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Evacuation and Return of Vietnamese New Orleanians Affected by Hurricane Katrina

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Abstract

Hurricane Katrina struck near New Orleans on August 29, 2005, and resulted in the collapse of the federal protective levee system and the flooding of most of the city. New Orleans East, where the main Vietnamese enclave is located, was especially hard hit. By chance, just weeks before this disaster occurred we collected with our colleagues a wide range of demographic and health data for a population-based sample of working age Vietnamese Americans living in New Orleans. One year after the storm, we re-interviewed everyone from the original sample who had returned to the area. This re-interview sample included about two-thirds of the original sample.

Those who had returned by the one year point were more likely than those yet-to-return to have been employed before the storm, to have worked in the skilled sector of the economy, to have been married, and to have been a home owner. Many problems experienced during the immediate aftermath of the storm, such as crowded and unsanitary conditions, had been resolved by the one-year anniversary. Other problems remain, such as a continuing lack of information, lack of access to medical care, and fears of violent crime.

The recovery of immigrant enclaves after a major disaster will not necessarily follow the same trajectories as more mainstream communities. Cultural features related to community identity and resilience; differential levels of investment in home ownership, local businesses, schools, churches, etc.; and post-disaster leadership may well interact, potentially resulting in different levels and patterns of evacuation and return within the enclave than those observed within the majority population groups affected by the same disaster. Documentation of how these immigrant communities actually *do* fare during and after a disaster is hampered by an over-reliance on anecdotal cases, non-representative samples, and *post-hoc* measures. These shortcomings in the empirical literature are due in large part to the fact that population-based samples of immigrant minorities are difficult to obtain. Even representative samples (for example, Bocanegra, Moskalenko, and Kramer 2006) nearly always must rely on measures obtained after the catastrophic event occurred. By chance, we had collected a wide range of health measures for a population-based sample of Vietnamese living in New Orleans just before Katrina struck in August 2005. This allows the examination of both pre- and post-storm factors that are associated with evacuation decisions, evacuation destinations, and whether by one year after the disaster the evacuees have returned to New Orleans. We also examine the range of evacuation experiences faced by Vietnamese New Orleanians during the weeks after Hurricane Katrina flooded their enclave in New Orleans East.

Empirical differences between immigrant enclaves and other communities may be reflections of fundamental theoretical issues in sociology. Specifically, variations in how groups of people respond to disaster or stress can be consequences of the different forms of social solidarity that

exist among them. Emile Durkheim's (1951 [1897]) view of social solidarity presented individual behavior and the adaptability of individuals to external situations as products of the integration of individuals into social groups. Modern social capital approaches echo this old Durkheimian idea. James S. Coleman, for example, has suggested, "social capital inheres in the structure of relations between persons and among persons" (Coleman 1990, p. 302). Closed systems of interactions in a community, according to Coleman, not only provide support networks to individuals; they can also establish and reinforce norms within a group, directing behavior and encouraging cooperation.

This type of social capital approach does leave open the question of how and why advantageous patterns of closed relations may arise among some groups, rather than others. Addressing a specific instance of this question, Bankston and Zhou (2002a; 2002b) and Bankston (2004) have argued that immigrant ethnicity, and particularly Vietnamese immigrant ethnicity, can serve as a basis for cooperative social relations that produce community resilience and adaptability. In studies of the New Orleans Vietnamese community, as well as other Vietnamese American communities, these authors argue that the need to adapt to a new and strange environment led these immigrants to establish close-knit communities based on the shared sense of ethnicity and on selectively reconstructed cultural traditions. The fact that large numbers of Vietnamese arrived as refugees in a relatively short period of time encouraged this development of ethnically based communities with high degrees of solidarity. In the model described by Zhou and Bankston (1998), social integration is multilevel in nature, with individuals integrated into families and families integrated into communities, so that those who are bound in close-knit families within close-knit communities receive the greatest amount of control and support from social networks within enclaves. Intense community solidarity can give an immigrant settlement, such as the one in New Orleans, an even greater importance in the lives of its residents than neighborhoods typically hold in the lives of people who have lived all their lives in the same neighborhood. The importance given by social theory to community relations in an ethnic enclave, in our view, gives an examination of the evacuation and return of the New Orleans Vietnamese a special relevance for social scientists.

Background

Vietnamese-Americans total approximately 1.2 million (U.S. Census Bureau 2002), among whom approximately 12,000 lived in New Orleans area pre-Katrina (U.S. Census Bureau 2000). Vietnamese-Americans residing in New Orleans constitute a fairly new community, one of several in the U.S. that formed after the massive exodus from South Vietnam following the collapse of that government in April 1975. For many in this community, the move to America was their family's second major displacement - most Catholics fled North Vietnam for the South after partition in 1954, because of widespread fear of persecution by the communist government in the North. The levee failures after Hurricane Katrina's landfall flooded the major Vietnamese enclave in eastern New Orleans, resulting for many in a third evacuation and dislocation. They were away from their homes for weeks at the minimum, and at the one-year anniversary of the storm, a significant proportion of this community had yet to return.

