URBAN INSTITUTE

BRIEF # 01 JUN 2012

www.urban.org

Building Resilient Regions

INSIDE THIS ISSUE

- Many personal vulnerabilities correlate with precarious housing situations
- More than any other single factor, income shapes a person's ability to avoid precarious housing
- Race and nativity still have important independent relationships with living in precarious housing

The Built Environment and Household Vulnerability in a Regional Context

Rolf Pendall, Brett Theodos, and Kaitlin Franks

We can improve our insights about neighborhood, city, and regional dynamics if we understand them within and across multiple levels, from the individual to the global. Neighborhood and city resilience is threatened by high levels of vulnerability among residents, as amply demonstrated by recent disasters from New Orleans to Port-au-Prince to Peshawar. We know little, however, about the connections between precarious housing conditions, personal vulnerability, and regional resilience. Most work on metropolitan development focuses on neighborhoods within regions, but it is also important to begin at a finer scale of analysis—people and households—as a foundation for understanding how the concentration of people and housing in space influences regional outcomes.

A simple definition of resilience here might be "success under stress." It suggests the adaptations, adjustments, and reconfigurations that occur within dynamic systems and their subsystems in the face of strains, shocks, and crises (Derissen, Quaas, and Baumgärtner 2011). Vulnerability has intrinsic connections with resilience. Vulnerable people are, by definition, more likely than other people to suffer from a shock or strain in the first instance and will have trouble regaining or maintaining pre-shock levels thereafter. Regions composed of large numbers of vulnerable residents, by extension, face greater governance strains than those whose residents have fewer vulnerabilities.

We identify 10 illustrative vulnerabilities that potentially hinder people's life chances, and we explore how these potential personal vulnerabilities overlap with precarious housing situations in 84 metropolitan areas. The vulnerable factors we explore include age, race, immigration, family structure, poverty, education, and health.

We also identify five types of housing situations that may be precarious—conditions describing either the physical structure of the building or the relationship between a family and its home. These situations include overcrowding, high housing cost burdens, and precarious dwelling units, such as rental units, older units, and units of particular structure

> When personal vulnerabilities and precarious housing coincide, families are especially at risk.

types—specifically, multifamily dwellings and mobile homes. Housing units in these situations are more likely than other units to change in the face of stress; even when the units do not change, the households living in these situations are at greater risk for being adversely affected. Of course, when personal vulnerabilities and precarious housing coincide, families are especially at risk.

We use data from the aggregated 2005–07 American Community Survey, extracted from the IPUMS-USA database (Ruggles et al. 2010). Our data cover 84 metropolitan areas in the United States and represent more than 198 million people, nearly two-thirds of the national population. We selected the top 50 metropolitan areas in population terms and supplemented them with additional metropolitan areas in parts of the United States that lack large metro areas.

Individuals with Multiple Vulnerabilities

The coincidence of vulnerabilities was high among African Americans, Hispanics, and recent immigrants. Over a third (35 percent) of **African Americans** had one other vulnerability, and a quarter had two others. Among these additional vulnerabilities, living in single-parent households (45 percent) or households with income below the federal poverty level (25 percent) were the most common for blacks. Only 18 percent of **Hispanics** had no other vulnerabilities; almost as many (17 percent) had three or more additional vulnerabilities.

More **children under 18** had no other vulnerabilities than had one or more additional vulnerabilities; the most common additional vulnerabilities in 2005–07 included living in single-parent households (31 percent) or living in poverty (18 percent). At the other end of the age spectrum, over half of those **75 and older** reported at least one disability. Over a quarter of those over 75 lacked a high school diploma. About 17 percent of those over 75 reported living below the poverty level.

In all, only 30 percent of residents in 2005–07 had none of the personal vulnerabilities we tracked (table 1). Slightly more, about 32 percent, had one vulnerability, and 21 percent had two. The balance, 17 percent, had three or more vulnerabilities.

About 22 percent of people lived in **single-parent households.** About 35 percent of people in single-parent households were children; 27 percent were non-Hispanic black, and one-quarter were Hispanic. One in four people in single-parent households lived in poverty.

About 14 percent of residents lived in **poverty** in 2005–07. While poverty afflicts only a minority of Americans, that minority faces enormous challenges not only because they have too little income but also because they usually have other vulnerabilities. Over 63 percent of those living below the poverty level had at least two additional vulnerabilities. Two-fifths of people in poverty lived in single-parent households, and about a third were children.

