



DIGITAL ACCESS TO SCHOLARSHIP AT HARVARD

Will the Public's Health Fall Victim to the Home Foreclosure Epidemic?

The Harvard community has made this article openly available. [Please share](#) how this access benefits you. Your story matters.

Citation	Bennett, Gary G., Melissa Scharoun-Lee, and Reginald Tucker-Seeley. 2009. Will the Public's Health Fall Victim to the Home Foreclosure Epidemic? PLoS Medicine 6(6): e1000087.
Published Version	doi:10.1371/journal.pmed.1000087
Accessed	February 19, 2015 12:14:57 AM EST
Citable Link	http://nrs.harvard.edu/urn-3:HUL.InstRepos:4553345
Terms of Use	This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA

(Article begins on next page)

Essay

Will the Public's Health Fall Victim to the Home Foreclosure Epidemic?

Gary G. Bennett^{1,2,3,4*}, Melissa Scharoun-Lee², Reginald Tucker-Seeley^{3,4}

1 Department of Psychology and Neuroscience, Duke University, Durham, North Carolina, United States of America, **2** Duke Global Health Institute, Duke University, Durham, North Carolina, United States of America, **3** Department of Society, Human Development & Health, Harvard School of Public Health, Boston, Massachusetts, United States of America, **4** Center for Community-Based Research, Dana Farber Cancer Institute, Boston, Massachusetts, United States of America

Introduction

Over two million United States households have been affected by home foreclosure (or “home repossession”) in 2008 alone [1], and the epidemic shows no signs of abating. Following market downturns caused by the bursting of the dot-com bubble, mortgage interest rates were sharply lowered in the US and abroad [2,3]. These actions resulted in massive home refinancing, dramatic increases in home demand, and higher home prices—from 1997–2006, home prices increased 124% in the US, with greater increases in Europe: 194% in Britain and 180% in Spain, and 253% in Ireland. Home ownership in the US also hit record levels [2,3,4] and was especially pronounced among racial/ethnic minorities, those of low socioeconomic status, and young adults [2], likely driven by the widespread availability of subprime mortgages [4,5]. However, housing supply soon outstripped demand, prices dropped, and many homeowners—more than 7.5 million in 2005—owed more than their homes were worth [6]. Between 2006 and 2008, foreclosure filings increased 225% in the US [1].

While the literature has not fully explicated the health effects of foreclosure, related exposures have been linked with increased risk for several mental and physical health conditions [7–13]. This, combined with the frequent finding that home ownership has largely positive associations with health and well-being [14–17], suggests that the current raft of home foreclosures may represent an increasing health threat.

Home Foreclosure as a Stressor

Losing a home through foreclosure is not a single occurrence. In the US, it is an often-protracted and highly aversive pro-

The Essay section contains opinion pieces on topics of broad interest to a general medical audience.

Summary Points

- While policy makers worldwide have scrambled to counter its economic effects, the potential health implications of home foreclosure have received little empirical attention.
- Home foreclosure can be viewed as a stressful life event of prolonged duration, with multiple phases of variable intensity.
- Although no studies to date have reported the specific health effects of home foreclosure, we posit that foreclosure may be associated with a range of psychological and health behavior outcomes that, in turn, might increase chronic disease risk.
- Susceptibility to home foreclosure might involve both compositional and contextual dimensions.
- Delinquency management policies designed to prevent foreclosures from occurring are arguably best suited to protect the health of those at greatest risk.

cess, usually beginning with mortgage delinquency, which may lead the lender to initiate the legal process of foreclosure, which, if unresolved, can result in homeowner eviction and repossession of the home. Home sale proceeds are wholly

retained by US banks, but in the United Kingdom and other nations, net profits (after debts are settled) are generally returned to homeowners. In the US, the foreclosure process differs substantially depending on the regulatory environment [18,19], may include judicial supervision [20], and can range from several months to over a year [21,22]. Thus, home foreclosure can be viewed as a stressful life event of prolonged duration, with multiple phases of variable intensity [23]. Indeed, several life event inventories [24,25] and semi-structured interviews [26] have included foreclosure among the range of assessed events. For example, on the widely used Social Readjustment Rating Scale [24], which rates the stressfulness of 43 life events, foreclosure was originally rated number 21 in 1967. In a 1997 update, however, foreclosure surged to number 11 [27]. Interpreting the available evidence is challenging because the analytic convention has been to sum items on life events inventories [28], rather than to examine discrete events, so we know little about the independent effects of foreclosure. However, we suspect that if foreclosure-related stress surpasses one's ability to cope [29], it may unduly affect psychological functioning and health behavior practices—important health endpoints as well as tightly interrelated mechanisms through which foreclosure may heighten risk for several chronic conditions (e.g., cardiovascular disease) [30].