There are opposing viewpoints regarding the size and composition of New Orleans' population during the first few years post-Katrina. Recent official estimates by the Census Bureau are substantially lower than those produced by the City of New Orleans and its backers; the Census Bureau's estimates are also much more consistent with the most systematic and well-documented estimates than are the city's estimates (for a review, see VanLandingham 2008). The best estimates and projections for 2006, the year immediately following the Katrina disaster, were those of the Louisiana Recovery Authority in 2006 (LRA 2006) and of RAND (McCarthy, Peterson, Sastry, and Pollard 2006). Taken together, these estimates imply an

approximate population of 200,000 in New Orleans by fall 2006, about a year after the storm. That is, about 44 percent of the 455,000 residents had returned a year after Katrina. The LRA estimates that the rates of return varied substantially by ethnic group, with the Asian population (most of whom are Vietnamese) at 69 percent of its pre-Katrina levels by fall 2006. We find a very similar rate of return (65 percent) when comparing Vietnamese whom we interviewed just before Katrina in summer 2005 and those who had returned by fall 2006.

Our data provide a rare opportunity to compare those Vietnamese who evacuated before the storm with those who left the city afterwards, as well as those who had returned by the one year anniversary of the storm with those who had not. We make these comparisons using pre-storm characteristics we have for both those who had returned as well as for those who had not (including a wide range of health, demographic, and economic indicators) and post-Katrina characteristics we have for those who had returned (such as flood depth, the amount of damage the family incurred, and insurance coverage).

Special characteristics of immigrants in general and the Vietnamese in particular are likely to affect evacuation and return decisions. English-speaking ability and acculturation may both affect the degree to which individuals and families heed, or even fully understand, calls from authorities to evacuate. Such language issues may be particularly relevant for the Vietnamese. According to the U.S. Census Bureau (2000), 93 percent of Vietnamese-Americans speak Vietnamese at home, 65 percent do not speak English very well, and 44 percent are classified as linguistically isolated. Massey and Denton (1992) using 1980 census data found the Vietnamese to be the most segregated among all Asian immigrant groups in the United States. In addition, the theoretical perspective on ethnic social relations outlined above suggests that living in a homogenous ethnic neighborhood may also provide important social-psychological support (Zhou and Bankston 1998). At the same time, the perspective suggests that sudden displacement from that neighborhood, with its cultural symbols and settled interpersonal networks, may for that very reason suddenly remove critical sources of comfort and adjustment.

Key predictors of early return are likely to be similar for immigrants and non-immigrants. The level of human and social capital that respondents possessed before the disaster and the degree of damage caused by the flood should be major factors determining who has returned and who has not.

Data and Methods

Our data are from the initial two waves of an ongoing longitudinal study of health. The two waves were conducted in summer 2005 and fall 2006 and focused on the population of Vietnamese immigrants living in the greater New Orleans area. Information collected includes detailed and standard assessments of physical and mental health as well as detailed information on respondents' evacuation experiences during Katrina. We also have a wide range of demographic measures (including family structure), sociocultural measures (including measures of acculturation), and economic measures (including storm-related losses and pre-storm economic assets).

Our sample is representative of working-age Vietnamese living in the greater New Orleans area who were between the ages of twenty-five and forty-nine in the summer of 2005, when they were first interviewed. All were born in Vietnam, and arrived in the United States between 1980 and 1990 while they were between ages fifteen and thirty. We chose these original criteria because the main objective of the original research was to examine the impact of international migration on the health of Vietnamese immigrants who had lived substantial portions of their lives both in Vietnam and the United States.

We sampled households using a recently updated (May 2005) register of Vietnamese families maintained by the principal Catholic Church and NGO serving this community. The register includes all known Vietnamese households, Catholic or otherwise, and includes a list of all residents of each household, including their ages. Upon arrival at a household having at least one immigrant of the appropriate age, the interviewer followed a procedure to first list and then randomly select an eligible respondent. The entire set of questions and measurements took from 60 to 90 minutes to complete. Our sample size for the original, summer 2005 wave of the survey was 128. We had forty-six refusals, yielding a response rate of 73 percent.

During August and September 2006, we successfully located and re-interviewed 82 of the original 128 respondents from 2005; 79 of these had returned to the New Orleans area by this time. Only two from the original cohort refused to be re-interviewed for the second wave. We attempted to contact the remaining 46 in a number of ways: by visiting their former addresses; by asking neighbors about their whereabouts; by attempting to contact them by telephone; and by asking a wide range of community leaders about their whereabouts. These remaining 46 individuals could not be located in the New Orleans area by fall 2006, are considered to have been living elsewhere.

