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# **Assessing Quality of Life in the Mississippi Cottage:**

## **Interim Report on FEMA's Alternative Housing Pilot Program**

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# Executive Summary

This is a summary of the Interim Report on the quality of life outcomes for participants in Mississippi's Alternative Housing Pilot Program (MAHP). Mississippi was one of four states to receive funding under a Federal Emergency Management Agency (FEMA) pilot program to develop and test alternatives to FEMA travel trailers and mobile homes for housing disaster survivors. In the MAHP program, the Mississippi Emergency Management Agency (MEMA) and its contractors designed, built and installed manufactured housing units for over 2,800 households who were living in FEMA travel trailers and mobile homes two years after Hurricane Katrina devastated the Mississippi Gulf Coast.

The report focuses on the impact of the MAHP program on the quality of life for participants 8 to 17 months after they moved into MAHP units. It examines participant reports on outcomes such as the quality of their housing, safety, mental and physical health, employment, and income. A previous report focused on how the program was implemented in Mississippi and future reports will describe other state's programs and the longer-term impacts on participants.

## Information Sources for this Report

This primary data source for this report is a survey administered to MAHP participants in the fall of 2008. Wherever possible the results of this follow-up survey are compared to responses from a baseline survey administered in 2007. Other contextual information is provided from interviews with MEMA program staff, a small number of informal one-on-one interviews with MAHP participants, and written materials and reports provided by MEMA.

- ***Baseline survey in 2007.*** HUD's Office of Policy Development and Research mailed a short survey to all households thought to be eligible for Mississippi's program. The survey contained questions about the respondent's current housing, neighborhood, health, income sources, and demographics. Of the approximately 2,830 households that moved into a MAHP unit, completed baseline surveys were received from 242. Because of the low response rate (9 percent), these 242 respondents are not considered a representative sample of all MAHP participants.
- ***Follow-up survey in fall 2008.*** HUD's evaluation contractor conducted telephone and in-person surveys of a representative sample of participants who had moved into a MAHP unit by February 2008. The February cutoff ensured that respondents had moved into their MAHP units at least eight months prior to the survey, which occurred between October and December 2008. Our survey results showed that respondents had lived in the MAHP unit for an average of 12.5 months at the time of the survey. While this is not enough time for participants to explore all the long-term livability issues of the unit, it is ample time to have passed the initial "euphoria" and readjustment of moving into a new unit. The follow-up survey included the baseline survey questions, but also collected more detailed information on living conditions and mental health and added questions on additional topics of interest that arose since the development of the baseline survey. For

example, respiratory health had become a major issue after reports of high formaldehyde levels in some FEMA travel trailers.

The follow-up survey was completed by 281 of the 340 MAHP participants randomly targeted for the survey. The high response rate (83 percent) along with statistical comparisons of respondents to all eligible MAHP respondents indicate that the respondents are statistically representative of MAHP participants who had lived in a MAHP unit by February of 2008. Most of the analysis in the interim report is based on this representative sample of MAHP participants. There are also some pre- and post-MAHP comparisons based on the responses of the 60 people who completed both the baseline and follow-up surveys, although this sample was not randomly selected and is therefore not necessarily representative of all MAHP participants.

- **Other non-survey sources of information.** Additional sources of information for this report included monthly calls with the MEMA staff about implementation progress and challenges they faced, quarterly progress reports that MEMA submitted to FEMA, newspaper articles, and research articles on Katrina and the recovery. In addition, a two-person evaluation team made three site visits to the area to see the units and locations, observe community meetings, talk with MEMA staff, and interview other community stakeholders. They also conducted focus groups with MEMA and its contractors and conducted informal, unstructured interviews with eight MAHP participants about their perceptions of the units and their experience with the program. In addition, the HUD Government Technical Monitor (GTM) conducted informal one-on-one interviews with six MAHP residents who had moved out of their MAHP units or had been ordered to move out of their MAHP units because of flooding damage caused by Hurricane Gustav in September 2008. Information from these additional sources was used to provide context for Mississippi's program and offer possible explanations for the survey findings.

## The Mississippi Alternative Housing Program

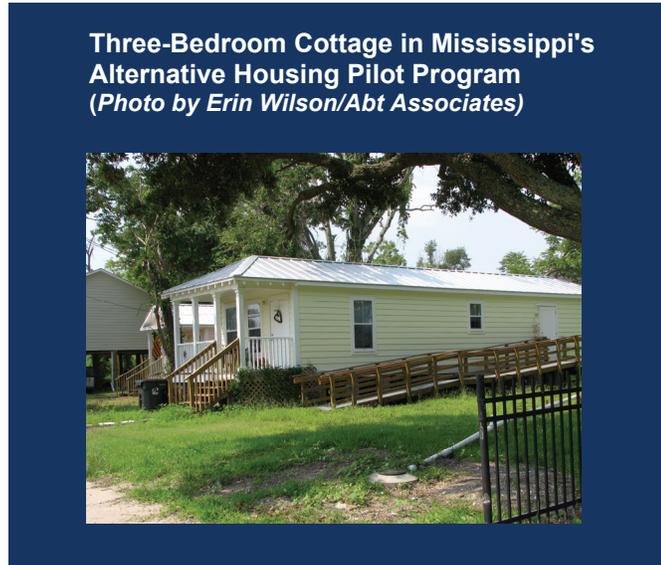
FEMA awarded the State of Mississippi a \$281 million grant in December 2006 to implement two Alternative Housing Pilot Programs in the Gulf Coast of Mississippi: \$275 million for the MS Cottage program and approximately \$5 million for the Eco Cottage program. This report does not address the Eco Cottage program as it had not yet been started at the writing of this report. The MS Cottage program officially started on April 1, 2007 and the first Cottage was installed and occupied in June 2007. In total, MEMA and its contractors designed, built, and installed 2,830 units by August of 2008. The units were intended to provide temporary housing until the participant could obtain permanent housing

**One-bedroom Park Model in Mississippi's Alternative Housing Pilot Program**  
(Photo by Erin Wilson/Abt Associates)



or until March 2009, the targeted end of the program. At the end of March 2009, MEMA started demobilizing the units by selling them to participants, non-profits, and local governments. To make the units permanent, they have to be re-installed on a permanent foundation and—depending on the location—may have to be elevated to meet permanent housing codes or flood zone requirements. The demobilization process is ongoing as of this writing.

The goal in designing the MAHP units was to develop a more livable disaster housing unit than the FEMA travel trailer or mobile home and to design a unit that could easily be transitioned to permanent housing. The MS Cottage program produced three unit types: a one-bedroom Park Model and two- and three-bedroom Mississippi Cottages.<sup>1</sup> The Park Models are 396 square feet, which is approximately 50 percent larger than the 256 square foot travel trailers. The two- and three-bedroom cottages are 728 or 840 square feet, which is about the same size as the FEMA mobile homes they are



replacing. Just over 20 percent of the two- and three-bedroom cottages (representing 11 percent of all units) were designed to comply with the Uniform Federal Accessibility Standards (UFAS) to ensure the availability of housing for family members with physical disabilities. The MAHP units offer several practical and structural advantages over the travel trailers and mobile homes. Unlike the travel trailers, the Park Model and Cottages have a separate bedroom and a full-size bathroom and kitchen. The MAHP units were also designed to enable permanent placements. A further differentiation is that all the MAHP units were designed to exceed code minimums. The units meet the HUD code for manufactured housing and the International Residential Code (IRC). All MAHP units were designed to withstand winds up to 150 miles per hour, even when installed temporarily.

The MAHP program was open to both homeowners and renters, regardless of income. The only eligibility requirements were that: (1) participants must have been residents on August 25, 2005 of one of the three coastal or three adjacent inland counties that were most affected by Hurricanes Katrina and Rita, and (2) the household must have been in need of temporary housing for at least six more months at the time of the program application.

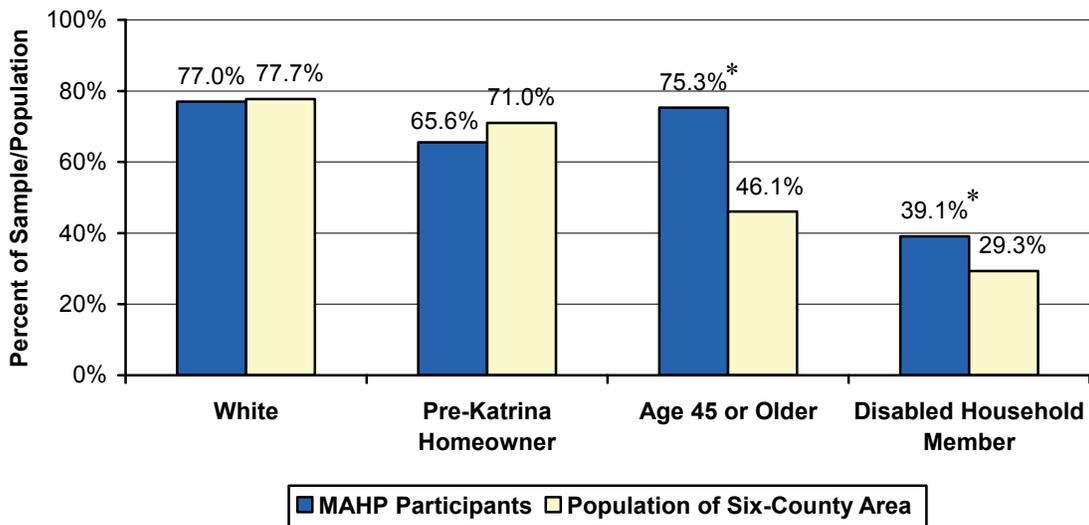
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<sup>1</sup> MAHP will also produce a fourth unit type, the Eco-Cottage. This unit will have enhanced energy efficiency features and will be permanent housing. It was still in the design stage at the time of the survey in the fall of 2008 and is not included in this report.