Citation: Bennett GG, Scharoun-Lee M, Tucker-Seeley R (2009) Will the Public's Health Fall Victim to the Home Foreclosure Epidemic? *PLoS Med* 6(6): e1000087. doi:10.1371/journal.pmed.1000087

Published: June 16, 2009

Copyright: © 2009 Bennett et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Funding: GGB is supported by an award from the National Cancer Institute (K22CA126992). The funders had no role in the preparation of the manuscript or in the decision to publish.

Competing Interests: The authors have declared that no competing interests exist.

* E-mail: gary.bennett@duke.edu

Provenance: Commissioned; externally peer reviewed

Potential Psychological Responses to Home Foreclosure

The experience of stressful life events has been implicated in the etiology of both anxiety and depressive disorders [31–33]. There is particularly strong evidence that stressful life events are causally related with the initial episode of depression. The intensity of the foreclosure process may make it especially deleterious, as depression risk increases in a dose-response manner [34] with the severity and number of stressful life events experienced. Several additional issues are particularly concerning with respect to depression outcomes. First, it appears that chronic stressors (e.g., job strain, financial strain) can exacerbate the impact of adverse life events on depression outcomes, particularly when the domain of the two exposures is concordant. This is salient because home foreclosure typically occurs amidst long-term financial difficulties, and thus may be tied to chronic stressors that have known associations with adverse health outcomes [7–13]. For example, chronic financial strain has been positively associated with depressive symptomatology in populations from the US [35–38], UK [11], and China [39]. Next, relative to fateful occurrences, depression is more strongly related to stressful life events for which the individual perceives having some responsibility [34]. This belief might be particularly common among the foreclosed [40], despite widespread acknowledgment of deceptive mortgage industry practices [41–43]. Additionally, concern regarding one's limited personal control of the foreclosure process may also intensify the impact of stress on depression [44,45]. Several studies have shown that depressed individuals can act in ways that promote their subsequent exposure to additional negative life events (e.g., occupational problems, financial difficulties, interpersonal conflict) [46]. Together, there appears to be potential for the already daunting global burden of depression [47] (including its role as a risk factor for cardiovascular disease [48]) to be magnified by the foreclosure crisis.

Potential Impact of Home Foreclosure on Health Behaviors

Unhealthful behaviors may be used to cope with stressful life events. Stress is positively associated with myriad such health behaviors, including tobacco use [49,50], alcohol consumption [51], sleep dysregulation [52], and weight gain [53–56]—perhaps via decreased physical ac-

tivity [56] and increased consumption of energy-dense foods [57–59]. Home foreclosure may also impact health care utilization. Financially stressed individuals report fewer preventive doctor visits [60,61] and reduced prescription medication adherence [62]. If current economic trends continue, this may become increasingly common; a recent survey showed that given the economic climate over half of Americans aged 45 and older switched to generic or non-prescription drugs, 16% delayed preventive care, and over one-fifth delayed seeing a doctor [63].

Who Might Be Most Vulnerable to the Health Effects of Home Foreclosure?

Susceptibility to home foreclosure might involve both compositional and contextual dimensions. Those with lower socioeconomic status and some ethnic minorities may have higher likelihood and severity of exposure, as well as potential challenges in securing stress-buffering resources. At the individual level, most of those who experience foreclosures will not exhibit adverse health effects [64]. Even in the face of extreme stressors, most people are sufficiently resilient to stressful events [65]. However, individual characteristics such as prior psychiatric or adverse health histories [30], poor coping skills [35,66–68], low social support [35], neuroticism [69], low self-esteem [70], and highly valuing economic success [71] may heighten vulnerability.