Variables

Our outcomes of interest here are whether members of this community evacuated before or after the disaster; where they evacuated; the living situations of evacuees; length of time members of this community were displaced; distinguishing factors of those who had returned by the one-year anniversary; and future plans for remaining in their original community. We anticipated that the key predictors of the above outcomes would include pre-Katrina background factors, such as sex, household structure, marital status, homeownership, and occupation; length of time respondents had been living in New Orleans prior to the disaster; where they lived (within or outside the main Vietnamese enclave); English fluency; degree of acculturation; and pre-Katrina health status. We anticipated that key post-Katrina predictors of early return would include changes in demographic, marital, and social economic status; property losses; key features of the evacuation experience; difficulties faced after the storm; and insurance payments (or difficulties).

Hypotheses—We anticipated that demographic background factors would likely predict both early evacuation and early return. More precisely, being female, married, and having young or elderly dependents in the home were likely to predict early evacuation. On the other hand, given the difficulties after Katrina, those with school-aged children might be slower to return. Anecdotally, some of our respondents noted that it was their elderly parents who were most insistent on early return, and some were adamant that they did not wish to relocate once again so late in life.

Elevated wages for those with skills highly sought after in the post-Katrina environment (for example, electricians, plumbers) would likely be a draw for early return. The Vietnamese-American community in New Orleans is tight-knit; this is particularly true in New Orleans East, the original enclave. This section of the city is quite homogeneous as a Vietnamese enclave, and is also vulnerable to flooding. Thus, we anticipated that families living in the main enclave of *Village de L'est*, as the enclave is called, would most likely have evacuated prior to the storm.¹

¹Those who lived in New Orleans East area, within the zip codes 70128 and 70129, are considered as living inside the Vietnamese enclave. Otherwise are categorized as living outside the Vietnamese enclave.

Regarding future plans, longer length of displacement may lower families' enthusiasm for returning to New Orleans. On the other hand, those who had lived in New Orleans for a longer period prior to Katrina may find a move to a new destination less attractive than those who lived here for a shorter period.

Results

Table 7.1 lists the basic characteristics of the study population, both pre- and post-Katrina. These two samples are similar in some respects and different in others. Those participating in both studies ($n = 82$) were, on average, age forty-four in 2006. In both pre- and post-Katrina samples, about two-thirds are male. The share of those living inside and outside the Vietnamese enclave does not differ between the pre- and post-Katrina samples (about four-fifths lived inside the enclave). Length of time in the United States also does not differ between the samples; the average is about twenty-five years for both groups. Nor does Pre-Katrina health status: nearly 60 percent of the sample reported very good or excellent health.

Differences between the pre- and post-Katrina samples are suggestive of factors that distinguish those who had returned by the one-year anniversary versus those who had not. There is a higher proportion of married respondents in post-Katrina sample (92 percent versus 84 percent pre-Katrina). Conversely, more respondents have never married in the total pre-Katrina sample (12.6 percent) compared with those we reached in the second round survey (6.2 percent). This suggests that single individuals are less likely to return by the one-year anniversary than ever-married individuals. Table 7.1 also indicates that members of the post-Katrina sample (the early returnees) have more education than members of the total pre-Katrina sample, implying that those who were more educated were more likely to return by the one-year anniversary. We also see slight differences in occupational categories. There are more blue collar workers and fewer professional or entrepreneurial workers in the post-Katrina sample. Differences in the proportion of families with dependents under the age of eighteen or over age sixty-five are also apparent. The percentages of respondents who had dependent children and elders after Katrina were both higher in the returned sample than in the pre-Katrina sample, supporting our hunch that families with elderly dependents were more likely to return, but calling into question our hypothesis that those with young dependents were less likely to return.

Table 7.2 describes the evacuation experiences of the Vietnamese immigrant evacuees during the first month after Katrina. This table focuses on the experience of the 82 individuals we re-interviewed around the one-year anniversary of the storm. About 78 percent of the Vietnamese immigrants left their home before the hurricane hit. Of the seventeen individuals who stayed behind until after the hurricane, ten said that they did not believe the hurricane would be so bad, and six said that their job—either their own business or their employers'—required them to stay. One mentioned she had no place to go.

We also find that those who stayed behind were disproportionately more likely to be living outside the flood-prone main Vietnamese enclave ($p = 0.03$; results not shown), presumably because they were less concerned about flooding; and professionals or business owners ($p = 0.06$; results not shown), presumably because they were concerned about looting.

Almost one-half of the Vietnamese immigrants we re-interviewed went to Houston during the first month after Katrina (46.9 percent). Another 11 percent evacuated to other cities in Texas, such as Dallas or Austin, making Texas the first destination for the majority of the sample. Slightly more than one-fourth of immigrants evacuated to cities in Louisiana, and the remaining (13.6 percent) evacuated to other states such as Georgia, Alabama, and California.