## Characteristics of MAHP Participants

Similar to the general population of the six southernmost Mississippi counties, MAHP participants were predominantly white (77.0 percent) and were largely homeowners prior to Katrina (65.6 percent). However, the MAHP participants tended to be older and poorer, and were more likely to be disabled than the rest of the area population. An elderly person headed almost a quarter of MAHP households, and 39 percent reported on the survey that they had at least one household member with a physical disability.<sup>2</sup> Consistent with an older population profile, nearly two-thirds of MAHP households did not have any children, and almost half of MAHP participants were divorced, widowed, or separated. A comparison of selected demographic characteristics is shown in Exhibit ES-1.

**Exhibit ES-1. A Comparison of MAHP Participants to the Population of the Six-County MAHP Service Area**



\* Indicates statistically significant difference at 10 percent significance level.

Sources: MAHP estimates are from the 281 respondents to the follow-up survey in fall 2008. Six-county MAHP program area estimates are from the 2000 Census.

The preponderance of homeowners reflects both who was affected by the storm and how the program was implemented in Mississippi. MEMA did not provide land on which to place a MAHP unit. Instead, participants had to identify land where the unit could be placed. This

<sup>2</sup> A much higher share of households have a physically disabled household member (39 percent) than the share of UFAS units (11 percent). This difference does not appear to be an issue. As discussed later in this summary, almost every household that reported a physically disabled household member also reported that the unit was accessible for the person. This is because many households with a physically disabled household member do not need a UFAS unit (depending on the extent and nature of the disability). In addition, all the units were designed using the basic tenants of universal design such as wider door frames. Minor accommodations were also made as needed.

avored homeowners because many of them could place the unit on their own land. Renters had to identify a family member, friend, or independent landlord willing to allow them to place the MAHP unit on their land, whether the land was provided for free or for rent. MEMA's initial plan for the MAHP program also included group sites where MEMA would provide the land for participants. However, local jurisdictions resisted this plan – possibly because of fears that these temporary group sites would become permanent and because of prior negative experiences with FEMA group sites. In the face of this resistance, and the desire to provide the replacement units for travel trailers and mobile homes as soon as possible, MEMA dropped its plans for temporary group sites.

Hurricane Katrina destroyed homes of people across the income spectrum and thus the Mississippi program served people at all income levels. However, the program served a higher proportion of relatively low-income households than in the local population as a whole. The median monthly income for MAHP participants (\$1,500) is less than half of the pre-Katrina median household incomes of the six southernmost counties. The median income ranged from \$3,019 to \$3,873 across the six counties. Furthermore, approximately half of the survey respondents reported they were employed, which is nine percentage points lower than the Census-based pre-Katrina share of adults employed in the six-county area. Some possible reasons for these economic differences are that households who were living in travel trailers or other temporary disaster housing 2 to 2.5 years after Hurricane Katrina had fewer financial and familial resources when the storm hit or were less able to navigate the post-disaster housing market than those who had found alternatives to the trailers. However, the economic downturn could be artificially inflating the income and employment differences as MAHP household income was measured during the early stages of the 2008 downturn whereas the income of the overall population in the area is based on the 2000 Census.

## **Participants who Moved out of MAHP Unit Prior to Fall 2008**

Sixteen percent of survey respondents (45 of 281 respondents) left their MAHP units before the follow-up survey. The reported reasons for moving out were almost evenly split between respondents who moved out because their permanent housing was ready and those who moved out because their MAHP unit was declared uninhabitable because of flooding damage from Hurricane Gustav, which struck the area in September 2008.<sup>3</sup> Even though many of the flood-damaged MAHP units appeared perfectly livable to residents, MEMA's insurance company declared them uninhabitable because of the likelihood that future mold could develop from wet flooring insulation. None of the MAHP units that were declared uninhabitable had suffered severe wind damage or any structural damage. Many of the people who had moved into permanent housing before the survey had lived in MAHP units on their property while their homes were being rebuilt and moved out of the MAHP units when the rebuilding was completed.

The other eight households that moved out of their units prior to the fall 2008 survey cited reasons such as their personal or family situation, eviction, dissatisfaction with the location of the

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<sup>3</sup> Because these units were installed for temporary use, they did not need to meet the elevation requirements that permanent units in a flood zone had to meet. This made them more vulnerable to flooding damage than they would have been if installed for permanent use.

unit, or insufficient space in the unit for all family members. Each of these other reasons was cited by one or two households. Hence, there does not seem to be any consistent reason for moving out of MAHP units other than completion of permanent housing or displacement due to Gustav.

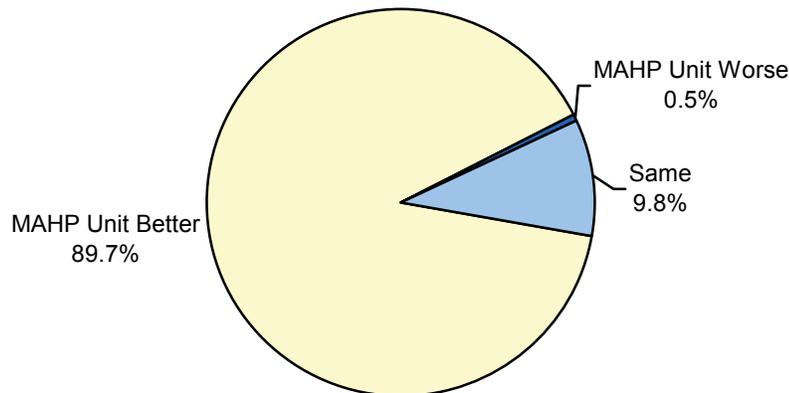
## Condition of the MAHP Unit

The most direct effect of the MAHP program is that participants move to a new housing unit. The MAHP unit may be in a different location from the household's previous unit or it may be in the same location, but all participants will live in a different unit. This means that the most likely impact of the program on participants' quality of life is through a change in the quality of the units they live in.

MAHP recipients gave high marks to the condition of their MAHP units: nearly half reported the unit was in "excellent" condition, and another 40 percent reported it was in "good" condition. Furthermore, 90 percent reported their unit was in better condition than the FEMA trailer or mobile home they had lived in, and most of the remainder reported it was "about the same." Only one respondent reported the condition of the MAHP unit was worse than the FEMA trailer.

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### Exhibit ES-2. Overall Condition of MAHP Unit Compared to FEMA Trailer/Mobile Home



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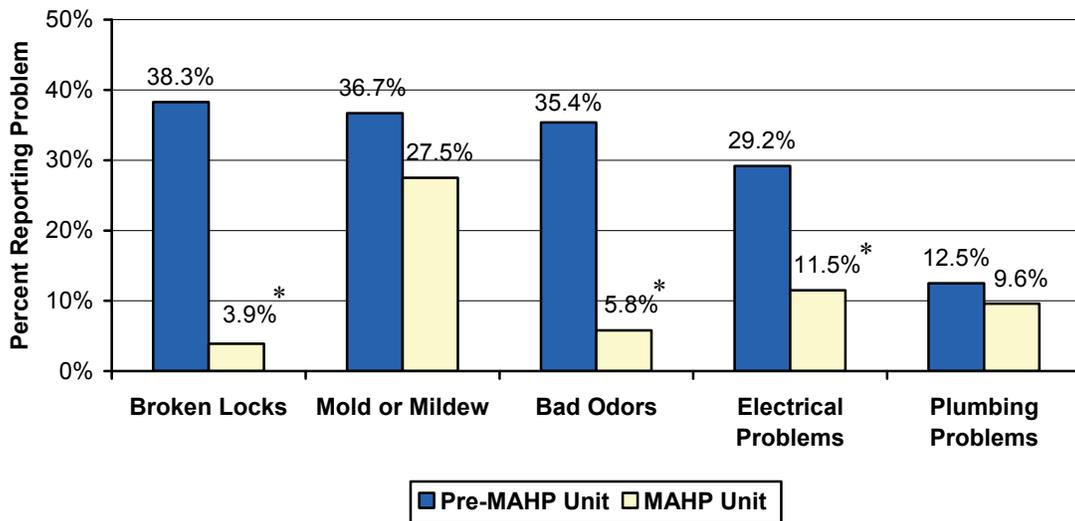
Source: 236 respondents to the MAHP follow-up survey in fall 2008 who had moved into a MAHP unit by February 2008 and still occupied the unit in fall 2008.

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MAHP participants also were asked about the presence of specific problems, such as plumbing problems or broken door locks. These types of questions are used regularly in housing surveys

such as the American Housing Survey.<sup>4</sup> The most common problem reported with MAHP units was mildew, mold or water damage, which was reported by approximately one-fifth of respondents. The only other problems reported by more than 10 percent of the respondents were electrical and floor problems. The analysis also compared the reported unit problems of the 52 people who completed both the baseline survey (prior to moving into the MAHP unit) and the follow-up survey (while living in their MAHP unit). Fewer respondents reported problems in every category while living in their MAHP than while living in their travel trailers or mobile homes. The most dramatic decreases in reported problems were with broken locks on outside doors or windows and bad odors in their home. Reported problems with broken locks decreased from 38.3 percent to 3.9 percent of respondents. Reports of bad odors decreased from 35.4 percent to 5.8 percent. Reported problems with electricity not working also declined substantially (by 17.7 percentage points) for the MAHP participants that participated in both surveys. The reduction in reported issues with their units supports respondents' overall assessment that their MAHP units were in better condition than their previous emergency housing.