Twelve percent of people in the sample had at least one **disability.** Over two-fifths of the disabled population had two or more additional vulnerabilities, the most common of which were not having graduated from high school (27 percent), being 75 or older (25 percent), and living below the poverty level (24 percent).

Almost 11 percent of those over 18 years old had **not graduated from high school.** A quarter of nongraduates had three or more other vulnerabilities, and nearly a third had two others, making them one of the adult groups facing the most serious personal challenges. Only 14 percent had no other potential vulnerabilities.

Households with Multiple Vulnerabilities

Since most people live together in households, we can better understand personal vulnerability by describing the range of vulnerability within households. People who themselves have many vulnerabilities but live with others who have few or no vulnerabilities may be better protected than those with few vulnerabilities within a household of other people facing many personal challenges.

Across all households with more than one member, increasing personal vulnerability is associated with higher vulnerability among others in the household. Among those who lived in multiperson households, over 90 percent of those with no vulnerabilities shared their dwellings with people who had, on average, one vulnerability or less. At the other end of the scale, over half of people with three or more vulnerabilities in multiperson households lived with others who had three or more vulnerabilities.

This correlation is, of course, partly definitional and predictable. Everyone in a single-parent household, for example, has that vulnerability. Because of the correspondence of family arrangements and household structure, most people in poverty (57 percent) lived in households composed entirely of people below the poverty level. Household homogeneity is very strong for black non-Hispanics, 94 percent of whom lived in all-black households. About 84 percent of Hispanics shared their housing only with other Hispanics.

The Relationship between Household Vulnerability and the Built Environment

On most of our measures, vulnerable people live in precarious housing conditions more often than those without these vulnerabilities. Here, we define housing as precarious if it is more susceptible to change. That includes rental, older, and multifamily housing. It also includes two factors at the intersection of the built environment and family conditions: unaffordable and overcrowded housing. While we label these factors as precarious, we acknowledge that they are multifaceted. For example, renting is likely a more stable scenario than owning for some families, and

Table 1. Vulnerability and Precarious Housing, 2005–07

			PERCENTAGE WITH PRECARIOUS HOUSING				
Vulnerability	Number of People	Percentage of People	Unaffordable	Overcrowded	Rented	Pre-1970	Multifamily
Black non-Hispanic	26,005,400	13.6	39.0	8.3	51.5	53.0	49.1
Hispanic	34,443,698	17.6	39.8	23.4	48.9	49.2	47.0
American Indian (non-Hispanic)	708,202	0.4	29.9	11.0	42.8	39.6	38.2
At least one disability	21,770,521	11.9	35.0	4.2	34.8	52.0	40.9
Post-1990 immigrant	18,525,545	9.5	39.2	23.1	56.9	45.0	58.9
Less than HS education	20,073,312	10.7	38.0	15.7	46.4	55.9	47.7
Single-parent household	43,871,860	22.1	40.6	11.1	51.1	51.6	48.0
Below federal poverty level	23,415,886	13.9	76.5	19.2	69.4	52.6	60.5
Under 18	49,497,367	25.0	34.7	13.9	34.6	41.9	31.5
75 or over	9,543,270	5.2	28.1	1.2	22.5	55.7	38.7
Number of vulnerabilities							
None	59,706,820	30.1	1.3	15.0	17.3	39.9	23.9
One	62,461,626	32.1	4.6	23.1	24.7	41.8	29.1
Two	39,445,429	20.6	11.5	34.7	39.7	48.0	41.6
Three or more	32,208,284	17.2	20.7	54.4	63.0	54.3	57.0
Average (all people)	193,982,450	100.0	28.1	7.7	31.9	44.6	34.7

Source: Authors' calculations of data from the 2005–07 American Community Survey.

overcrowding can reduce housing costs. But on the whole, families in these precarious settings have less control over their housing situations and are at greater risk for change.

Descriptive Findings

People with almost all these potential vulnerabilities are more likely to rent than those without them. The exception is those 75 years old or older; less than a quarter of seniors rent. Almost 70 percent of people in poverty live in rental housing, as do 57 percent of post-1990 immigrants. About half of blacks, people in single-parent households, and Hispanics live in rental housing.

About 45 percent of people live in structures built before 1970. Seven of the 10 potential vulnerabilities are associated with living in older housing. Although structure ages vary across regions, most of these relationships held true across regions; the most important exception to this rule is recent immigrants.