During the time that they were displaced, more than one-half (51.2 percent) of our fall 2006 respondents were staying with relatives. Another 29 percent were staying in hotels or motels,

and one-fifth were staying in shelters. Among these eighty-two fall 2006 respondents (seventy-nine of whom had returned to New Orleans by that time), most had begun returning soon after the catastrophe. Slightly more than one-third had returned during the first three months after the flooding. Another one-third had returned during the subsequent five months (four to eight months after Katrina). Nearly all of the remaining 31 percent had returned at about the one-year anniversary of the flood (nine to fifteen months after Katrina). The average length of time people were displaced was 5.5 months.

Table 7.3 summarizes the most common types of problems experienced by this evacuee population immediately after the levee failures and flooding in late August 2005. Almost three-quarters experienced at least some problems with crowding and unsanitary conditions during this first week (more than 40 percent reported either “a lot” or “extreme” difficulties regarding this issue). Many (about two-thirds) reported lack of information as a problem, with one-fourth reporting “a lot” or “extreme” information gaps. More than one-half of the sample reported fear of crime and embarrassment, with “extreme” fears of crime reported more than twice as often as problems related to embarrassment and humiliation. Family arguments were relatively common but apparently not terribly consequential. Only about 4 percent reported this issue to be extreme. Approximately one-half reported financial problems, with one-fifth reporting “a lot” or “extreme” financial hardship. Trouble in obtaining required medications was also common, affecting 40 percent of the respondents’ families.

At the one-year anniversary of the storm (see Table 7.4), some of these initial hardships had been resolved for these respondents, while others had not.² Only one-fifth reported living in unsanitary conditions and only one-fourth complained about overcrowding. No one complained that family arguments were extreme, or that issues related to heating, water, or food were severe. Indeed, only a handful reported any problems at all in these categories. The three most common problems were continuing concerns about crime, difficulties in receiving medical care, and problems with insects. Significant fears of crime were widespread. Forty percent of the sample reported “a lot” or “extreme” fears. Only problems with insects outranked crime fears at the one-year anniversary.³ Complaints about lack of information (about one-third complained of this) was the next most frequently reported problem, although we lack additional data on the types information perceived to be lacking.

We asked a wide range of questions to assess the response of the government and other agencies to the disaster (see Table 7.5). One interesting feature is how few rated the performance of these agencies to be either excellent or very poor. The “American public” and the American Red Cross drew the best assessments: 93.7 percent of the respondents rated the response of the American public to be good, very good, or excellent (only one said excellent); 83.6 percent gave a similarly positive assessment of the Red Cross (none said excellent). The worst evaluations were reserved for the state and local police (72 percent rated the response to be only fair, poor, or very poor). Other divisions of local and state government fared similarly poorly (70 percent rated the response to be just fair or worse). The national government fared no better. Nearly one-half of the sample (49.3 percent) rated the response of the National Guard and Armed Forces as fair or worse. More than one-half (58.2 percent) rated the response of the rest of the federal government to be fair or worse. Respondents were also negative toward insurance companies, with more than one-half (55.5 percent) evaluating their performance as fair or worse.

²The experiences of the 46 individuals who had *not* returned to New Orleans by the one-year anniversary of the flood are not included in these statistics, and are likely to be quite different from those summarized here.

³Mosquitoes were virtually nonexistent during the first few months after the flooding (probably because the petroleum film killed most of the larvae) but they returned with a vengeance during the following summer.

The impacts of the disaster on families are summarized in Table 7.6. The ubiquity of significant financial impacts throughout this community is remarkable: 95 percent of the community experienced property losses related to the storm of at least \$10,000. Nearly one-third experienced losses in six figures. More than one-half described their losses as either severe or total destruction. Fewer than one-quarter said that insurance would cover most or all of their losses. One-fifth had no insurance at all. Despite such widespread devastation, only a small proportion (21 percent) reported borrowing money in response to the losses they incurred in the storm. Not surprisingly, given the extent of the devastation, two-thirds reported their quality of life was worse than it was before the disaster. Despite this decline in the overall quality of life, nearly four-fifths (78 percent) intended to remain in New Orleans.⁴

In Table 7.7, we compare pre-Katrina characteristics of our original respondents (all of whom we interviewed during the summer before Katrina struck) who had returned to New Orleans by the one-year anniversary of the storm ($n = 79$) and those who had not yet returned ($n = 49$).⁵ Although the likelihood of having returned did not vary significantly by age, sex, education, residence (East versus West Bank), health status, or the degree of acculturation, it differed markedly by marital status. Those who were not currently married (either never married, separated, or divorced) were more likely to remain away while those who were currently married were more likely to have returned ($p = 0.01$). We also find that among married couples, those with children under age eighteen ($p = .03$) were much more likely to have returned by fall 2006 than those married couples without children.