**Exhibit ES-3. Presence of Problems in Pre-MAHP and MAHP Unit**



\* Indicates statistically significant difference at 10 percent significance level.

Source: 52 MAHP participants who responded to both the baseline and follow-up surveys and still occupied the MAHP unit in fall 2008.

Given the small size of travel trailers, we expect the MAHP units to reduce overcrowding when compared to the travel trailers. However, MAHP units would not necessarily reduce overcrowding when they are used to replace mobile homes (about 15 percent of the pre-MAHP units). Mobile homes typically have about 840 square feet, the same size as the three-bedroom

<sup>4</sup> The American Housing Survey (AHS) collects data on the Nation's housing. It covers housing costs, housing and neighborhood quality, household characteristics, income, equipment and fuels used in the house, and the size of the housing unit. It is conducted every two years by the Bureau of the Census for the Department of Housing and Urban Development. For more information on AHS, see <http://www.census.gov/hhes/www/housing/ahs/ahs.html>.

MAHP unit, so in these cases the MAHP recipient may have obtained a unit that is better designed for long-term living but not necessarily a larger unit. Furthermore, because MEMA was trying to be true to the mission of testing alternative housing immediately following a disaster, its initial occupancy policies allowed up to four people per one-bedroom unit, five people per two-bedroom unit, and six or more people per three-bedroom unit.<sup>5</sup> Thus, even though the MAHP units are less crowded than the travel trailers, they may still appear overcrowded based on non-emergency housing standards. Using the standard measure of overcrowding as more than two-persons-per-bedroom, 10.6 percent of MAHP households were overcrowded. This is much higher than the national average of 2.4 percent, but likely much lower than the living conditions in travel trailers and mobile homes. We do not have a direct measure of overcrowding in their prior units, but 89 percent of respondents reported the amount of living space was an attractive feature of the MAHP units.

More than 90 percent of MAHP participants also identified increased privacy, the bathroom facilities, and the kitchen appliances as attractive features of their MAHP units. Compared to travel trailers, MAHP units offer private bedrooms with a door rather than a sleeping alcove with a curtain separating it from the rest of the unit; a “real” stove and oven for cooking and a full-size refrigerator rather than a small stove and refrigerator; and a bathtub and shower rather than just a compact shower. In our one-on-one interviews with MAHP participants, they mentioned that these features allowed them to feel more at home in the MAHP unit. For example, they reported that the improved kitchen and larger living space allowed them to invite family or friends over for dinner. All but 2 of the 281 respondents reported that living in their MAHP unit made them feel more at home than living in their FEMA travel trailer.

## **Accessibility of Unit for People with Physical Disabilities**

One of the frequent criticisms of the travel trailers is that they do not satisfactorily accommodate people with disabilities. Several news reports covered the challenges people with disabilities faced living in travel trailers. In the MAHP program, nearly 11 percent of the units were designed to be compliant with the Uniform Federal Accessibility Standards (UFAS) and available to MAHP recipients with mobility disabilities. In addition, all the units were designed using the basic tenets of universal design, such as wider door frames, to make retrofitting any unit for persons with disabilities less costly.

The follow-up survey asked respondents from households in which someone had a physical disability or condition about the accessibility of the MAHP unit and the previous FEMA unit. More than 93 percent of respondents reported that the disabled household member was able to enter and exit the MAHP unit, move around from room to room, and access the bathroom facilities by his or herself. This is a significant improvement compared to what respondents reported for their previous travel trailer or mobile home. For all three activities, less than three-quarters of respondents reported that that the disabled household member had such mobility in the previous FEMA travel trailer or mobile home.

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<sup>5</sup> As the program matured, MAHP changed the standard to allow fewer people per unit.

## **Satisfaction with MEMA Maintenance of the Units**

At the time of the follow-up survey in the fall of 2008, MAHP was still in the temporary housing phase and all of the units were still managed and maintained by MEMA. MAHP participants reported a high degree of satisfaction with MEMA's routine maintenance and response to their repair calls. More than four-fifths of respondents reported being very satisfied or satisfied with the quality of routine maintenance. Only 4 percent of the respondents reported being dissatisfied.

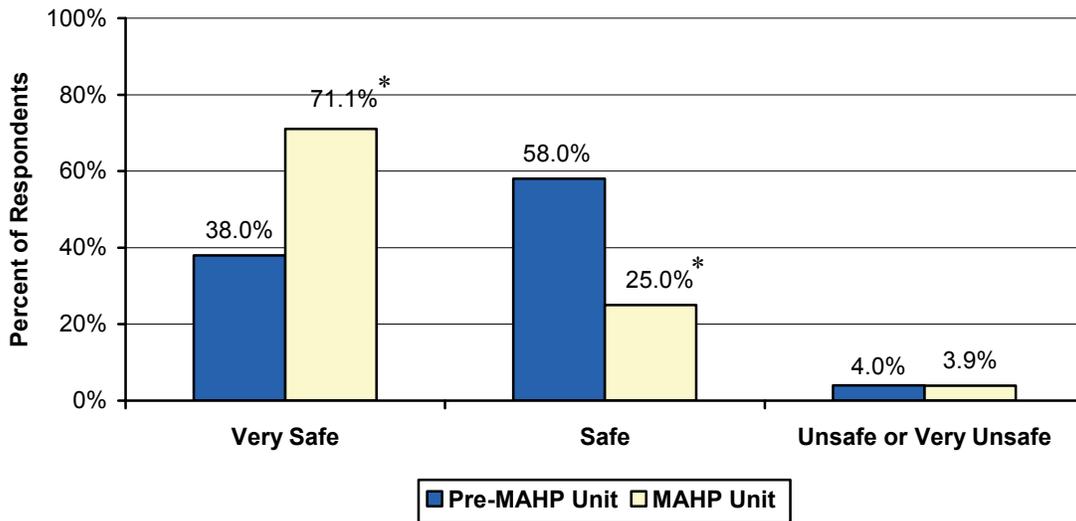
A little more than half of the MAHP recipients reported making a repair service call in the six months prior to the follow-up survey. The most common reason for a service call made by recipients (three of every ten calls) was for the air conditioning unit. This is consistent with reports from MEMA about chronic problems with water leaking in the units from air conditioners that were installed in some of the Park Models. Installation procedures were altered mid-way through the program to try to prevent these ongoing issues. The second most common issue for service calls was the plumbing (14.4 percent), followed by calls about electric outlets or switches (11.4 percent). Eighty percent of the respondents who made a repair call reported that the repair person came within one week, and 92 percent of participants reported the repair person came within a month of the service request. Interviewers did not ask for details about the repair need, so we do not know how well timeliness of the repair matched the urgency of the request. However, 81.4 percent of respondents were satisfied with how quickly the broken item was repaired, and an even higher percentage of respondents reported they were satisfied with the quality of the repair.

## **Perceptions of Neighborhood Safety in Area Where the MAHP Unit Is Located**

It is possible that the MAHP program could improve a participant's feeling of safety from crime either by providing a more secure unit or because a household could place the unit in a safer neighborhood. It appears that MAHP succeeded in providing more secure units. As reported earlier, participants reported fewer problems with broken locks on outside doors and windows in their MAHP units than in their trailers or mobile homes.

Participants were asked how safe they felt in their neighborhood during the day and at night. MAHP participants report high levels of feeling safe on the streets near their home during the day and at night. During the day, 95 percent report feeling very safe or safe near their home and at night 88 percent report this level of safety. For the non-random sample of respondents who also completed the baseline survey, comparisons of perceptions of safety across the two time periods can be seen in Exhibit ES-4. In the fall of 2008, while living in their MAHP units, these respondents were significantly more likely to report feeling very safe on the streets near their home than they reported at baseline in 2007. This change reflects a relatively large movement of people from feeling "safe" to feeling "very safe." When those two categories are combined, there is no statistically significant change in the reported feelings of safety for these 52 respondents.

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**Exhibit ES-4. Feelings of Safety on the Streets Near Your Home at Night**

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\* indicates statistically significant difference at 10 percent significance level.

Source: 52 MAHP participants who responded to both the baseline and follow-up surveys and still lived in the MAHP unit in fall 2008.

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The safety results—high levels of feeling safe in the neighborhood and feeling even safer since moving into the MAHP unit—demonstrate a positive outcome for MAHP participants. However, more than half of participants did not change neighborhoods when they moved into a MAHP unit, and thus the improvements in safety might be driven more by community recovery from the disaster than by moving into a MAHP unit.

## Mental Health of MAHP Participants

Traumatic events such as experiencing a hurricane can have profound effects on the emotional health of those who live through them. Furthermore, a long recovery process, including extended stays in temporary and sometimes overcrowded housing, away from one's community and normal daily activities, can be extremely stressful. A unit that provides more space and privacy and feels more like a home may help the mental health recovery of disaster victims.

The primary measure of mental health used in the survey is the K6 screening scale of anxiety-mood disorder developed by Ron Kessler of the Harvard Medical School. The K6 scale asks respondents how often they experienced symptoms of unspecified serious psychological distress (SPD) over the past 30 days and is intended to be used as an indicator of a potentially diagnosable mental illness such as depression or anxiety. Based on this scale, 19.8 percent of MAHP participants met the criteria for SPD. This is much higher than the national rate of SPD (3 percent), and is also higher than other studies of Hurricane Katrina victims, which found rates of SPD between 10 and 14 percent. However, the timing of the studies and the populations were not the same – the other Hurricane Katrina research included all disaster victims, not just those who had not moved into permanent housing 2 to 2.5 years after the storm. It is possible that people

who had not yet rebuilt their home or found other permanent housing within this time period were coping with further feelings of instability since they had not secured permanent housing over an extended period of time. In addition, people suffering from psychological distress may have more difficulty navigating the post-disaster housing market and hurricane recovery programs to become permanently housed and so may be overrepresented in the MAHP program.