The macroeconomic context has had profound and far-ranging effects that might exacerbate foreclosure's potential health effects. Unemployment in developed nations is at historic levels, and home prices show no immediate signs of rebounding. Soaring food, energy, and health care prices in recent years have added to the financial strain of the average household [2]. Whether the macroeconomic climate directly impacts individual health is disputed [72–75], but adverse contextual circumstances are more prevalent in times of economic decline and may interact with foreclosure to increase stress exposure. Among the range of problematic macroeconomic indicators [72–75], unemployment is arguably most concerning [7,76–78]. In better economic cycles, opportunities to mitigate the ill effects of job loss (e.g., re-employment, loan refinancing, social services) may be more plentiful. However, the combination of unemployment (which itself poses health risks [79–82]) and foreclosure in the current economic environment may be particularly deleterious.

When foreclosures occur, they are accompanied by significant externalities at the neighborhood level [83–85] that might impact resident's health. For example, foreclosures spur neighborhood disinvestment, home vacancies, and property abandonment [18], which can result in lower property values, reduced local services [22], and violent crime [86]. When foreclosures reach a critical mass [22], these varied problems can economically weaken the neighborhood [87] and create a sense of social disorder, fear, and distrust [88,89], all of which may negatively influence residents' health and health behaviors [90,91]. Neighborhoods hardest hit by the foreclosure crisis (older, urban areas [21,92]) were previously improving in stability [19,93]; however, continuous foreclosures in these neighborhoods may threaten stability and decrease resident social capital, which might in turn heighten associated health risks [94,95].

Priorities for Future Research

As noted, we are unaware of any studies that have specifically investigated the health effects of home foreclosure. In a closely related report, however, Taylor [96] recently showed that UK residents with housing payment problems had poorer levels of psychological well-being, independent of financial hardship. These psychological costs were positively related to financial problems of greater intensity and duration. Several questions emerge from this and other work. First, how does home foreclosure interact with other stressful life events (e.g., job loss, medical costs [79,97,98]) and/or chronic stressors (e.g., financial strain [11,99]) to impact health outcomes? Among the chronically stressed (e.g., those in persistent poverty), is a saturation effect observed, i.e., are such individuals more resilient to the stress of home foreclosure [100]? Also, it is unclear how the macroeconomic climate might exacerbate, or even inoculate (given the increasingly normative nature of foreclosure) individuals to foreclosure stress. Research is necessary to examine how home foreclosure impacts other household members, such as partners and dependent children [7]. Finally, given the social patterning of mortgage lending [44,101,102], future studies should examine whether widening of racial/ethnic and socioeconomic disparities in foreclosure-related health outcomes has occurred. Widespread variation in foreclosure exposure affords the unfortunate opportunity to study these and other questions using “natural experiment” investigations.

Policy Approaches

Two broad categories of home foreclosure remediation policies have received most attention: (1) those that prevent the onset of the foreclosure process, and (2) those that delay home eviction following mortgage delinquency. In the US for example, several states have passed legislation to help homeowners prevent foreclosures by increasing mortgage industry oversight, improving loan term disclosures, and requiring lenders to formally communicate with borrowers prior to foreclosure initiation. The Obama administration has introduced the Homeowner Affordability and Stability Plan, which allows for easier mortgage refinancing for non-delinquent homeowners. This is in contrast to a policy proposed by the former Bush administration (and endorsed by Obama as a candidate) that would have instituted national foreclosure moratoria, allowing more time for renegotiation of loan terms prior to eviction.

As foreclosure prevention policies have been debated over the past 18 months, health has been infrequently mentioned—perhaps understandable given the limited evidence of foreclosure’s health effects. Nevertheless, delinquency management policies designed to prevent foreclosures from occurring are arguably best suited to protect the health of those at greatest risk. Even though overextended homeowners’

chronic financial strain would likely continue, early intervention policies would ensure that individuals are protected from the exacerbating effects of foreclosure-related stress. This is in contrast to policies that extend the period of foreclosure preceding eviction. Although the individual and neighborhood benefits of such policies are not trivial, they also have the potential to transform home foreclosure into a chronic stressor, which could magnify stress exposure and health risks.