Among the vulnerable groups, only children do not live disproportionately in dwellings other than single-family units. About 35 percent of people in these metro areas lived in homes other than single-family detached units. By contrast, about 60 percent of post-1990 immigrants and those below the poverty level did not live in single-family units; about a quarter of people in each of these two categories live in small and medium apartment buildings (5–19 and 20–49 dwellings, respectively), compared with only 12 percent of everyone in these metro areas. About 45 to 50 percent of black non-Hispanic people, Hispanic people, high school nongraduates, and people in single-parent households did not live in single-family detached housing.

Disabled people and especially older seniors sort differently across structure types than other people. They are much more likely to live in group quarters; about 9 percent of seniors and 7 percent of those with at least one disability live in group quarters compared with less than 2 percent of others. Older seniors and the disabled are also more likely to live in large structures (50 or more units) and mobile homes or trailers than others. These large structures, however, may offer better

support services and security staff to protect the health and safety of their residents. For both seniors and the disabled, living alone in an older single-family house in a changing neighborhood may be more difficult than living in a rental multifamily unit.

We define **unaffordable housing** as costing more than 35 percent of a person's income. Nearly two-fifths (39 percent) of people living in rental housing had unaffordable housing; overpayment was lower for those in owner-occupied housing (23 percent).[1] All the potential vulnerabilities associate strongly with unaffordable housing, except for people over 75 (table 1).

An estimated 8 percent of these metros' residents lived in dwellings with more than one person per room, the federal standard for **overcrowded** units. Eight of the 10 aspects of vulnerability are associated with higher-than-average rates of crowding.

All these precarious housing conditions become more common as the number of personal vulnerabilities increases. Over one-fifth of people with three or more vulnerabilities (of whom there are more than 30 million in these 84 metro areas) lived in overcrowded housing units, a rate 15 times higher than that for people with no vulnerabilities. Over half of these most vulnerable people also lived in unaffordable housing (54 percent), rental housing (63 percent), pre-1970 housing (54 percent), or attached housing or mobile homes (57 percent).

Multivariate Findings

Binary logit regressions identify the independent relationships between each potential vulnerability and housing outcomes. The dependent variables in the regressions are the five precarious housing situations. Since tenure may change the relationship between personal vulnerabilities and exposure to other precarious housing conditions, we conducted separate regressions for renters and owners for the other four precarious conditions. To account for the impact of additional vulnerabilities within the same household, we included other household members' average number of vulnerabilities. Sex, number of persons in the household, and being a recent veteran are also included as control variables. We control for broader housing market conditions by including 15 broad regional locations as fixed effects in the model; we do not report on these fixed effects, though in all cases the signs and magnitudes were consistent with our expectations. With such a large number of cases, all our explanatory variables were statistically significant.[2]

Income has significant negative relationships with all precarious housing conditions (table 2). That is, as household income rises, an individual becomes less likely to rent, overpay, or live in overcrowded, old, or attached housing. Income (unsurprisingly) has the largest association with the probability of almost every precarious housing outcome, underscoring the long-standing contention that income support is among our best housing policies.

Age has significant quadratic relationships with all precarious housing conditions. The propensity to rent, overpay, or overcrowd increases with age, but this impact diminishes over time. The propensities to overcrowd and to live in single-family housing decline with age, but this, too, slows over time.

All other vulnerabilities raise the probability of **renting.** Renting, in turn, associates independently with higher odds of overcrowding, living in old housing, and living in attached housing.

Immigrants, Hispanics, and people with **less than a high school education** are more likely to live in precarious housing after tenure is accounted for (figure 1). Immigrant renters are twice as likely to overcrowd and to live in multifamily housing as nonimmigrant renters, all else being equal. Immigrant homeowners are over 1.5 times more likely to live in unaffordable housing. Immigrant owners also are 1.6 times more likely to overcrowd and 1.8 times more likely to live in attached or mobile homes than other homeowners. Independent of whether they are recent immigrants, Hispanic renters and owners alike have higher odds of overcrowding, living in old housing, and living in attached housing. Those with less than a high school education also have elevated risk of overcrowding and living in old housing. **American Indians** also have somewhat elevated risk of all three remaining precarious conditions (all, that is, except overpayment).