The rate of SPD among the subsample of respondents who completed both the baseline and the follow-up survey was compared. Among this group, 31 percent met the criteria for SPD at the time they applied for the MAHP program. At the time of the follow-up survey, 26 percent of this subgroup met the criteria for SPD, representing a decrease of 5 percentage points. Receipt of a MAHP unit may have diminished the stress level of recipients by providing a higher quality, less crowded unit and a greater sense of stability. However, the improvement could be just a reflection of the passage of time since the disaster—that is, the improvement might be independent of the MAHP. We cannot separate the effects between MAHP and general recovery without a control group of similar people who did not participate in the MAHP program. Moreover, no definitive conclusions can be drawn that the SPD rate decreased because of the small sample size. The 5 percentage point change in SPD is not statistically significant.

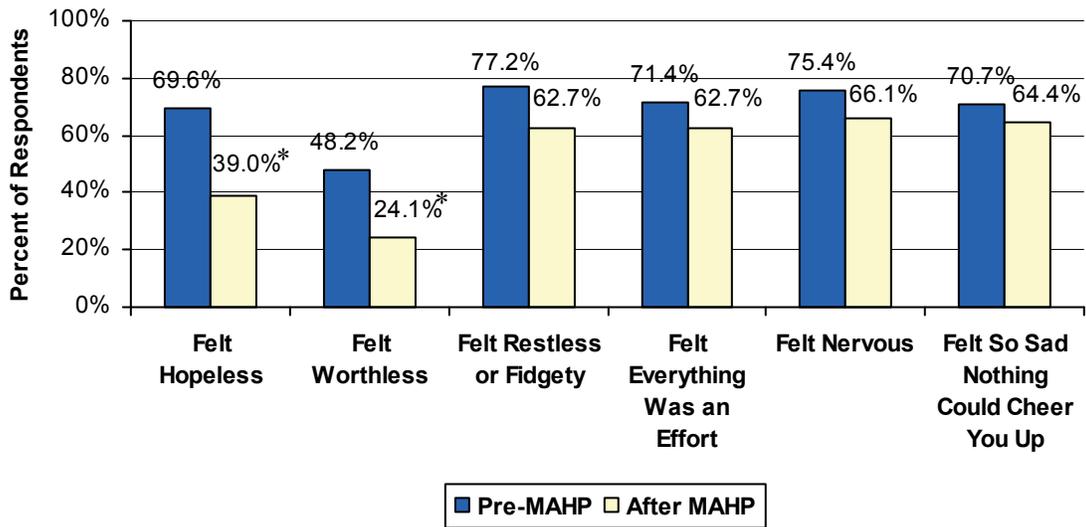
Although a decline in the rate of SPD among MAHP respondents cannot definitively be attributed to the MAHP unit, improvements to mental health as a result of receiving a MAHP unit were cited by many of the MAHP respondents. A number of respondents mentioned a sense of peace, less stress, a feeling that ‘life had returned to normal,’ and that family members felt ‘hopeful.’ One respondent said “...it’s greatly improved. I don’t cry every day now, and I like to come home.”

A closer look at the individual screening criteria that make up the K-6 scale offers additional evidence that mental health among MAHP respondents improved between the baseline and follow-up surveys.<sup>6</sup> As shown in Exhibit ES-5, respondents reported improvements for all six screening criteria, but the most dramatic change was in the percentage of the MAHP respondents who reported that they ever felt hopeless in the last 30 days, which was cut almost in half between baseline and follow-up from 70 to 39 percent. This change is reflected in one respondent’s sentiments, who said of the MAHP unit: “Made me feel like I am living again. Made me feel like I am springing forward. It gave us a whole different life.”

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<sup>6</sup> Measures of SPD are based on a summary score of all the symptoms listed in Exhibit ES-5. While the individual items show large increases in the number of people experiencing symptoms of psychological distress none of the time, the overall summary scores do not change as drastically.

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**Exhibit ES-5. Emotional Health During the Past Month**

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\* Indicates statistically significant difference at 10 percent significance level.

Source: 52 MAHP participants who responded to both the baseline and follow-up surveys.

Note: The possible responses are (1) All of the time, (2) Most of the time, (3) Some of the time, (4) A little of the time, and (5) None of the time. The estimates above include all of these answers except "None of the time."

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## Respiratory Health of MAHP Participants

The emotional stress of coping with the storm and its aftermath can also take a toll on the physical health of disaster victims. In addition, the mold and mildew caused by the storm waters and possible elevated levels of formaldehyde in the temporary FEMA trailers have been cited as risk factors for asthma and other respiratory problems. Respiratory health, in particular, could improve if the MAHP units have better ventilation, less mold and mildew, or lower levels of formaldehyde than FEMA trailers. Indoor air quality tests are being undertaken as part of another component of FEMA's study of the AHPP, but the findings from this analysis are not yet available. In this study, we obtained MAHP participants' perceptions of their overall health and respiratory issues.

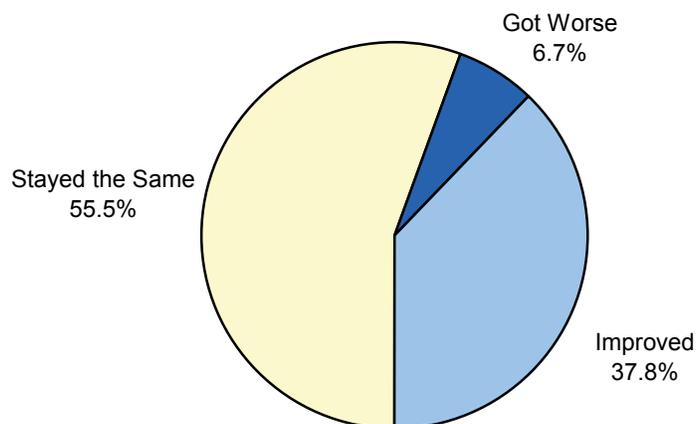
At the time of the follow-up survey in fall 2008, the MAHP participants reported poorer health than the adult populations of Mississippi and the United States. For example, a much higher percentage of MAHP survey respondents reported fair or poor health (41 percent) than all adults in Mississippi (21 percent) and all adults nationally (15 percent). For the respondents that completed both the baseline and follow-up survey, there was no significant change in the report of their health before and after moving into a MAHP unit. Participants' health status prior to Katrina is unknown.

Respondents were asked whether a doctor or other health professional ever told them that they had asthma, emphysema, allergies, or other respiratory breathing problems and if so, when was

the condition diagnosed. A little over half of the respondents reported respiratory problems, with about half these respondents reporting that all the respiratory problems started prior to Katrina, one-third reporting they started after Katrina, and most of the rest reported that some respiratory problems started before Katrina and some after. More than one-third of respondents (37.8 percent) reported that their respiratory problems had improved since moving into their MAHP unit. By contrast, only 6.7 percent reported their respiratory problems had become worse since moving into their MAHP units, while 55.6 percent said their respiratory problems stayed about the same.

A little more than half the households with children reported that at least one child in their household had respiratory problems such as asthma, allergies, or other breathing problems. Similar to the adults with respiratory problems, most children's respiratory issues stayed the same (37.0 percent) or improved (52.2 percent) after moving into a MAHP unit. Only a small share had breathing problems that became worse (10.9 percent).

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**Exhibit ES-6. Respondent Report of Change in Respiratory Problems after Moving into MAHP Unit**

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\* Indicates statistically significant difference at 10 percent significance level.

Source: 148 respondents to the MAHP follow-up survey in fall 2008 who reported that a health professional had diagnosed a respiratory illness.

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## Employment and Income

At the time of the follow-up survey, 50 percent of the respondents reported income from earnings. This is lower than the employment rate in the six-county area according to the 2000 Census (58.6 percent employed). The 60 respondents to both the baseline and follow-up survey also showed a slight decline in employment over that time period, but the difference was not statistically significant. The findings suggest that MAHP households were able to maintain, but not improve employment status between the time they applied for a MAHP unit in 2007 and the follow-up survey in fall 2008. The economic downturn in 2008 may have affected these outcomes.

The main reasons respondents cited for not working were retirement and disability, which is consistent with the demographic characteristics of MAHP households. Household sources of income are also consistent with these reported reasons: 46.8 percent of households reported receiving retirement or disability income.

## **Conclusion**

Mississippi's alternative housing program served a wide spectrum of people affected by the storm. However, the people who did not have permanent housing two years after the storm and applied for the program tended to be older, poorer, and more likely to have a disabled household member than the overall pre-Katrina population of the area.

The MAHP program appears to have achieved the most direct affect a housing program can have on the quality of life for participants: It improved their housing situation. Compared to their pre-MAHP housing—typically a FEMA travel trailer or mobile home—participants reported their housing was in better condition, had fewer housing quality problems, had more space, had better features, allowed more privacy, and just felt more like a home. This effect on housing quality can be directly attributed to the program.