Those unemployed before Katrina were less likely to have returned than those who were employed. Those engaged in blue collar occupations (for example, electricians, plumbers, carpenters) before the flood were among the most likely to have returned (71 percent had done so), compared with professionals and business persons (56 percent had returned). As expected, those who owned their homes were much more likely to have returned than those who rented ($p = 0.00$).

The last column of Table 7 presents results of our multivariate logistic regression predicting the probability of having returned to New Orleans by the time of the follow-up interview in 2006. Included in the model are variables that are related to the outcome of interest (having returned to New Orleans by the one-year anniversary) both theoretically and empirically. Although the presence of dependents was hypothesized to be related to early return, limiting the analysis to only those who were married at the time of the disaster (i.e., “at risk” of having dependents) would further reduce our already limited statistical power to detect differences in this small sample. Results of our regression model show that blue collar workers were nearly five times as likely as people who were unemployed before Katrina (the reference category) to have returned to the area one year after the hurricane ($p \leq .05$). In addition, people who owned a house were three times as likely as those who rented to have returned ($p \leq .05$).

Table 7.8 similarly compares those who came back within six months of the hurricane (six months is about the average length of duration of displacement) with those who did not, but it employs characteristics related to the hardships imposed by Katrina to make this distinction. This analysis is limited to the eighty-two respondents for whom we have post-Katrina information; the three respondents who had not returned to their pre-Katrina area by the time of interview are categorized as being displaced for more than six months.

⁴We needed to provide a specific time referent for this question, so we chose a period of two years, since other surveys had used this time frame to inquire about future intentions.

⁵Three of the 82 respondents interviewed in 2006 had not returned to New Orleans by the time of interview.

The degree of losses incurred is a significant factor in determining whether the respondent had returned within six months (by the end of February 2006). Those who had incurred less than \$50,000 in damages were the most likely to have returned within six months while those with more than \$100,000 in damages were the least likely to return ($p = 0.02$). Insurance coverage is also a significant predictor of early return. Those who had at least some insurance coverage were more likely to have returned within six months than those who did not ($p \leq .04$). People whose insurance covered most or all of the losses were the most likely to have returned early. Early versus late evacuation does not predict earlier or later return, nor does one's assessment of quality of life after Katrina.

Conclusions and Discussion

When Hurricane Katrina threatened New Orleans the weekend before it made landfall on Monday, August 29, 2005, the vast majority (78%) of the local Vietnamese-American community evacuated. The destination for most families was Houston, TX; these decisions were surely influenced by the fact that Houston has the second largest Vietnamese-American population in the U.S. Not surprisingly, most of the Vietnamese evacuees reported staying with friends or relatives; only a fifth stayed in shelters.

The main Vietnamese enclave in New Orleans was hard hit by Katrina and the flooding that followed. More than one-half of our sample suffered property damages of at least \$50,000, and almost one-third suffered damages exceeding \$100,000. Indeed, more than one-half described their damages as “severe” or “total destruction.” Among those suffering significant losses, only about one-quarter had sufficient insurance to cover most of their losses.

Remarkably, one year after the disaster, about two-thirds of the original sample we had interviewed just prior to Katrina had returned, a fact that is consistent with the view of ethnicity as a basis for solidarity. Earlier estimates by Rand and the LRA (cited above), as well as more recent official estimates by the Census Bureau, show an overall rate of return to the city of less than 50% by the one year anniversary (Bohrer 2008), all indicating a rate of return for the Vietnamese community that is about 50% higher than it is for the rest of the city.

Some of the most significant hardships experienced during the immediate aftermath of Katrina were overcrowding and unsanitary conditions, lack of information, and fears about crime. Although living conditions had improved rapidly by the one-year anniversary, concerns about lack of information, medical care, and crime persisted. Forty percent of our sample cited fear of crime as a major concern one year after Katrina. Given the steady recurrence of horrific incidents of violent crime in or near this community during the second year of rebuilding, these concerns are likely to have become even more dire since these data were collected during fall 2006.

This community's concerns about crime, medical care, and lack of information both immediately after the storm and at the one-year anniversary are reflected in their mediocre-to-poor assessment of the performance of the security forces and other government entities at all levels. About one-half of respondents evaluated insurance companies as performing only “fair” or worse on a scale from excellent to very poor. On the other hand, their assessments of the response of the “American people” and the Red Cross to the disaster were extremely positive.

Those who had returned by the one-year anniversary were more likely to be married, more likely to own their homes, more likely to have dependent children, and more likely to have been working in blue collar occupations than in professional occupations before the storm occurred. Those unemployed before Katrina were also less likely to have returned by the one-year anniversary than those who had been employed. These findings are consistent with the multilevel view of integration into an ethnic community described above, since those with

spouses and children tend to be more bound within families residing in the enclave, while the unemployed have fewer ties to their surroundings.