It is particularly challenging to determine which policies are most beneficial to the health of delinquent homeowners facing imminent eviction. Such policies are likely to vary considerably across nations, given differences in the magnitude of exposure as well as variation in societal perspectives regarding the provision of assistance for what may be perceived to be a “personal responsibility.” In the US for example, it seems unlikely that foreclosure prevention policies will be enacted with the specific goal of offsetting foreclosure-associated health risks, but other nations offer useful models. For example, the UK has recently announced a plan to facilitate referrals for psychological counseling to assist those facing unemployment and debt, including the scores affected by housing repossession [103]. Additionally, strategies that would assist families to identify permanent, affordable housing

might ease their residential transition following foreclosure.

Conclusion

Although current foreclosure rates are unprecedented, such economic downturns are generally thought to be cyclical, suggesting that recovery may be on the horizon [2]. However, the near-term outlook for many homeowners is poor, as home prices are expected to continue to decline. A recent United Nations report projected that 50 million job losses will occur worldwide, which will likely magnify the current foreclosure crisis [104]. Successful governmental responses to the foreclosure crisis specifically, and to the global economic crisis in general, will require health and social policy coordination that safeguards household income, stabilizes commodity prices, helps citizens maintain health care, and prevents disruption in children’s education [105]. In so doing, short- and long-term health effects of the foreclosure epidemic might be mitigated.

Author Contributions

ICMJE criteria for authorship read and met: GGB MSL RTS. Wrote the first draft of the paper: GGB. Contributed to the writing of the paper: GGB MSL RTS.

References

1. RealtyTrac Staff (2009) Foreclosure activity increases 81 percent in 2008. Available: <http://www.realtytrac.com/ContentManagement/pressrelease.aspx?ChannelID=9&ItemID=5681>. Accessed 5 May 2009.
2. Joint Center for Housing Studies of Harvard University (2008) The state of the nation’s housing 2008. Available: <http://www.jchs.harvard.edu/son/index.htm>. Accessed 5 May 2009.
3. The New York Times (2009) Credit crisis—The essentials. Available: http://topics.nytimes.com/topics/reference/timestopics/subjects/c/credit_crisis/. Accessed 5 May 2009.
4. [No authors listed] (2007 October 18) CSI: Credit crunch. *The Economist* (US) 385: 4.
5. (2001) Expanded Guidance for Subprime Lending Programs Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of Thrift Supervision. Available: <http://files.ots.treas.gov/25137.pdf>. Accessed 5 May 2009.
6. Christie L (2008) 7.5 million homeowners ‘underwater’. *CNN/Money*. Available: http://money.cnn.com/2008/10/30/real_estate/underwater_borrowers/index.htm?cnn=yes. Accessed 5 May 2009.
7. Dooley D, Fielding J, Levi L (1996) Health and unemployment. *Annu Rev Public Health* 17: 449–465.
8. Gallo WT, Bradley EH, Siegel M, Kasl SV (2000) Health effects of involuntary job loss among older workers: Findings from the health and retirement survey. *J Gerontol B Psychol Sci Soc Sci* 55: S131–S140.
9. Grossi G, Perski A, Lundberg U, Soares J (2001) Associations between financial strain and the diurnal salivary cortisol secretion of long-term unemployed individuals. *Integr Physiol Behav Sci* 36: 205–219.
10. Shortt SED (1996) Is unemployment pathogenic? A review of current concepts with lessons for policy planners. *Int J Health Serv* 26: 569–589.
11. Weich S, Lewis G (1998) Poverty, unemployment, and common mental disorders: Population based cohort study. *BMJ* 317: 115–119.
12. Belkic KL, Landsbergis PA, Schnall PL, Baker D (2004) Is job strain a major source of cardiovascular disease risk? *Scand J Work Environ Health* 30: 85–128.
13. Bosma H, Peter R, Siegrist J, Marmot M (1998) Two alternative job stress models and the risk of coronary heart disease. *Am J Pub Health* 88: 68–74.
14. Pollack CE, von dem Knesebeck O, Siegrist J (2004) Housing and health in Germany. *J Epidemiol Community Health* 58: 216–222.
15. Searle B, Smith S, Cook N (2009) From housing wealth to well-being? *Social Health Illn* 31: 112–127.
16. Dunn J, Hayes M (2000) Social inequality, population health, and housing: A study of two Vancouver neighborhoods. *Soc Sci Med* 51: 563–587.
17. Dietz RD, Haurin DR (2003) The social and private micro-level consequences of homeowner-ship. *J Urban Econ* 54: 401–450.
18. Mallach A (2009) Stabilizing communities: A federal response to the secondary impacts of the foreclosure crisis. *Metropolitan Policy Program* at Brookings. Available: http://www.brookings.edu/reports/2009/02_foreclosure_crisis_mallach.aspx. Accessed 5 May 2009.
19. Richter F (2008) An analysis of foreclosure rate differentials in soft markets. Federal Reserve Bank of Cleveland Working Paper No. 08-11. Available: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1316978. Accessed 5 May 2009.
20. Pence KM (2006) Foreclosing on opportunity: State laws and mortgage credit. *Rev Econ Stat* 88: 177–182.
21. Immergluck D (2007) Will “streamlining” the mortgage foreclosure process reduce vacancy and abandonment? Lincoln Institute of Land Policy Working Paper: WP07D11.
22. Schuetz J, Been V, Gould Ellen I (2008) Neighborhood effects of concentrated mortgage foreclosures. *J Housing Econ* 17: 306–319.
23. Brown GW, Harris T (1978) Social origins of depression. London: Tavistock Publications.
24. Holmes TH, Rahe RH (1967) The social adjustment rating scale. *J Psychosom Res* 11: 213.
25. Dohrenwend BS, Krasnoff L, Askenasy AR, Dohrenwend BP (1978) Exemplification of a method for scaling life events: The Peri Life Events Scale. *J Health Soc Behav* 19: 205–229.
26. Dohrenwend B, Raphael K, Schwartz S, Stueve A, Skodol A (1993) The structured event probe and narrative rating method for measuring stressful life events. In: Goldberger L, Breznitz S, eds. *Handbook of stress: Theoretical and clinical aspects*. pp 174–199.