The findings also suggest increased feelings of safety near their home, small improvements in mental health, and more substantial improvements in respiratory health issues after the participants moved into their MAHP unit. Employment and income sources do not appear to have changed much since moving into a MAHP unit, but overall national economic conditions had also deteriorated during this time period. No definitive conclusions can be made that the improvements in feelings of safety, mental health, and respiratory issues are due to MAHP or that income and employment would not have remained stagnant in the absence of MAHP, because other factors—such as time since the disaster, community recovery overall, and the national economic downturn—are likely also affecting these outcomes. Without a control group of similar households that did not participate in the program, we do not know what the outcomes of the MAHP participants would have been in the absence of the program.

MAHP participants will be surveyed again in the fall of 2010, as will participants in the alternative housing programs in the other three states. A final report summarizing the findings from both the surveys and the process studies in all four states will be produced in 2011.

# Chapter 1: Introduction

This Interim Report reviews quality of life outcomes for participants in Mississippi's Alternative Housing Program (MAHP). The Interim Report focuses on Mississippi because it was the only site to have a substantial number of units occupied by the fall of 2008. A Final Report covering all four AHPP sites will be produced in 2011.

In the MAHP program, Mississippi's Emergency Management Agency (MEMA) and its contractors built and installed factory-built, manufactured housing units for over 2,800 households who were living in Federal Emergency Management Agency (FEMA) travel trailers or mobile homes nearly two years after Hurricane Katrina. A representative sample of 350 households was selected and an adult household head or co-head was interviewed in the fall of 2008. Sample members were contacted by phone or in-person and asked about their perceptions of the quality and livability of the MAHP unit and the surrounding neighborhood. Respondents were also asked about other dimensions of their quality of life, such as mental and physical health, employment, income, and their children's health and behavior. The survey is the primary source of data for measuring outcomes among MAHP participants for this report. The survey and other sources of data for this report are described in Section 1.2.

The remainder of this chapter provides a brief description of the Alternative Housing Pilot Program (AHPP) evaluation, the data sources for this report, and background information for interpreting the findings. Chapter 2 provides an overview of the MAHP program and updates information on program operations from September 2008 through July 2009. (A case study reviewing the MAHP program through August 2008 was published previously.) Chapter 3 describes demographics and characteristics of MAHP participants and Chapters 4 through 6 provide information on quality of life outcomes for MAHP participants. The final chapter contains the conclusion.

## 1.1 Overview of the AHPP Evaluation

Following Hurricane Katrina, FEMA deployed 130,181 FEMA travel trailers or mobile homes to house disaster victims along the Gulf Coast.<sup>7</sup> After the hurricane, it became clear that the breadth and severity of the damage would require a long recovery period and that the trailers were not appropriate long-term temporary housing for displaced households. In June 2006, Congress allocated \$400 million to FEMA to develop alternative designs and prototypes for disaster housing.

From this special allocation of funding, FEMA established the AHPP and created a grant competition to award funds for the program. In September 2006, FEMA offered the opportunity to apply for AHPP funding to the States of Alabama, Florida, Louisiana, Mississippi and Texas,

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<sup>7</sup> This is the number of peak occupied units in Louisiana, Mississippi, and Alabama based on FEMA records. The number of units in Louisiana includes FEMA housing units provided after Hurricanes Katrina and Rita. This number of occupied units was provided in e-mail from FEMA's Disaster Assistance Directorate on May 26, 2009.

the five states most severely affected by Hurricanes Katrina, Rita, and Wilma. Proposals from Alabama, Louisiana, Mississippi, and Texas were selected for the program. All the eligible states submitted more than one proposal (29 proposals in total), but Mississippi was the only state with two proposals selected for the program.<sup>8</sup>

In early 2007, FEMA entered into an agreement with the Department of Housing and Urban Development (HUD) to have HUD oversee an evaluation of AHPP implementation and outcomes. HUD hired two contractors in the fall of 2007 to conduct the evaluation. One contractor, the National Association of Home Builders Research Center is tasked with evaluating the units and unit installations from a physical (building sciences) standpoint, including the speed and ease of construction and installation, durability, safety, and energy efficiency. The second contractor—Abt Associates—is conducting a “quality of life” evaluation of outcomes and program implementation that includes an assessment of the livability of the units as perceived by program participants, the extent to which the units aided participants’ recovery, how the units were perceived by community stakeholders, and how the grantees’ organizational capacity and approach affected program and participant outcomes. This interim report is part of the quality of life evaluation.

The four AHPP grantees will be followed until their programs are substantially complete. We will track implementation progress and discuss the implementation process, challenges, and how the how the challenges were met until the AHPP units are fully occupied or close to fully occupied. Case studies produced for each grantee will capture this information. The Mississippi case study was completed in February 2009 and the Alabama case study was completed in July 2009. Case studies for Louisiana and Texas will be completed in 2010. Two formal surveys of program participants will be conducted over the course of the evaluation to identify the outcomes for participants. The first follow-up survey will be administered on a site-by-site basis approximately one year after participants occupy the unit. The second follow-up survey is planned for the fall of 2010 for all grantees. The final evaluation report will be issued in 2011 and will summarize all the findings of the AHPP evaluation, including the results of a second follow-up survey.

## **1.2 Data Sources for this Interim Report**

This document is the Interim Report for the quality of life evaluation and is based primarily on the first follow-up survey of Mississippi’s AHPP participants, which was administered in the fall of 2008. Wherever possible the results of this follow-up survey are compared to responses from a baseline survey administered in 2007. Other contextual information is provided from interviews with MEMA staff, a small number of informal one-on-one interviews with MAHP participants, and written materials provided by MEMA. These sources are described in more detail below.

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<sup>8</sup> For a more detailed description of the AHPP grant competition and selection criteria, see: GAO. 2007. “Disaster Housing Implementation of FEMA’s Alternative Housing Pilot Program Provides Lessons for Improving Future Competitions.” (GAO-07-1143R).

## Baseline Survey

HUD's Office of Policy Development and Research developed and administered a baseline survey to potential MAHP program recipients in the summer of 2007. HUD did not have an evaluation contractor at that time, so it had to rely on a mail survey with no follow-up with potential recipients who did not return a completed survey. The baseline survey was mailed to 14,000 households that were potentially eligible for MAHP. As expected, this mail survey, using contact information later found to be unreliable and with no follow-up, resulted in a low response rate. For Mississippi, there were 1,175 completed baseline surveys out of the 14,000 mailed. Moreover, only 242 of the 1,175 respondents to the baseline survey ended up moving into a MAHP housing unit. The other baseline respondents either decided they were not interested in the program or were determined not to be eligible for the program. The baseline survey was estimated to take respondents 25 minutes to read and complete. A copy of the survey is attached in Appendix A. Most of the baseline questions were repeated in the follow-up survey to facilitate comparisons before and after receipt of the MAHP unit. Because of the low response rate to the baseline survey, the baseline survey responses from the 242 MAHP participants are not considered a representative sample of all MAHP participants. This is noted in the report when baseline survey responses are reported.

## Follow-up Survey

The follow-up survey collected detailed information on living conditions in the MAHP unit, as well as comparisons to the living conditions in the respondent's previous FEMA trailer or mobile home. The survey also collected information on the quality of the neighborhood where the unit is located, the mental and physical health of the respondents, household composition, and income and employment. The follow-up survey collected much more detailed information compared with the baseline survey and focused on additional topics of interest that arose since the development of the baseline survey. For example, respiratory health became a major issue after reports of high formaldehyde levels in FEMA travel trailers. Therefore, questions about respiratory health were included in the survey. The follow-up survey also asked more detailed questions about mental health, introducing a Post-Traumatic Stress Disorder (PTSD) scale based on reports of PTSD symptoms among disaster victims.<sup>9</sup> Whenever possible, the survey questions were based on questions used on other surveys, including the American Housing Survey, the Moving to Opportunity survey, the HOPE VI Panel Study survey, and the National Health Interview survey. The follow-up survey is shown in Appendix B.

A representative sample of 350 MAHP participants who had occupied their MAHP units by February 1, 2008 was randomly selected for the follow-up survey. The survey was conducted from mid-October to early December 2008, an 8 week period. Restricting the sample to recipients that had lived in the MAHP unit since February 1 ensured that the survey respondents had an opportunity to live in a MAHP unit for at least eight months (February 2008 through September 2008). The first MAHP recipient moved into a unit at the end of June 2007, so the longest a respondent could have lived in the unit at the time of the survey was 17 months (July 2007 through November 2008).

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<sup>9</sup> See the National Center for PTSD website (<http://www.ptsd.va.gov/professional/pages/assessments/ptsd-checklist.asp>) for information on the PTSD survey questions for civilians used in this study.

The survey sample of 350 households constituted 26 percent of the 1,343 participants who moved into their MAHP units before February 2008. Ten of the 350 survey participants were deceased, incapacitated, or institutionalized at the time of the follow-up survey. Of the 340 remaining sample members, 281 completed the survey. The response rate of 82.6 percent is considered high. High response rates are associated with more accurate surveys and bolster confidence that the survey findings are representative of all eligible MAHP participants. Seventy of the 340 eligible sample members selected for the follow-up survey had completed a baseline survey. Of the baseline survey respondents selected for the follow-up survey, 60 of the 70 completed the survey. Therefore, the response rate in this group is a little higher (85.7 percent) than the overall response rate.

As a test of the representativeness of the respondents who completed the follow-up survey, we compared the pre-Katrina homeownership status of the survey respondents, the survey sample, and eligible participants from which the survey sample was drawn. We also compared the share of households in each group that had their MAHP unit made uninhabitable by Hurricane Gustav in September 2008. These are the only variables we were able to access from the Mississippi grantee’s administrative data for all 1,333 eligible MAHP participants.<sup>10</sup> The results are presented in Exhibit 1-1. The differences between the survey respondents and the population that is represented by the sample are small and statistically insignificant. This result provides further confidence that the findings from the first follow-up survey are representative of the eligible MAHP participants, the population of interest for this Interim Report.