Our multivariate analysis is severely hampered by our small sample. That said, working in blue-collar jobs and owning a home in the area were statistically significant predictors of returning to New Orleans. Sastry (2008), reporting results in this same volume from a small but representative sample of New Orleanians conducted during the fall of 2006 that includes *all* ethnic groups, also finds that homeowners have returned at higher rates than renters (although the difference is not statistically significant) and that the employed have returned at higher rates than the unemployed ($p < 0.000$).

Among those who had returned by the one-year anniversary, the degree of property losses and insurance coverage are important predictors of early return (that is, within six months of being displaced). Those who had the least amount of damage to their homes and those whose insurance covered most of the losses were the most likely to have returned early. Sastry (2008), similarly finds that housing damage is among the strongest predictors of early return for pre-Katrina residents of all races. Thus, while the Vietnamese community has returned at a much faster clip than other groups, similar forces appear to be at work that determine who comes back and who does not.

The policy implications of our findings are wide-ranging and urgent. First, these results are consistent with a growing consensus that the response of local, state, and national government was unsatisfactory both in the immediate aftermath of the disaster and during the first year of recovery. That lack of information was such a common complaint illustrates a need to reform the emergency information dissemination functions of government at all levels so that they effectively communicate to all citizens during the immediate and medium-term aftermath of a major disaster such as Katrina. This community's rather harsh assessment of the insurance industry is yet one more indication that significant reforms at the national level are urgently needed for an industry that plays such an important role in disaster recovery.

At the one-year anniversary of the disaster, routine and emergency medical care was essentially absent in or near this community. Unfortunately, at the time of this writing, almost two and a half years after the event, this remains the case. The immediate establishment of permanent routine and urgent medical care facilities in this community must move to the top of the recovery agenda for our region.

The corrosive effect that violent crime is having on the city and on this community is impossible to overstate. If this problem is not immediately and effectively addressed, widespread feelings of lawlessness and vulnerability are destined to slow or even stall the recovery of one of the city's most vibrant communities.

Finally, as we have seen, our findings are consistent with the view of the ethnic community as a basis for social integration and solidarity. This supports an approach to working with members of groups such as the Vietnamese of New Orleans in a way that maximizes their own social resources. Financial, medical, and police support to immigrant ethnic enclaves should not flow simply to individuals or individual families, but move through institutions set up and maintained by community members. In responding to a disaster, officials need to identify the major institutions and leaders in a neighborhood of this type and employ institutions and leaders within the enclave to obtain information about needs and as channels for outside assistance.

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Table 7.1

Demographic Characteristics of the Study Populations Pre- and Post-Katrina (Summer 2005 and Fall 2006)

	Pre-Katrina (N=128)	Post-Katrina (N=82)
	% (N)*	% (N)*
Age (in 2005)		
Mean age	41.9	44.0
s.d.	4.9	4.9
Sex		
Female	32.8 (42)	34.1 (28)
Male	67.2 (86)	65.9 (54)
Marital status		
Never married/separated	16.4 (21)	8.5 (7)
Currently married	83.6 (107)	91.5 (75)
Marital Status		
Never married	12.6 (16)	6.2(5)
Married living together	78.0 (99)	86.4 (71)
Separated//widowed	9.4 (12)	7.3 (6)
Education		
0–6 years	21.8 (24)	14.6 (12)
7–9 years	15.5 (17)	17.1 (14)
10 years or above	62.7 (69)	68.3 (56)
Occupation		
Unemployed	10.9 (13)	12.8 (10)
Blue collar workers	50.7 (63)	64.1 (50)
Professional and business	36.1 (43)	23.1 (18)
Residence		
Inside Vietnamese enclave	78.9 (101)	78.0 (64)
Outside Vietnamese enclave	21.1 (27)	22.0 (18)
Length of time been in USA (years by 2005)		
Mean	25.5	25.4
Std.	4.9	5.1
Pre-Katrina health status		
Excellent or very good	58.6 (75)	59.8 (49)
Good, fair, or poor	41.4 (53)	40.2 (33)
Household structure		
Have dependent children (under 18 years of age)**	69.7 (69)	85.7 (60)
Have elderly dependents (over 65 years of age)	4.7 (6)	8.5 (7)

* Some denominators are less than 82 due to missing values.

** The denominators are those who were married and for whom we have pre-Katrina ($n=99$) and post-Katrina ($n=70$) data.

Table 7.2Evacuation Experience among Those Followed Up at One Year Anniversary ($N = 82$)

	% (N)
Left before or after the storm	
Left before	78.0 (64)
Left after	20.7 (17)
Reason stayed behind	
Did not believe it would be bad	58.8 (10)
Job required to stay	35.3 (6)
No place to go	5.9 (1)
Evacuation destination in first month	
Houston, TX	46.9 (38)
Other, TX	11.1 (9)
New Orleans, La.	1.2 (1)
Other, La.	27.2 (22)
Other, outside La.	13.6 (11)
Type of residence in first month	
Hotel, motels	28.8 (23)
Relative's; friend's houses	51.2 (41)
Shelters	20.0 (16)
Length of time displaced (mean=5.5 months)	
1–3 months	35.8 (29)
4–8 months	33.3 (27)
≥ 9 months	30.9 (25)

Note: Some denominators are less than 82 due to missing values.