Black non-Hispanics are only about 75 percent as likely as others to live in crowded housing, net of household size and income; blacks are, however, more likely to live in old and attached housing, with black owners much more likely to live in old housing and black renters much more likely to live in attached housing. People in **single-parent households,** like black non-Hispanics, are less likely than others to overpay or overcrowd; those who own homes are somewhat more likely to live in attached and older housing units than are those in other household types. People with at least one **disability** have slightly lower odds than others of overpaying and living in overcrowded housing, but they are slightly more likely than others to live in old housing.

Visualizing Vulnerability

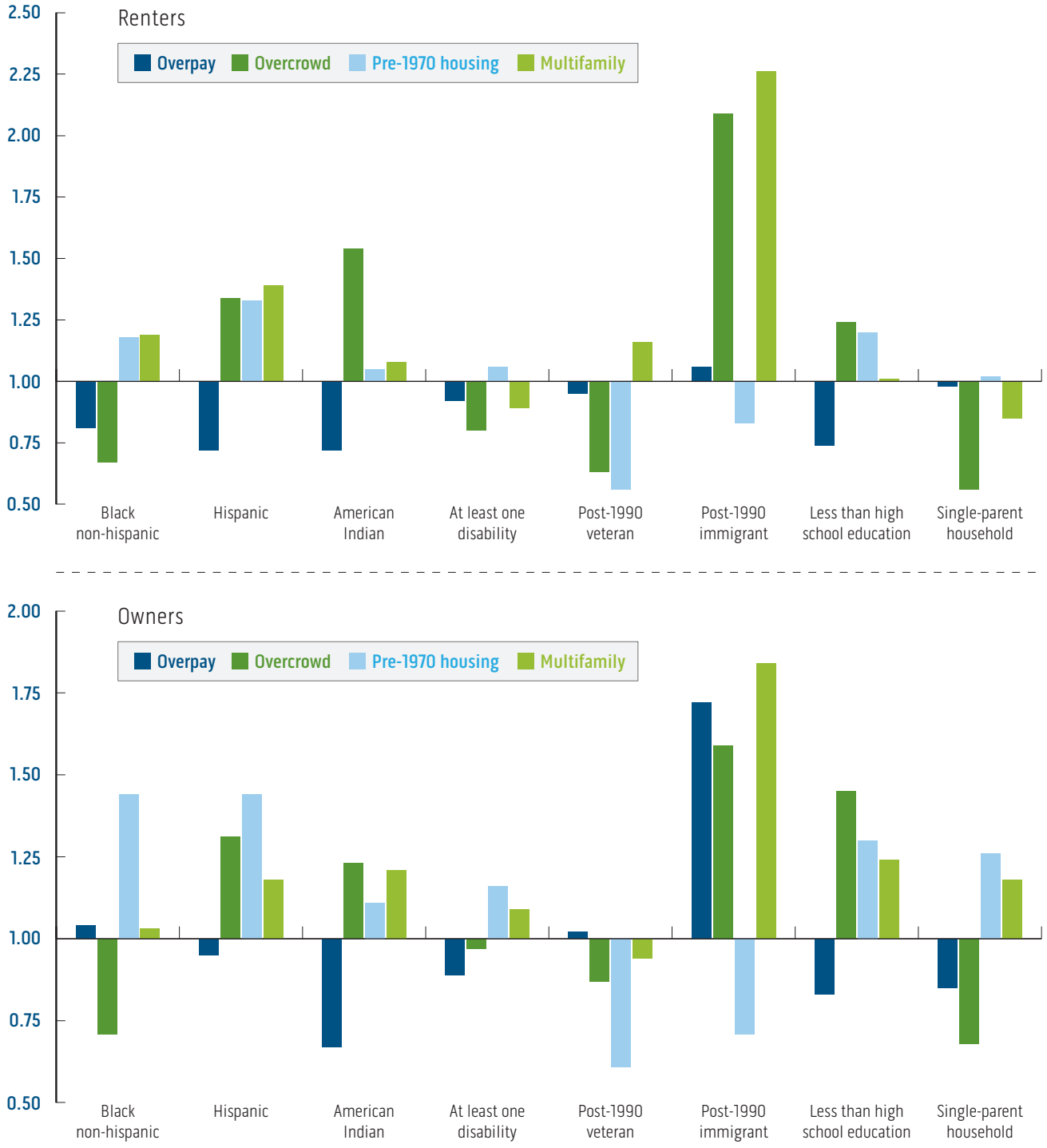
To help visualize the corollaries of personal vulnerabilities in housing markets, we estimate the probability that each of three hypothetical people will experience a particular housing outcome. All live in a metropolitan area in the South Central region. Jim, Frank, and Larry are all 37-year-old high school graduates; all are married with one child. Jim and Frank are white non-Hispanic, and Larry is black non-Hispanic. Jim and Larry both have household incomes of $40,000 a year; Frank's household income is $12,000.