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**Exhibit 1-1. Comparison of Survey Respondents to the Survey Sample and Eligible MAHP Participants**

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Characteristics	Follow-up Survey Respondents (n = 281)	Follow-up Survey Sample (n = 340)	Eligible MAHP Participants (i.e., Occupied a MAHP unit by 2/1/08) (n = 1,343)
Homeowner prior to Hurricane Katrina	65.6%	64.3%	64.5%
Home made uninhabitable by Hurricane Gustav	10.0%	9.2%	9.2%

*Source: Occupancy data provided by the Mississippi Emergency Management Agency)*

*Notes: There are no statistically significant differences at the 10 percent level of significance between follow-up survey respondents and the follow-up survey sample or eligible MAHP participant on the characteristics in this exhibit.*

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Much of our analysis in this report is based on all 281 survey respondents. However, we conduct many analyses only for the 60 respondents to both the baseline and follow-up surveys or only for the 45 respondents who had not moved out of their MAHP unit by the time of the follow-up

<sup>10</sup> The number of people eligible for being in the survey sample was reduced from 1,343 to 1,333 because 10 of the respondents selected for the sample were deceased or incapacitated prior to the survey period in the fall of 2008.

survey. We included people who moved out after short stays, because their experience in the MAHP units may be different than the experiences of people still living in the units. We asked these “movers” (45 of the 281 respondents) retrospective questions about their experience in the MAHP unit and about their reasons for moving out of the MAHP unit.

Exhibit 1-2 provides a summary of the subsamples we use most often for analysis in this report.<sup>11</sup> It includes both the sample size and the 90 percent confidence interval for a random sample of that size. The 90 percent confidence interval provides an indication of how precise the estimates are for a given sample size. It indicates that in 90 percent of samples of this size, this interval will contain the value we would obtain if we asked everyone in the entire eligible population this question. The size of the confidence interval or precision of the estimate is driven by the size of the sample – the larger, the more precise the estimate—and the variability of the responses. For prevalence estimates where the estimate is the percentage of respondents with a given response, the maximum variability of the responses is when half the respondents give that answer and half give a different answer (i.e., an estimate of 50 percent). This means that holding the sample size constant, the confidence interval will be largest for prevalence estimates of 50 percent.

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**Exhibit 1-2. The Size and 90 Percent Confidence Interval for Common Subsamples Used in Analyses**

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Sample Description	Sample Size	90 Percent Confidence Interval for Given Sample Size and Estimate of:	
		50%	90%
All Respondents	281	+/- 4.9%	+/-2.9%
Respondents who still lived in their MAHP units at the time of the follow-up survey	236	+/-5.3%	+/-3.2%
Respondents who completed both the baseline and follow-up surveys	60	+/-10.6%	+/-6.4%
Respondents who completed both the baseline and follow-up surveys AND still live in their MAHP units at the time of the follow-up survey	52	+/-11.4%	+/-6.8%
Respondents who moved out of their MAHP units by the time of the follow-up survey	45	+/-12.2%	+/-7.3%

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As can be seen in Exhibit 1-2, the most precise estimates are from analysis of all respondents (n=281), when most respondents (90 percent) give the same answer. In that case, the 90 percent confidence interval is +/- 2.9 percentage points, indicating we are 90 percent confident that the true population value is between 87.1 percent and 92.9 percent. The estimates are less precise when we analyze smaller subsamples and the responses are more evenly split. For example, the

<sup>11</sup> Other subsamples that are used for specific analyses are discussed as needed in the body of the report. For example, for questions about the ease of access to the unit for people with physical disabilities, we restrict the analysis to households reporting a household member with a physical disability.

90 confidence interval for respondents who moved out of their MAHP unit prior to the survey (n=45) and are evenly split in their answers (i.e., the estimate is 50 percent) is +/-12.2 percentage points, so we are 90 percent certain the true value ranges from 37.8 and 62.2 percent. In this report, when we compare the responses of two different groups of respondents or compare the responses of the same people at baseline to the responses in the follow-up survey, we report whether the responses are statistically significantly different or not.

### **Additional Sources of Information**

Qualitative information from additional sources – the implementation study and additional interviews – was used to provide context for Mississippi’s program and offer possible explanations for survey findings. As part of the implementation study portion of the AHPP quality of life evaluation, researchers spoke with MEMA staff almost every month about the progress of program implementation and the challenges faced. In addition, a two-person evaluation team made three site visits to the area to see the units and locations, observe community meetings, talk with MEMA staff, and interview other community stakeholders. These site visits took place in November 2007, May 2008, and July 2008. On these site visits, the researchers conducted in-depth discussions with MAHP staff—both MEMA employees and contractors—in individual and group interviews. They also conducted focus groups with staff persons who held the same MAHP positions in different Mississippi counties, as well as staff who were working on a specific issue, such as permanent housing. The site visit team also conducted informal, unstructured interviews with eight MAHP participants about their perceptions of the units and their experience with the program. The MAHP participants who were interviewed were dispersed among the three coastal counties and selected by MEMA staff based on their availability. MEMA has also provided a wealth of written information and reports about the units and program. In addition, we have monitored local and national newspapers for articles about the MAHP program and the aftermath of Hurricane Katrina.

The HUD Government Technical Monitor (GTM) conducted one-on-one interviews with six MAHP residents in early October 2008. All six of these residents had moved out of their MAHP units – or been ordered to move out – because of flooding damage caused by Hurricane Gustav. The field notes from these interviews were shared (with the names of respondents redacted) for use in this report to help understand the experiences of participants displaced from their MAHP units and the general experiences of MAHP participants. The participants were asked about their housing experiences after Hurricane Katrina, in the MAHP unit, and after Hurricane Gustav.

## **1.3 Contextual Information for Interpretation of the Interim Report**

A number of important contextual issues should be kept in mind when reading the report.

### **Results Apply to Mississippi’s Program**

This report covers only Mississippi’s alternative housing program. Each of the other three grantees is implementing its own alternative housing program and thus may have different results. In addition to running different alternative housing programs, the results for the other three

grantees could be different because of the broader recovery environment in which they are operating. The number of people affected and the amount of damage done by Hurricanes Katrina and Rita were vastly different across the states. For example, at the peak of the disaster response Mississippi had almost 38,000 occupied FEMA trailers and mobile homes, whereas Louisiana had more than twice that number (90,186 units) and Alabama had just a small fraction of that number (2,181 units).<sup>12</sup> The number of FEMA units reflects how widespread the infrastructure damage was and gives a relative indication of how large the broader recovery effort would be in each state.

### **Timing of MAHP may Affect who Participates and their Perception of the Program**

MEMA's alternative housing program started in April 2007; 20 months after Hurricane Katrina hit the Mississippi Gulf Coast. Respondents to the follow-up survey moved into their MAHP units between June 2007 and the end of January 2008—approximately 2 to 2.5 years after Hurricane Katrina. The results of this report should be interpreted in the context of this timeframe for several reasons. The MAHP participants who were still not in permanent housing that long after the hurricane can be presumed to be different from those who would have participated in a MAHP program six months after the disaster. Their continued lack of permanent housing may indicate they had fewer financial resources or less ability and knowledge of how to obtain permanent housing than other people displaced by the storm. Other possibilities are that their houses suffered the most damage and thus took the longest to repair or rebuild or that this group represents the people most determined to rebuild their home on their pre-Katrina property. A second timing issue is that most of the MAHP participants had lived in FEMA trailers or mobile homes for at least a year before receiving their MAHP units. Their perceptions of the MAHP unit may be very different after that experience than if they had been placed in a MAHP unit soon after their pre-Katrina home had been destroyed. If they had moved into a MAHP unit immediately following the disaster, their perception of their unit may have been relative to their pre-Katrina housing.

### **The Impact of the Program is not Estimated Directly**

The original vision for this evaluation was to estimate the impact of the program by comparing outcomes for people who received a MAHP unit to a control group of people are similar to the participants in that they were eligible and applied for a unit, but did not receive one because of a shortage of units. However, the control group did not materialize because there were not enough eligible and interested applicants to permit random assignment. Therefore, there is no unequivocal method to estimate the impact of the MAHP program on the recipients' quality of life, because we do not have a way of measuring what would have happened to recipients in the absence of the program.

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<sup>12</sup> This is the number of peak occupied units in Louisiana, Mississippi, and Alabama based on FEMA records. Note that the information for Louisiana includes FEMA housing units provided after Hurricanes Katrina and Rita. (Information provided in e-mail from FEMA's Disaster Assistance Directorate on May 26, 2009.)

What we can measure is how people's housing and lives changed after they received the MAHP unit. In order to measure these pre-post changes, HUD mailed a short baseline questionnaire to all potential applicants. Whenever possible (i.e., whenever there was a baseline question on the topic), this pre-post comparison is made to estimate the change in outcomes after the recipient moved into a MAHP unit. However, the baseline survey was completed by only small percentage of MAHP recipients, so we do not know how representative these results are of all MAHP participants. The respondents were not a random probability sample and thus not a representative sample of all MAHP participants. Hence, these comparisons only reflect the subset of MAHP participants that completed the baseline survey. We remind the reader of this by referring to this group as "the non-random sample of people who responded to the baseline and follow-up survey." To compensate for the lack of a control group or a representative baseline sample, the survey contains many questions that ask respondents to compare their MAHP unit to their prior FEMA housing or asks them retrospective questions about their experience in their prior FEMA housing. A limitation of this approach is that MAHP participants may have difficulty accurately remembering their prior situation. The respondent may not give the same answer (s)he would have at the time (s)he lived in the prior FEMA housing.