27. Scully J, Tosi H, Banning K (2000) Life event checklists: Revisiting the social readjustment rating scale after 30 years. *Educ Psychol Meas* 60: 864.
28. Dohrenwend B (2006) Inventorying stressful life events as risk factors for psychopathology: Toward resolution of the problem of intracategory variability. *Psychol Bull* 132: 477.
29. Lazarus RS, Folkman S (1984) *Stress, appraisal, and coping*. New York: Springer Publishing Company. pp 445.
30. Schneiderman N, Ironson G, Siegel SD (2005) Stress and health: Psychological, behavioral, and biological determinants. *Annu Rev Clin Psychol* 1: 607–628.
31. Faravelli C, Pallanti S (1989) Recent life events and panic disorder. *Am J Psychiatry* 146: 622–626.
32. Kendler KS, Gardner CO, Prescott CA (2003) Personality and the experience of environmental adversity. *Psychol Med* 33: 1193–1202.
33. Finlay-Jones R, Brown GW (1981) Types of stressful life event and the onset of anxiety and depressive disorders. *Psychol Med* 11: 803–815.
34. Kendler KS, Karkowski LM, Prescott CA (1998) Stressful life events and major depression: Risk period, long-term contextual threat, and diagnostic specificity. *J Nerv Ment Dis* 186: 661–661.
35. Krause N (1987) Chronic financial strain, social support, and depressive symptoms among older adults. *Psychol Aging* 2: 185–192.
36. Angel RJ, Frisco M, Angel JL, Chiriboga DA (2003) Financial strain and health among elderly Mexican-origin individuals. *J Health Soc Behav* 44: 536–551.
37. Lincoln KD, Chatters LM, Taylor RJ (2005) Social support, traumatic events, and depressive symptoms among African Americans. *J Marriage Fam* 67: 754–766.
38. Chiriboga DA, Black SA, Aranda M, Markides K (2002) Stress and depressive symptoms among Mexican American elders. *J Gerontol B Psychol Sci Soc Sci* 57: P559–P568.
39. Krause N, Liang J, Gu S (1998) Financial strain, received support, anticipated support, and depressive symptoms in the People's Republic of China. *Psychol Aging* 13: 58–68.
40. Fields D, Libman K, Saeger S, Clark H, Justa F (2007) Understanding responses to the threat of foreclosure among low-income homeowners. Housing Environments Research Group. Available: <http://web.gc.cuny.edu/che/FinalReport7122007.pdf>. Accessed 5 May 2009.
41. [No authors listed] (2007 November 27) 'Predatory' politics. *The Wall Street Journal*. pp 18. Available: <http://online.wsj.com/article/SB119612958721004797.html>. Accessed 5 May 2009.
42. [No authors listed] (2007 February 7) Subprime politics. *The Wall Street Journal*. pp 14. Available: <http://online.wsj.com/article/SB117081934419800473.html>. Accessed 5 May 2009.
43. Schroeder M (2006 March 31) Mortgage lenders dismiss concerns over risky loans. *The Wall Street Journal*. pp 2. Available: <http://www.realestatejournal.com/buysell/mortgages/20060331-schroeder.html>. Accessed 5 May 2009.
44. Nettleton S, Burrows R (2001) Families coping with the experience of mortgage repossession in the 'new landscape of precariousness'. *Community Work Fam* 4: 253–272.
45. Benassi VA, Sweeney PD, Dufour CL (1988) Is there a relation between locus of control orientation and depression? *J Abnorm Psychol* 97: 357–367.
46. Hammen C (2006) Stress generation in depression: Reflections on origins, research, and future directions. *J Clin Psychol* 62: 1065–1082.
47. Mathers CD, Loncar D (2006) Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med* 3: e442. doi:10.1371/journal.pmed.0030442.