Table 7.3Difficulties Faced in First Week After the Hurricane (*N*=82)

	None % (N)	A little % (N)	Some % (N)	A lot % (N)	Extreme % (N)
Shortage of food/water/clothes	53.6 (37)	8.7 (6)	15.9 (11)	13.0 (9)	8.7 (6)
Getting needed medication	60.0 (48)	16.3 (13)	11.3 (9)	6.3 (5)	6.3 (5)
Financial problems	49.4 (40)	21.0 (17)	9.9 (8)	12.3 (10)	7.4 (6)
Crowded/unsanitary	27.2 (22)	14.8 (12)	17.3 (14)	27.2 (22)	13.6 (11)
Family argument	63.8 (51)	15.0 (12)	12.5 (10)	5.0 (4)	3.8 (3)
Embarrassment/humiliation	40.7 (33)	21.0 (17)	23.5 (19)	9.9 (8)	4.9 (4)
Fear of crime	42.5 (34)	16.3 (13)	18.8 (15)	10.0 (8)	12.5 (10)
Lack of information	37.0 (30)	17.3 (14)	19.8 (16)	14.8 (12)	11.1 (9)

Note: Some denominators are less than 82 due to missing values.

Table 7.4Difficulties Faced One Year After the Storm ($N = 82$)

	None % (N)	A little % (N)	Some % (N)	A lot % (N)	Extreme % (N)
Shortage of food	98.8 (79)	1.3 (1)	----	----	---
Shortage of water	95.1 (77)	2.5 (2)	1.2 (1)	1.2 (1)	----
Problem with heat	96.3 (77)	1.3 (1)	----	----	----
Problem with insects	36.7 (29)	2.5 (2)	12.7 (10)	26.6 (21)	21.5 (17)
Too little space	78.8 (63)	7.5 (6)	5.0 (4)	7.5 (6)	1.3 (1)
Too many people	80.5 (66)	8.5 (7)	6.1 (5)	3.7 (3)	1.2 (1)
Too little privacy	88.9 (72)	3.7 (3)	3.7 (3)	1.2 (1)	2.5 (2)
Family argument	87.8 (72)	8.5 (7)	2.4 (2)	1.2 (1)	---
Unsanitary condition	80.2 (65)	7.4 (6)	7.4 (6)	2.5 (2)	2.5 (2)
Feeling crowded	75.6 (62)	11.0 (9)	8.5 (7)	2.4 (2)	2.4 (2)
Feeling isolated	91.5 (75)	1.2 (1)	3.7 (3)	2.4 (2)	1.2 (1)
Problem getting medication attentions	51.3 (40)	9.0 (7)	14.1 (11)	20.5 (16)	5.1 (4)
Lack of information	63.4 (52)	8.5 (7)	14.6 (12)	12.2 (10)	1.2 (1)
Fear of crime	41.5 (34)	1.2 (1)	17.1 (14)	34.1 (28)	6.1 (5)

Note: Some denominators are less than 82 due to missing values.

Table 7.5Assessment of How Government Responded to the Hurricane ($N = 82$)

	Excellent % (N)	Very good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Very poor % (N)
FEMA	1.2 (1)	9.9 (8)	40.7 (33)	34.6 (28)	12.3 (10)	1.2 (1)
State and local police	---	1.4 (1)	21.7 (15)	44.9 (31)	23.2 (19)	4.3 (3)
Other part of state and local government	---	---	29.6 (21)	45.1 (32)	23.9 (17)	1.4 (1)
National force/armed forces	---	2.9 (2)	47.8 (33)	43.5 (30)	5.8 (4)	---
Other part of federal government	---	1.5 (1)	40.0 (26)	49.2 (32)	9.2 (6)	---
Red Cross	---	26.6 (21)	57.0 (45)	16.5 (13)	---	---
Relief agencies	---	8.7 (4)	50.0 (20)	41.3 (19)	---	---
Insurance companies	1.4 (1)	16.7 (12)	26.4 (19)	51.3 (37)	4.2 (3)	---
American public	1.3 (1)	31.6 (25)	60.8 (48)	6.3 (5)	---	---

Note: Some denominators are less than 82 due to missing values.

