disparities.

## Limitations

Our study involved several important limitations. A first set of limitations is related to the potential for selection bias. Although the study population was similar to the foreclosed population in the Philadelphia region with

respect to measurable characteristics of the home and mortgage, there may still have been unobserved heterogeneity with respect to the population at large. People undergoing foreclosure who seek mortgage counseling may differ systematically from those who do not; people who selected CCCS for counseling may differ from those who chose other agencies in the Philadelphia area; and CCCS clients who agreed to participate in our study may differ from those who declined.

Surveys were distributed by mortgage counselors who, as a result of time and other resource constraints, were unable to hand out the instrument to all eligible individuals. Thus, we were not able to specify the denominator of people invited to participate or calculate a response rate.

The significant effort made by the city of Philadelphia to encourage people to receive mortgage counseling and the assignment of people to counseling agencies by the Philadelphia telephone hotline may have mitigated some of the potential for selection bias. We were unable to assess how participants were assigned to different agencies by hotline staff beyond their attempts to provide a convenient location. Given that CCCS has numerous offices throughout the region, their draw should be widespread.

Four other limitations are noteworthy. First, our measures were self-reported and thus subject to recall bias, particularly with respect to the primary cause of foreclosure. Many of the people in our sample reported more than a single reason for their foreclosure, indicating that foreclosure may be the result of a complex interplay of factors. Second, although survey items were designed to be parallel between the foreclosure and community samples, the wording of some of the questions differed slightly. Third, because our survey was cross sectional, causal interpretations of associations between health and foreclosure cannot be made.

Finally, our findings may not be generalizable to other areas of the country. Geographic areas differ with respect to underlying economic climate, rates of foreclosure, and laws governing the foreclosure process. At the beginning of our study period, unemployment rates were 6.0% in the Philadelphia metropolitan area, 8.0% in Philadelphia County, and

6.1% in the nation at large.<sup>38</sup> Foreclosure rates were substantially lower in Philadelphia than in the hardest-hit areas of the United States: Philadelphia's foreclosure rate was 77th among US metropolitan areas in 2008.<sup>1</sup> Pennsylvania uses a judicial foreclosure process, and Philadelphia has been aggressive in attempts to steer homeowners to mortgage counseling.

### Conclusions and Implications

Foreclosure affects already-vulnerable populations, including many people living below the federal poverty level and many families with children living at home. There is reason to be concerned that foreclosure may exacerbate current disparities in health. Many of our participants cited poor health as the primary cause of their foreclosure; nearly a quarter had high medical bills and owed money to medical creditors. Medical conditions and bills may worsen the emotional and financial stress faced by households undergoing mortgage foreclosure, and this increased stress may in turn exacerbate ill health (and may discourage people from obtaining further necessary medical care).

Health care organizations and public health practitioners may be able to leverage current efforts to connect homeowners with mortgage counseling agencies to promote increased access to health care. Philadelphia and other municipalities have attempted to increase the number of individuals undergoing mortgage counseling through letters, telephone hotlines, and advertising campaigns. Given the medical needs of the population undergoing foreclosure, these efforts should be leveraged to promote health.

Mortgage counseling agencies and public health practitioners can coordinate efforts to link individuals to medical and social services. Mortgage counselors can be trained to provide their clients with information about where to access the health care safety net, including community health centers and government agencies that may help enroll clients in public insurance programs. Crisis counselors or social workers can be placed at mortgage counseling agencies to provide direct assistance and advice.

Policy makers need to consider the connection between foreclosure and health as they craft policy responses to keep people in their homes. Increasing access to affordable health

care may, in some instances, lessen the risk of foreclosure and help mitigate potentially related health risks. ■

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### Contributors

C.E. Pollack and J. Lynch originated and designed the study, interpreted the findings, and contributed to writing the article. C.E. Pollack supervised study implementation, performed the statistical analysis, and led the writing.

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### Human Participant Protection

This study was approved by the University of Pennsylvania institutional review board.

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