48. Rugulies R (2002) Depression as a predictor for coronary heart disease: A review and meta-analysis. *Am J Prev Med* 23: 51–61.
49. Bennett GG, Wolin KY, Robinson EL, Fowler S, Edwards CL (2005) Perceived racial/ethnic harassment and tobacco use among African American young adults. *Am J Public Health* 95: 238–240.
50. Colby Jr JP, Linsky AS, Straus MA (1994) Social stress and state-to-state differences in smoking and smoking related mortality in the United States. *Soc Sci Med* 38: 373–381.
51. Brady KT, Sonne SC (1999) The role of stress in alcohol use, alcoholism treatment, and relapse. *Alcohol Res Health* 23: 263–271.
52. Hall M, Buysse DJ, Nofzinger EA, Reynolds CF 3rd, Thompson W, et al. (2008) Financial strain is a significant correlate of sleep continuity disturbances in late-life. *Biol Psychol* 77: 217–222.
53. Smith AW, Baum A, Wing RR (2005) Stress and weight gain in parents of cancer patients. *Int J Obes (Lond)* 29: 244–250.
54. Korkeila M, Kaprio J, Rissanen A, Koshenvuo M, Sorensen TI (1998) Predictors of major weight gain in adult Finns: Stress, life satisfaction and personality traits. *Int J Obes Relat Metab Disord* 22: 949–957.
55. Fezeu L, Minkoulou E, Balkau B, Kengne AP, Awah P, et al. (2006) Association between socioeconomic status and adiposity in urban Cameroon. *Int J Epidemiol* 35: 105–111.
56. Nelson MC, Lust K, Story M, Ehlinger E (2008) Credit card debt, stress and key health risk behaviors among college students. *Am J Health Promot* 22: 400–407.
57. Dallman MF, Pecoraro N, Akana SF, La Fleur SE, Gomez F, et al. (2003) Chronic stress and obesity: A new view of "comfort food". *Proc Natl Acad Sci U S A* 100: 11696–11701.
58. Dallman MF, Pecoraro NC, la Fleur SE (2005) Chronic stress and comfort foods: Self-medication and abdominal obesity. *Brain Behav Immun* 19: 275–280.
59. Laitinen J, Ek E, Sovio U (2002) Stress-related eating and drinking behavior and body mass index and predictors of this behavior. *Prev Med* 34: 29–39.
60. Sterk C, Theall K, Elifson K (2002) Health care utilization among drug-using and non-drug-using women. *J Urban Health* 79: 586–599.
61. Virtanen P, Kivimaki M, Vahtera J, Koskenvuo M (2006) Employment status and differences in the one-year coverage of physician visits: Different needs or unequal access to services? *BMC Health Serv Res* 6: 123.
62. Cobaugh DJ, Angner E, Kiefe CI, Ray MN, LaCivita CL, et al. (2008) Effect of racial differences on ability to afford prescription medications. *Am J Health Syst Pharm* 65: 2137–2143.
63. Keenan T (2008) Impact of the economy on health behaviors. AARP Knowledge Management. Available: http://www.aarp.org/research/health/carefinancing/healthcosts_08.html. Accessed 5 May 2009.
64. Kessler RC (1997) The effects of stressful life events on depression. *Ann Rev Psychol* 48: 191–214.
65. Bleich A, Gekopf M, Solomon Z (2003) Exposure to terrorism, stress-related mental health symptoms, and coping behaviors among a nationally representative sample in Israel. *JAMA* 290: 612–620.
66. Chou KL, Chi I (2002) Financial strain and life satisfaction in Hong Kong elderly Chinese: Moderating effect of life management strategies including selection, optimization, and compensation. *Aging Ment Health* 6: 172–177.
67. Linn MW, Sandifer R, Stein S (1985) Effects of unemployment on mental and physical health. *Am J Public Health* 75: 502–506.