Table 2. Regression Results: Vulnerability and Precarious Housing, 2005–07

		OVERPAY		OVERCROWD		PRE-1970 HOUSING		MULTIFAMILY	
Coefficients	Rent	Owners	Renters	Owners	Renters	Owners	Renters	Owners	Renters
Black non-Hispanic	0.4158	0.0381	-0.2144	-0.3472	-0.2602	0.3659	0.1669	0.0306	0.1769
Hispanic	0.0790	-0.0484	-0.3305	0.2696	0.2934	0.3646	0.2885	0.1681	0.3290
American Indian	0.3544	-0.4033	-0.3231	0.2075	0.4333	0.1048	0.0523	0.1923	0.0741
At least one disability	0.1253	-0.1145	-0.0854	-0.0346	-0.2185	0.1505	0.0569	0.0887	-0.1114
Post-1990 veteran	0.4779	0.0190	-0.0554	-0.1339	-0.4653	-0.4975	-0.5730	-0.0648	0.1442
Post-1990 immigrant	0.7732	0.5398	0.0561	0.4642	0.7377	-0.3411	-0.1923	0.6117	0.8146
Less than HS education	0.3285	-0.1874	-0.3070	0.3704	0.2190	0.2614	0.1811	0.2118	0.0056
Single-parent household	0.1179	-0.1668	-0.0173	-0.3865	-0.6016	0.2335	0.0210	0.1687	-0.1632
Vulnerability of others in household	0.3747	0.1070	-0.0383	0.4619	0.3517	0.0842	0.0482	0.2012	0.1428
Household size	-0.1760	0.0986	0.1886	1.2885	1.1086	0.0363	0.0741	-0.1797	-0.3467
Male	0.0406	-0.0262	-0.0195	0.0321	0.0291	0.0348	0.0685	0.0177	-0.0408
Age (decades)	0.0072	-0.1466	0.0833	-0.0498	-0.2530	0.0777	0.1121	-0.0095	-0.1288
Age (decades), squared	-0.0005	-	-0.0130	-	0.0288	-	-0.0082	-	0.0083
Household income ($000)	-0.0188	-0.4030	-1.0139	-0.0977	-0.0586	-0.0473	-0.0297	-0.0620	-0.0478
Household income ($000) squared	1.81E-05	2.92E-05	4.70E-05	6.10E-06	4.44E-06	5.72E-06	4.00E-06	6.44E-06	5.59E-06
Constant	1.6174	0.9141	3.5019	-9.5501	-5.8584	-1.5787	-0.5546	-1.3584	2.4527
Odds ratios									
Black non-Hispanic	1.516	1.039	0.807	0.707	0.771	1.442	1.182	1.031	1.193
Hispanic	1.082	0.953	0.719	1.309	1.341	1.440	1.334	1.183	1.390
American Indian	1.425	0.668	0.724	1.231	1.542	1.111	1.054	1.212	1.077
At least one disability	1.134	0.892	0.918	0.966	0.804	1.162	1.059	1.093	0.895
Post-1990 veteran	1.613	1.019	0.946	0.875	0.628	0.608	0.564	0.937	1.155
Post-1990 immigrant	2.167	1.716	1.058	1.591	2.091	0.711	0.825	1.844	2.258
Less than HS education	1.389	0.829	0.736	1.448	1.245	1.299	1.199	1.236	1.006
Single-parent household	1.125	0.846	0.983	0.679	0.548	1.263	1.021	1.184	0.849
Vulnerability of others in household	1.454	1.113	0.962	1.587	1.422	1.088	1.049	1.223	1.154
Household size	0.839	1.104	1.208	3.627	3.030	1.037	1.077	0.836	0.707
Male	1.041	0.974	0.981	1.033	1.030	1.035	1.071	1.018	0.960
Age (decades)	1.007	0.864	1.087	0.951	0.776	1.081	1.119	0.991	0.879
Age (decades), squared	1.000	–	0.987	–	1.029	–	0.992	–	1.008
Household income ($000)	0.981	0.668	0.363	0.907	0.943	0.954	0.971	0.940	0.953
Household income ($000) squared	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Number of observations (unweighted)	4,857,270	3,714,091	1,143,179	3,714,091	1,143,179	3,714,091	1,143,179	3,657,801	1,134,746
Percentage of observed correctly predicted									
Without vulnerability	90.2	94.7	86.5	99.2	96.2	76.5	65.5	99.6	22.1
With vulnerability	50.9	42.5	80.1	47.3	54.3	50.2	65.8	2.6	94.4
Total	78.4	83.4	84.1	96.8	88.8	65.5	65.7	85.5	73.5