### **National Economic Conditions and Other External Factors also Affect Outcomes**

The MAHP recipients' housing situation is just one factor, albeit an important one, that affects their quality of life. In addition to individual-specific factors (e.g., status of the participant's marriage), issues like economic conditions affect the entire population. At the time of the follow-up survey in the fall of 2008, the U.S. was in the midst of an economic crisis. This may have affected people's employment and income and also could have caused additional stress and worry that affected mental and physical health. This is particularly important to keep in mind when making baseline and follow-up comparisons, because the economic deterioration increased rapidly in the fall of 2008. Hurricane Gustav also hit the Mississippi coast in September 2008, about two months before most respondents completed the survey. This also could have affected their responses to the survey. Both of these external factors are included in discussions about outcomes when appropriate.

## Chapter 2: The Mississippi Alternative Housing Program (MAHP)

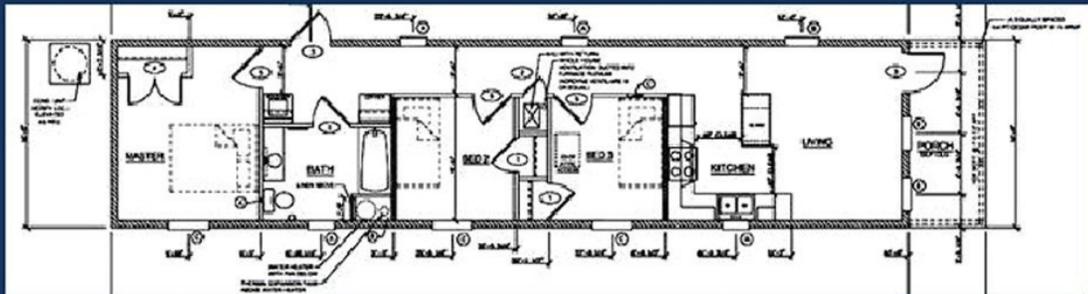
This chapter provides an overview of Mississippi's AHPP program, called the Mississippi Alternative Housing Program (MAHP). A detailed case study reviewing the program from start-up in April 2007 through August 2008 was published separately.<sup>13</sup> This chapter describes the program and summarizes its challenges and accomplishments through July 2009.

Exhibit 2-1. Mississippi Cottage

Right: An exterior view of a Mississippi Cottage.

Below: The floor plan for the three-bedroom Mississippi Cottage.

Photo by: Erin Wilson/July 2008



### 2.1. The Program

MAHP designed, manufactured, and installed 2,830 Mississippi Cottages that were intended for temporary deployment following a disaster. To test the concept of using the Cottages for disaster response, MAHP attempted to simulate disaster conditions to the greatest extent possible. The project plan called for a short design phase, rapid procurement and deployment of large numbers of units, and a limited temporary housing period before demobilization. This approach helped test the ability of the organization to coordinate multiple simultaneous processes, as well as the capacity of the manufactured housing industry to produce units. MAHP intended to install and then demobilize all temporary units by March 31, 2009, but also assumed that arrangements

<sup>13</sup> Abt Associates Inc. and Amy Jones Associates Inc. *Developing a More Viable Disaster Housing Unit: A Case Study of the Mississippi Alternative Housing Program.* (Washington, DC: Department of Housing and Urban Development and Federal Emergency Management Agency, 2009).

would be made for some of the Cottages to remain as permanent housing after MAHP. As of the writing of this report, a major effort to demobilize units and to install those that would remain permanently was underway.

Mississippi also received a second, smaller AHPP grant to build 80 Eco Cottages. Although conceived as mobile structures during the grant application stage, the state decided the energy efficient units should be used for permanent housing.

### **Grantee Organization**

The State of Mississippi designated the Mississippi Emergency Management Agency (MEMA) to implement MAHP. MEMA established the MAHP office in Gulfport and staffed the project using a combination of local hires, contractor resources, and regular State employees who were assigned to the program. The State contracted with Post, Buckley, Schuh & Jernigan, Inc. (PBS&J), a national engineering consulting firm, to provide management and technical support to the project. At the height of the temporary installations at the end of 2007 and beginning of 2008, about 100 MEMA and contractor staff were working on the program. As temporary installations slowed, the number of program staff declined slightly, but rebounded in January 2009 to handle the demobilization phase of the program. MAHP's Project Director reports directly to MEMA's Executive Director, and the agency often works closely with the Governor's Office of Recovery and Renewal. Exhibit 2-2 shows the organizational structure as of July 2009.

### **Program Design and Eligibility**

The concept for MAHP originated from a series of public workshops the Governor held immediately following Hurricane Katrina. At these meetings, initial designs were developed for a disaster housing unit more livable than a FEMA travel trailer. The units were designed so that they could be used for long-term recovery from a disaster or permanent housing, if needed.

MEMA initially offered the program to applicants in the three Gulf Coast counties most severely affected by the 2005 storms: Hancock, Harrison, and Jackson. It was later expanded into the more rural, inland counties of George, Stone, and Pearl River when MEMA recognized it had the capacity to serve more households than applied and were eligible in the original three counties. To qualify, participants must have been affected by Hurricane Katrina or Rita, residents of the affected counties on August 25, 2005, and, at the time of application, still in need of temporary housing for at least six more months. The program was open to both homeowners and renters. In most instances, applicants had to provide their own sites and make any site improvements necessary to receive a unit. No group sites were developed under MAHP during the temporary program, but some units were placed in commercial mobile home parks.

### **Unit Design, Production, and Installation**

As outlined in Exhibit 2-3, three MAHP unit types were developed – the Park Model and two versions of the Mississippi Cottage – and one additional type is planned, the Eco Cottage. (Unless otherwise specified, this report uses MS Cottages to refer to both Mississippi Cottages and Park Models.) The MS Cottages were designed to meet both the current HUD code for manufactured housing and the International Residential Code (IRC). Each was designed to withstand winds of up



### Exhibit 2-3. MAHP Unit Types

- ❖ **One-Bedroom Park Model**
  - Designed as a direct replacement for the FEMA travel trailer
  - 396 square feet with a full-size bathroom and kitchen
- ❖ **Two- and Three-Bedroom Mississippi Cottages**
  - 728 and 840 square feet
- ❖ **Handicapped-Accessible Two- and Three-Bedroom Mississippi Cottages**
  - Compliant with Uniform Federal Accessibility Standards
  - 728 and 840 square feet
- ❖ **Two- and Three-Bedroom Eco-Cottages**  
Intended to have enhanced energy efficient features

### Exhibit 2-4. Park Model

A view of the Park Model and the floor plan for the one-bedroom



to 150 miles per hour. The Mississippi Cottages and Park Models were installed for temporary use, but they were designed with removable undercarriages to enable them to be placed on permanent foundations later. Early on in the program, MEMA decided to design and install the Eco Cottages exclusively as permanent housing.

#### ***Mississippi Cottage***

When the Cottage designs were completed, MEMA contracted with six manufacturers of modular/manufactured housing to produce the units in ten existing factories. MAHP established a transition site near Gulfport to receive and inspect Cottages and dispatch the units to sites when the sites were ready. All Cottages were manufactured by December 2008 and 2,830 were temporarily installed.

From spring 2007 through summer 2008, MEMA installed the Cottages in a temporary configuration, on piers and anchored to the ground. Exhibit 2-5 shows the temporary anchoring.

Installation specifications called for the units to be able to withstand 150 miles-per-hour winds.<sup>14</sup> FEMA required that the units be furnished with at least a sofa, a dining table and chairs, bed frames and mattresses, and a “living kit” that contained linens, dishes, silverware and cleaning supplies.

#### Exhibit 2-5. Temporary Installation of Mississippi Cottages

The set and tie down used for all temporary installations of Cottages

Photo by:  
Erin Wilson/July 2008



#### *Eco Cottage*

Funded by a separate grant, the Eco Cottage had a slower start than the Cottages, beginning seven months later, in November 2007. Initial unit designs were complete by summer 2008, but changes were needed to address accessibility requirements and ingress/egress requirements. By February 2009, the Eco Cottage was designed and bid documents for the manufacture of the units were prepared. After the initial proposed site for the units fell through, MEMA decided to secure a site before advertising for a manufacturer. After an unsuccessful search for a site, MEMA decided to sub-grant the Eco Cottage implementation to a local non-profit or government partner. An RFP was released in May 2009, and MEMA’s partners were expected to be selected in September 2009.

#### **Disposition and Demobilization of Units**

In April 2008, MAHP began intensive planning for the disposition of MAHP units and identified four disposition approaches that were compatible with Mississippi procurement requirements, FEMA’s grant agreements, and MEMA’s commitments to local jurisdictions.

<sup>14</sup> The ability of the units to withstand strong winds was tested in September 2008 with Hurricane Gustav, a Category 2 storm. Nearly 250 Cottages were damaged due to flooding, but none of the Cottages were structurally compromised due to high winds, and all anchoring systems and most foundations held. Although the assessment of the anchoring system had not been concluded, initial indications were that it responded well.

1. Sell units to eligible households where permitted by jurisdictions.
2. Transfer ownership to community partners for affordable housing.
3. Transfer ownership to federal, state, or local governments.
4. Dispose of units through a public auction.