68. Moos RH, Brennan PL, Schutte KK, Moos BS (2006) Older adults' coping with negative life events: Common processes of managing health, interpersonal, and financial/work stressors. *Int J Aging Hum Dev* 62: 39–59.
69. Kendler KS, Kuhn J, Prescott CA (2004) The interrelationship of neuroticism, sex, and stressful life events in the prediction of episodes of major depression. *Am J Psychiatry* 161: 631–636.
70. Bifulco A, Brown GW, Moran P, Ball C, Campbell C (1998) Predicting depression in women: the role of past and present vulnerability. *Psychol Med* 28: 39–50.
71. Krause N, Baker E (1992) Financial strain, economic values, and somatic symptoms in later life. *Psychol Aging* 7: 4–14.
72. Catalano R, Bellows B (2005) Commentary: If economic expansion threatens public health, should epidemiologists recommend recession? *Int J Epidemiol* 34: 1212–1213.
73. Charles KK, DeCicca P (2008) Local labor market fluctuations and health: Is there a connection and for whom? *J Health Econ* 27: 1532–1550.
74. Laporte A (2004) Do economic cycles have a permanent effect on population health: Revisiting the Brenner hypothesis. *Health Econ* 13: 767–779.
75. Ruhm CJ (2004) Macroeconomic conditions, health, and mortality. National Bureau of Economic Research Working Paper No. 11007.
76. Cahill J (1983) Structural characteristics of the macroeconomy and mental health: Implications for primary prevention research. *Am J Community Psychol* 11: 553–571.
77. Colledge M (1982) Towards a sociological understanding of the impact of the recession on health and illness. *Soc Sci Med* 16: 1927.
78. Kasl SV (1982) Strategies of research on economic instability and health. *Psychol Med* 12: 637–649.
79. Burgard SA, Brand JE, House JS (2007) Toward a better estimation of the effect of job loss on health. *J Health Soc Behav* 48: 369–384.
80. Gallo WT, Bradley EH, Teng HM, Kasl SV (2006) The effect of recurrent involuntary job loss on the depressive symptoms of older US workers. *Int Arch Occup Environ Health* 80: 109–116.
81. Price RH, Choi JN, Vinokur AD (2002) Links in the chain of adversity following job loss: How financial strain and loss of personal control lead to depression, impaired functioning, and poor health. *J Occup Health Psychol* 7: 302–312.
82. Turner JB (1995) Economic context and the health effects of unemployment. *J Health Soc Behav* 36: 213–229.
83. Immergluck D, Smith G (2005) Measuring the effects of subprime lending on neighborhood foreclosures: Evidence from Chicago. *Urban Aff Rev* 40: 362–389.
84. Immergluck D, Smith G (2006) The external costs of foreclosure: The impact of single-family mortgage foreclosures on property values. *Housing Policy Debate* 17: 57–79.
85. Lin Z, Rosenblatt E, Yao VW (2009) Spillover effects of foreclosures on neighborhood property values. *Journal of Real Estate Finance and Economics* 38: Available: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1033437. Accessed 6 May 2009.
86. Immergluck D, Smith G (2005) The impact of single-family mortgage foreclosures on neighborhood crime. *Proceedings*. Available: <http://ideas.repec.org/a/fip/fedhpr/y2005iaprx6.html>. Accessed 6 May 2009.
87. Pedersen C, Delgadillo L (2007) Residential mortgage default in low- and high-minority census tracts. *Fam Consum Sci Res J* 35: 374–391.
88. Sampson RJ, Raudenbush SW (2004) Seeing disorder: Neighborhood stigma and the social