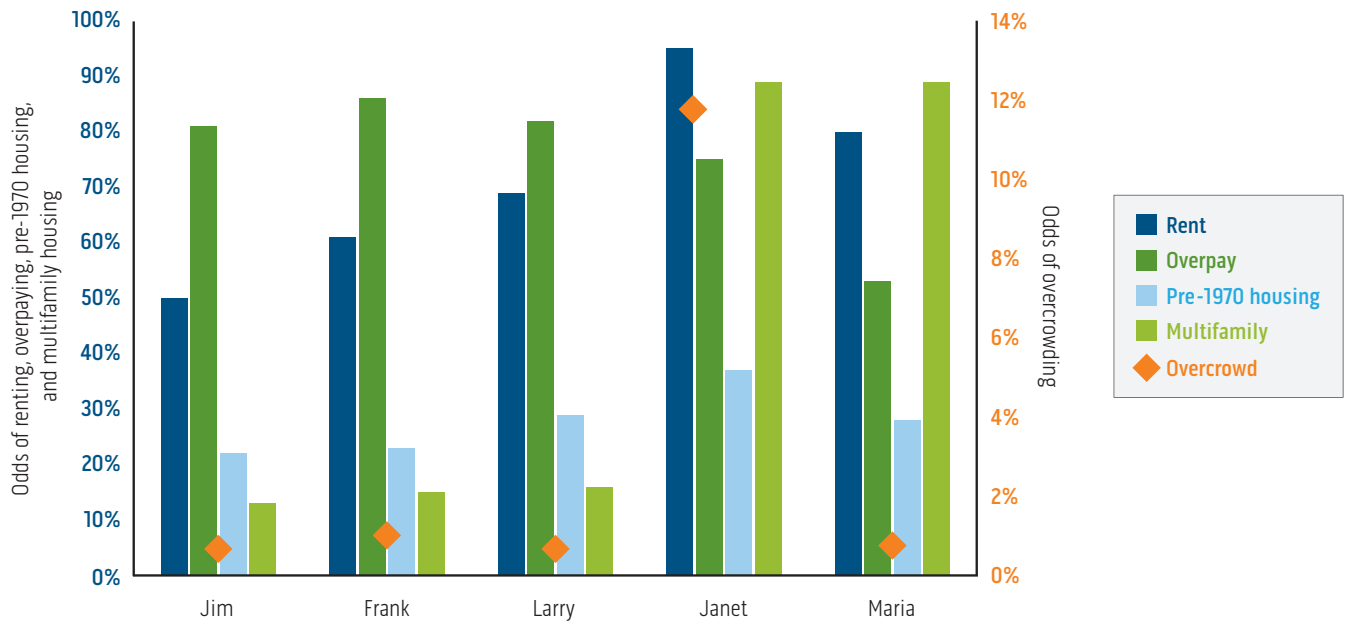
Source: Authors' calculations of data from the 2005–07 American Community Survey.
Notes: All coefficients are significant at less than 0.001% confidence level. Results with two few observations are set to missing (–). Regional fixed effects are omitted.

Figure 1. Independent Odds of Experiencing Precarious Housing by Vulnerabilities, Renters and Owners, 2005–07



Source: Authors' calculations of 2005–07 American Community Survey data.

Figure 2. Odds of Five Hypothetical People Experiencing Precarious Housing, 2005–07



Source: Authors' calculations of 2005–07 American Community Survey data.

Income differences have a large effect on housing outcomes (figure 2). Frank, who resembles Jim in all respects but two (income and vulnerability of other household members), is 20 percentage points more likely to rent than Jim and 30 percentage points more likely to overpay. The income difference has a much more modest impact on living in old or attached housing. Larry also resembles Jim in all respects but two (race and vulnerability of other household members); because Larry is African American, he has a 43 percent probability of renting, compared with 26 percent for Jim. He is also nearly 10 percentage points more likely to live in old housing than Jim.