Table 7.6Impacts of Hurricane Katrina on Vietnamese Immigrants ($N = 82$)

	% (N)
Property losses (\$)	
Less than \$10,000	5.0 (4)
\$ 10,000–50,000	45.0 (36)
\$50,000–100,000	18.8 (15)
More than \$100,000	31.3 (25)
Property damage	
Slight	17.1 (13)
Moderate	28.0 (23)
Severe	41.5 (34)
Total destruction	13.4 (11)
Insurance coverage	
Cover most of losses	23.8 (19)
Cover some of losses	52.5 (42)
No insurance at all	20.0 (16)
Not much lost to worry	3.8 (3)
Borrowed money	
Yes	20.7 (17)
No	79.3 (65)
Life compared to pre-Katrina	
Better	4.9 (4)
The same	29.3 (24)
Worse	65.9 (54)
Intention to stay in New Orleans next two years	
Yes	77.8 (63)
No	22.2 (18)

Note: Some denominators are less than 82 due to missing values.

Table 7.7

Relationships between Pre-Katrina Characteristics and the Probability of Having Returned to New Orleans by October 2006

Individual characteristics	Bivariate results		Multivariate results	
	Returned (N = 79) % (N)	Haven't returned (N = 49) % (N)	X ² or F- statistic (p value)	OR (95% CI)
Age			2.18 (0.14)	–
Mean age	42.4	41.0	–	–
SD	5.1	4.6	–	–
Sex			0.00 (0.98)	–
Female	38.1 (26)	61.9 (16)	–	1.00
Male	38.4 (53)	61.6 (33)	–	.90 (.37–2.22)
Marital Status			6.37 (0.01)	–
Never married/separated	33.3 (7)	66.7 (14)	–	1.00
Currently married	67.3 (72)	32.7 (35)	–	1.65 (.57–4.80)
Education			3.49 (.18)	–
0–6 years	45.8 (11)	57.2 (13)	–	–
7–9 years	70.6 (12)	29.4 (5)	–	–
10 years or above	65.2 (45)	37.8 (24)	–	–
Occupation			6.14 (.04)	–
Unemployed	38.5 (5)	61.5 (8)	–	1.00
Blue collar worker	71.4 (45)	28.6 (18)	–	4.98 (1.28–19.38)
Professional and business	55.8 (24)	44.2 (19)	–	1.96 (.51–7.52)
Residence			0.35 (0.55)	–
Outside Vietnamese enclave	66.7 (18)	33.3 (9)	–	–
Inside Vietnamese enclave	60.4 (61)	39.6 (40)	–	–
English proficiency			0.10 (0.75)	–
Bad English	60.0 (30)	40.0 (20)	–	–
Good English	62.8 (49)	37.2 (29)	–	–
Acculturation degree (*)			0.27 (0.60)	–
Mean	17.9	18.3	–	–
Std.	4.25	5.00	–	–
Own or rent house			9.17 (0.00)	–
Rent	38.7 (12)	61.3 (19)	–	1.00
Own	69.1 (67)	30.9 (30)	–	2.97 (1.09–8.07)
Pre-Katrina health status			0.40 (0.53)	–
Good, fair, or poor	64.0 (48)	36.0 (27)	–	–
Excellent or very good	58.5 (31)	41.5 (22)	–	–
Have dependent children <18 years of age*			5.02 (0.03)	–
No	57.1 (20)	42.9 (15)	–	–
Yes	72.2 (52)	27.8 (20)	–	–

Individual characteristics	Bivariate results		Multivariate results	
	Returned (<i>N</i> = 79)	Haven't returned (<i>N</i> = 49)	X ² or F- statistic (<i>p</i> value)	OR (95% CI)
	% (N)	% (N)		
Have dependent elderly >65 years of age			1.91 (0.18)	–
No	61.5 (75)	38.5 (47)	–	–
Yes	66.7 (4)	33.3 (2)	–	–

Note: Some denominators are less than 82 due to missing values.

* Among those who were married pre-Katrina (n=99).

Table 7.8

Bivariate Relationships between Length of Time People Were Displaced and Post-Katrina Factors

	Length of Time Displaced (N = 82)		X ² (p-value)
	Short (≤ 6 months) N=47	Long (> 6 months) N=35	
	% (N)	% (N)	
Property losses			7.4 (0.02)
Less than \$50,000	70.0 (28)	30.0 (12)	
\$50,000–100,000	60.0 (9)	40.0 (6)	
More than \$100,000	36.0 (9)	74.0 (16)	
Insurance coverage			2.7 (0.04)
Cover most of losses	77.3 (17)	22.7 (5)	
Cover some of losses	54.8 (23)	45.2 (19)	
No insurance	37.5 (6)	62.5 (10)	
Left before or after the storm			0.6 (0.68)
Before	57.8 (37)	42.2 (27)	
After	58.8 (10)	41.2 (7)	
Life compared to pre- storm			1.9 (0.16)
The same or better	67.9 (19)	32.1 (9)	
Worse	51.9 (28)	48.1 (26)	

Note: Some denominators are less than 82 due to missing values.