- construction of “Broken Windows”. *Soc Psychol Q* 67: 319–342.
89. Krause N (1996) Neighborhood deterioration and self-rated health in later life. *Psychol Aging* 11: 342–352.
 90. Carpiano RM (2006) Toward a neighborhood resource-based theory of social capital for health: Can Bourdieu and sociology help? *Soc Sci Med* 62: 165–175.
 91. Balfour JL, Kaplan GA (2002) Neighborhood environment and loss of physical function in older adults: Evidence from the Alameda County Study. *Am J Epidemiol* 155: 507–515.
 92. Grover M, Smith L, Todd RM (2008) Targeting foreclosure interventions: An analysis of neighborhood characteristics associated with high foreclosure rates in two Minnesota counties. *J Econ Bus* 60: 91–109.
 93. The Initiative for a Competitive Inner City (2008) Foreclosures and the inner city: The current mortgage crisis and its inner city implications. Available: http://www.icic.org/atf/cf/%7BC81898B2-76E9-4A18-B838-A3F65C9F06B9%7D/ICICReport_Foreclosur-esInnerCityFINAL%20080421.pdf. Accessed 6 May 2009.
 94. Kawachi I (1997) Social capital, income inequality, and mortality. *Am Public Health* 87: 1491–1498.
 95. Kawachi I, Berkman L (2003) *Neighborhoods and health*. Oxford: Oxford University Press.
 96. Taylor MP, Pevalin DJ, Todd J (2007) The psychological costs of unsustainable housing commitments. *Psychol Med* 37: 1027–1036.
 97. Ferrie JE, Shipley MJ, Marmot MG, Stansfeld S, Smith GD (1995) Health effects of anticipation of job change and non-employment: Longitudinal data from the Whitehall II study. *BMJ* 311: 1264–1269.
 98. Kessler RC, Turner JB, House JS (1987) Intervening processes in the relationship between unemployment and health. *Psychol Med* 17: 949–961.
 99. Kahn JR, Pearlin LI (2006) Financial strain over the life course and health among older adults. *J Health Soc Behav* 47: 17–31.
 100. Cairney J, Boyle M, Offord DR, Racine Y (2003) Stress, social support and depression in single and married mothers. *Soc Psychiatry Psychiatr Epidemiol* 38: 442–449.
 101. Bocian DG, Ernst KS, Li W (2008) Race, ethnicity and subprime home loan pricing. *J Econ Bus* 60: 110–124.
 102. Foote CL, Gerardi K, Goette L, Willen PS (2008) Just the facts: An initial analysis of subprime’s role in the housing crisis. *J Hous Econ* 17: 291–305.
 103. Barefoot JC, Heitmann BL, Helms MJ, Williams RB, Surwit RS, et al. (1998) Symptoms of depression and changes in body weight from adolescence to mid-life. *Int J Obes Relat Metab Disord* 22: 688–694.
 104. International Labour Office (2008) Global employment trends. Available: <http://www.ilo.org/public/english/employment/strat/download/get08.pdf>. Accessed 6 May 2009.
 105. World Health Organization (2009) The financial crisis and global health: Report of a high-level consultation. Available: http://www.who.int/mediacentre/events/meetings/2009_financial_crisis_report_en.pdf. Accessed 5 May 2009.