We also estimate the probability that that two additional hypothetical people in the South Central region—Janet, a 28-year-old Haitian immigrant, and Maria, a 78-year-old Mexican immigrant—will experience a particular housing outcome. Neither has a high school diploma, both rent their housing, and both immigrated to the United States after 1990. Janet earns $15,000 a year and is the single parent of two children. Maria earns $6,000 a year and lives alone.

Janet and Maria have multiple vulnerabilities; both of them rent. Renting raises their odds of experiencing any other precarious housing condition. If Janet were a homeowner, her odds of overcrowding and living in attached housing would decline significantly. Her odds of overpayment would not change, however, and her odds of living in old housing would increase by 9 percentage points. Maria, by contrast, would have a much lower probability of both overpayment and living in attached housing if she owned her home. This is not to say, of course, that changing these renters into homeowners would somehow automatically reduce their exposure to other precarious conditions. Many complex factors are not modeled here and undoubtedly shape housing outcomes.

Policy Implications

Today's political, social, and economic environment hinders a concerted response to concentrated personal, household, or neighborhood vulnerability. Responses often focus on a single vulnerability (e.g., disability or the lack of a high school diploma) while ignoring other challenges within the same person or household.

Reducing precariousness in housing is especially important in light of our findings about the "piling on" of selected vulnerabilities. A few vulnerabilities strongly correlate with others; about a third of those in poverty, in particular, have three or more other

vulnerabilities, and nearly another quarter have two others. Non–high school graduates, blacks, Hispanics, recent immigrants, and people in single-parent households also have a high incidence of other vulnerabilities that may reduce their resilience from stresses on themselves, their households, or their broader environments.

Whether a person has one of the vulnerabilities we examined, she has the potential to bear a greater burden if she shares housing with children, elders, disabled people, recent immigrants, or people subjected to discrimination because of their skin color or ethnicity. In fact, most of those living with vulnerable people have vulnerabilities of their own.

While the measures of precarious housing we used cannot capture the full range of conditions that can cause the instability in housing that accompanies environmental strains or shocks, we find substantial confirmation for our assumption that many personal vulnerabilities correlate with precarious housing situations.

Holding these conditions constant, we find that income matters more than any other single factor in Americans' ability to avoid precarious housing, but that race—particularly being African American—and nativity still have important independent relationships with living in precarious housing. If Hispanic immigrants do own their houses, they are also more likely than otherwise similar native-born African Americans to overpay, overcrowd, and live in multifamily detached dwellings. The continued significance of race and ethnicity demonstrate the durable legacy of centuries of legalized racial discrimination.

Our findings about overcrowding merit further comment and reveal the complexity of the relationship between personal vulnerability and precarious housing situations. In the 1990s, many immigrant and Hispanic families had crowded in extended family households, saving for a down payment and establishing themselves in the labor force. In the 2000s, mortgages became easier and cheaper to obtain, and many subfamilies formed their own households (Ong and Ong 2009). When they did so, however, affordability declined both for themselves and for their "origin" households. In short, "cheap" mortgages often created two highly precarious housing situations (two households overpaying) out of one ambiguously precarious situation (one crowded household). Since the housing crash, many households have responded to the shock by recombining (Painter 2010).

With the ability to relate potential housing challenges to vulnerabilities that we can forecast, policymakers can gauge with reasonable accuracy the nature, magnitude, and geography of areas of future housing concern. The findings confirm, for example, that African American households are disproportionately likely—even holding constant their incomes—to live in older housing units, meaning that the wealth-building potential of homeownership must be balanced against the costs of living in old houses. Sometimes these costs come suddenly, as when an old roof or boiler needs replacement.

Many of the precarious housing situations we examined here are significant not only for their occupants but also for their cities and regions. Efforts to reduce the potential impacts of precarious housing upon vulnerable people will require at least some regional responses. Historically, the most seriously precarious housing conditions have occurred in central cities, obscuring their importance in regional markets. By now, however, overcrowding, old housing, overpayment, renting, and multifamily housing appear in many jurisdictions (Kneebone and Garr 2010), though concentrated poverty is still mostly an urban phenomenon. Regions that anticipate the many challenges of protecting and improving this housing stock will do well to guard against stresses that affect our most vulnerable residents, thereby ensuring greater resilience.

The federal government can do much to help metropolitan areas become more resilient to precarious housing conditions. Federal programs have recognized this for many years. The 1990 Cranston-Gonzalez Act, in creating the HOME block grants, provided a new incentive for consortia of localities to collaborate on affordable housing. Under the current administration, HUD seeks to improve connections between housing policy and transportation policy, recasting excellent and affordable "H+T" bundles as meeting the needs of vulnerable people more effectively than affordable housing alone. And since transportation planning already occurs in a regional context, encouraging metropolitan areas to square their transportation and housing goals can improve the regional resilience of housing.

Since every federal housing program offers substantial flexibility and respects local decisionmaking, state and local decisionmakers continue to matter in the development of regional resilience. Metropolitan areas have widely different challenges. Further, local government capacity varies. Some local governments are able to deal with precarious housing by themselves; other local governments—especially in the smaller suburbs and exurbs where precarious housing will emerge as a new issue—do not. Often even capable governments have too few incentives or resources to collaborate with their neighbors. Regions with active, responsive, and appropriate housing policies will likely have greater capacity, develop better mechanisms for forecasting and scenario-building, and meet their housing challenges earlier and more comprehensively. With these elements—capacity, foresight, early action, and comprehensive responses—regions are, in turn, much more likely to reduce the worst impacts of stresses on their most vulnerable residents.

Conclusion

By beginning from the level of individuals and households, we have built the groundwork for a more robust approach toward tackling concentrated disadvantage within the context of fostering more resilient regions. Whereas most urban and housing policy analysis considers neighborhood concentration of poverty and racial segregation, we have established that some vulnerabilities concentrate within individuals and particular households. We have also established that some vulnerabilities predispose individuals toward living in various precarious housing situations. Some of this concentration is a consequence of income differences; some results from other personal and household characteristics, including race and nativity, that still hinder people's attainment of equal housing opportunity.

These vulnerabilities take place in a larger environment: the natural, built, social, and economic systems in which people operate and their situations are located. Regional governance systems can improve people's lives by focusing on any or all of the three conditions; in doing so, they promote resilience. For individuals, governance systems can reduce personal vulnerability, for example, by providing income supports for destitute people or free public education for all children. Governance can reduce precarious situations by imposing building codes or providing adequate supplies of affordable housing. And governance can reduce turbulence in the broader environment by adopting laws that limit predatory financial practices, for example, or watershed management strategies that reduce paving. ▪

Notes

1. Renter estimates include mobile homes; owner-occupied estimates omit mobile homes because certain data on costs are missing for owner-occupied mobile homes.
2. In the regressions predicting homeowners' precarious housing situations, however, the modeling required that we drop the age-squared term and combine two housing regions to yield results.

References

Derissen, Sandra, Martin F. Quaas, and Stefan Baumgärtner. 2011. "The Relationship between Resilience and Sustainability of Ecological-Economic Systems." *Ecological Economics* 70(6): 1121–28.

Kneebone, Elizabeth, and Emily Garr. 2010. *The Suburbanization of Poverty: Trends in Metropolitan America, 2000 to 2008.* Washington, DC: The Brookings Institution.

Ong, Paul, and Jonathan Ong. 2009. "Dramatic Decline in Household Overcrowding? An Analysis of California and Los Angeles." Working paper 46. Los Angeles: University of California Los Angeles, Lewis Center for Regional Policy Studies.

Painter, Gary. 2010. *What Happens to Household Formation in a Recession?* Washington, DC: Research Institute for Housing America.

Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota.

About the Authors

Rolf Pendall is director of the Urban Institute's Metropolitan Housing and Communities Policy Center. His research expertise includes federal, state, and local affordable housing policy and programs; land-use planning and regulation; metropolitan growth patterns; and racial residential segregation and the concentration of poverty.

Brett Theodos is a research associate in the Metropolitan Housing and Communities Policy Center. His research focuses on economic and community development of low-income neighborhoods, affordable housing, and access to capital for low-income individuals and communities.

Kaitlin Franks is a research associate in the Metropolitan Housing and Communities Policy Center.

BUILDING RESILIENT REGIONS
A MACARTHUR FOUNDATION RESEARCH NETWORK

The Network on Building Resilient Regions brings together a group of experts, funded by the MacArthur Foundation, to examine how best to harness the power of metro regions to effect real change.

Copyright © June 2012

The views expressed are those of the author and do not necessarily reflect those of the Urban Institute, its trustees, or its funders. Permission is granted for reproduction of this document, with attribution to the Urban Institute.

URBAN INSTITUTE
2100 M Street, NW
Washington, DC 20037-1231
(202) 833-7200
publicaffairs@urban.org www.urban.org