The agency's preference was to transition as many units as possible to permanent housing; a public auction of Cottages was considered the option of last resort.

By the summer of 2009, MAHP made some progress in developing programs for selling units to households in need of affordable housing and transferring Cottages to local non-profits and governments for use as affordable housing. These efforts have focused on several converging approaches that are discussed in more detail below, including:

- Negotiating with local jurisdictions on permanent housing requirements;
- Developing detailed program requirements and an application process for both the individual purchase program and the transfer of units to non-profits or government entities for use as affordable housing;
- Screening and preparing program participants for the end of the temporary program; and
- Preparing for the logistics of demobilizing more than 2,500 units in a short timeframe.

Although March 31, 2009 had been established as the end of the temporary phase, transitioning Cottages to permanent uses proved more difficult and time-consuming than MEMA anticipated. The issues included: legal concerns, local land use and zoning requirements, and establishing an application and eligibility process for occupants interested in purchasing the unit. By July 2009, MAHP had demobilized over 700 units, but only transferred ownership of 117 new and refurbished Cottages. Unable to transfer ownership quickly enough, MAHP had to open a second transition area for additional space to store demobilized units.

#### ***Local Requirements for Permanently Installing Cottages***

MEMA has struggled for local acceptance of the Cottages since the beginning of the program. Although local jurisdictions were willing to accept the Cottages as temporary housing, most have been opposed to the units becoming permanent. Local residents and government representatives have often found it difficult to see the units as permanent modular housing, even though the units meet stringent standards. Perhaps because of the small size of the units, many people view the Cottages as little more than mobile homes and are concerned about the impact of the units on property values. The community's negative experiences with crime and disorder in FEMA travel trailer parks immediately following Hurricane Katrina also contributed to opposition to Cottage group sites, both temporary and permanent. At the beginning of the program, MAHP addressed these local concerns by making firm commitments to jurisdictions that the program would end on March 31, 2009 and that the units would be removed unless the jurisdiction approved permanency. MEMA continued to work with local governments to allay concerns about the units remaining as permanent housing.

By early 2008, there was some evidence that attitudes toward the Cottages as permanent housing were slowly shifting, possibly because of an ongoing, unmet demand for affordable housing. Local governments expressed new interest in allowing the Cottages to remain permanently. Beginning in fall 2008, MAHP devised and put into action an aggressive public communication strategy to encourage local jurisdictions to make final decisions about allowing Cottages to be installed permanently. With occupant leases expiring between January and March 2009 and no funding to extend the temporary program, MEMA was deep into preparations for demobilizations.

Throughout fall 2008 and winter 2009, MAHP and MEMA staff presented at public meetings, met with local officials, and held workshops with city councils and boards of supervisors to discuss options for making the units permanent. The effort, which was coordinated with the Governor's Office, experienced some success. Most local jurisdictions eventually voted to accept some type of permanent installation of Cottages. However, some jurisdictions established restrictive eligibility requirements and placed unrealistic deadlines for owners to apply for permits to permanently install the unit. Eventually, MEMA's legal counsel determined that many of the restrictions that only applied to the Cottages equated to housing discrimination and started working directly with the localities to resolve fair housing issues.

### ***The Individual Purchase Program***

MAHP finalized requirements and forms for the individual purchase program and developed a screening process for eligibility. Participants may purchase MAHP units for placement on private land, either owned or leased by the buyer, or in commercial mobile home parks. The Cottage must be the occupant's primary residence, the placement of the unit must meet all local zoning code and permit requirements, and the household must maintain required hazard and flood insurance. The installation must also meet the jurisdiction's and the National Flood Insurance Program's (NFIP) elevation requirements. MEMA will fund elevations of up to five feet seven inches using a Community Development Block Grant from the State. If the unit needs to be elevated higher than five feet seven inches, the occupant must pay for the complete cost of the elevation. MEMA is assisting these potential buyers access state elevation grants whenever possible. Purchasers will not be able to rent or sell the unit to others until the end of MAHP's grant with FEMA on March 31, 2011.

MAHP contracted with International Relief and Development's (IRD) Housing Resource Centers (HRC) to provide comprehensive counseling services to help participants secure permanent housing once the temporary Cottage program is over. HRC's primary focus is assessing whether or not interested households can purchase the MAHP unit, but they will also assist participants who choose not to or are unable to purchase the unit to find other permanent housing. Between October 2008 and July 2009, a total of 2,730 MAHP participants were referred to HRC for screening and 1,122 were pre-approved to purchase a Cottage. Out of the pre-approved households, 194 had their financing worked out and were ready to purchase their unit, 59 were at some point in the purchase process, and 21 households had closed on their Cottage. A total of 399 households either could not afford the Cottage or did not meet other requirements, such as access to a satisfactory piece of property on which to site the unit. Households are pre-approved based on the total monthly payment they can afford, including a mortgage payment, insurance, and taxes. One problem for participants has been inaccurate insurance quotes: the cost of the

policy increased substantially when the program participant went back to purchase the policy, making a unit that appeared to be affordable, unaffordable.

### ***Transfers to Non-profits or Government Entities***

In October 2008, MAHP finalized a Letter of Interest (LOI) application process for non-profits or government entities interested in using Cottages for affordable permanent housing. Two rounds of competition have been completed. More than 550 units have been awarded to six non-profits and government agencies. However, only 96 units had been transferred by July 2009. Delays are rooted primarily in difficulties obtaining local approvals for Cottage developments. Most recently approvals were denied in Gautier, where 85 Cottages were proposed for empty lots in a mobile home park, and in Moss Point, where a developer proposed a planned unit development of 64 Cottages for seniors. Another challenge is difficulty accessing other funding sources to make potential projects financially viable.

MAHP confronted a serious obstacle to transferring ownership of Cottages to individual or non-profit or government entities in November 2008. The State Auditor halted transfers because of an issue with the legality of the proposed disposition process – a question about whether MEMA had the authority to transfer state-owned property to individuals or non-profit organizations. The Auditor issued a ruling in January 2009 that accepted MAHP’s disposition process, approved transfers that were already completed, and allowed transfers of ownership to continue.

## **2.2 Conclusion**

Mississippi’s program established that alternative disaster housing units can be manufactured and installed within months of a disaster. It has also highlighted the struggles that such a program might face shifting temporary units to permanency. As of July 2009, MEMA reported that it expected the Cottages to be demobilized and sold by spring 2010. MAHP does not have program resources to continue much beyond this timeframe, but given the slow progress with disposition to date, it is unclear how this schedule will be met. It is also unclear how many units will be purchased by individuals or organizations. Ultimately, local community governments and representatives will have the most influence on the number of Cottages that remain as permanent housing on the Gulf Coast, either because they have permitted individual installments or because they have encouraged non-profit purchases or bought units themselves for use as affordable housing.

The remainder of this report details results from the first Mississippi follow-up survey, which was conducted in fall 2008. The survey results explore the affect of MAHP on participants’ lives in the areas of housing and neighborhood quality, health, employment status, and household income.

## Chapter 3: Characteristics of MAHP Participants

This chapter introduces the households that participated in the Mississippi Alternative Housing Program (MAHP). It discusses participants' housing situations at key points in time—from the period prior to Hurricane Katrina to the time of the survey in the fall of 2008. It also presents participants' demographic characteristics, employment status, and income profiles.

The information presented in this chapter is based on responses to the first follow-up survey, which was completed by a sample of 281 MAHP households.<sup>15</sup> All surveyed households moved into a MAHP unit between June of 2007 and February of 2008, a minimum of eight months prior to the start of the survey. Characteristics of the MAHP participants are also compared to the pre-Katrina characteristics of the general population living in the program area—the six southernmost counties in Mississippi. Census 2000 data was used for these comparisons.

### 3.1 Housing Characteristics of MAHP Participants

#### Housing Prior to MAHP Program

Approximately 95 percent of respondents to the follow-up survey were living in a FEMA travel trailer or mobile home at the time they submitted a MAHP application—81 percent in FEMA travel trailers and 14 percent in FEMA mobile homes. The other survey respondents had lived in FEMA housing at some point after Hurricane Katrina. They had moved out before they applied for a MAHP unit, but they were still receiving FEMA housing assistance and still in need of permanent housing and thus were eligible for the program.

As can be seen in Exhibit 3-1, the majority of households (59.4 percent) had lived in FEMA units on their own property. Most of the others had a FEMA unit on property they did not have to pay for, such as a friend's property or a FEMA park. Only 11 percent of respondents were paying rent to place their FEMA trailer or mobile home on someone else's property or for a pad rental in a commercial park.

Most of the respondents had lived in FEMA travel trailer or mobile home for a year or longer before moving into a MAHP unit, including 30 percent who had lived there for two years or longer. Only five percent of respondents had lived in a FEMA unit for less than six months.

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<sup>15</sup> In this chapter, we refer to the 281 survey respondents as “all MAHP households” or “all MAHP participants.” We do so because the sample of 281 respondents is statistically representative of all MAHP households who had moved into their units by February 2008.

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**Exhibit 3-1. Characteristics of FEMA Units (Prior to MAHP)**

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<b>Characteristics</b>	<b>Percent (N=281)</b>
Location of FEMA housing	
On a self-owned private site	59.4%
On someone else's private site for free	24.2%
On a rented private site	5.0%
In a commercial park	5.7%
In a FEMA park	4.6%
Other	1.1%
Length of time in FEMA housing	
6 months or less	5.3%
7 to 12 months	11.7%
1 to 2 years	53.4%
2 years or more	29.5%

**Source:** 281 respondents to MAHP's follow-up survey in fall 2008.

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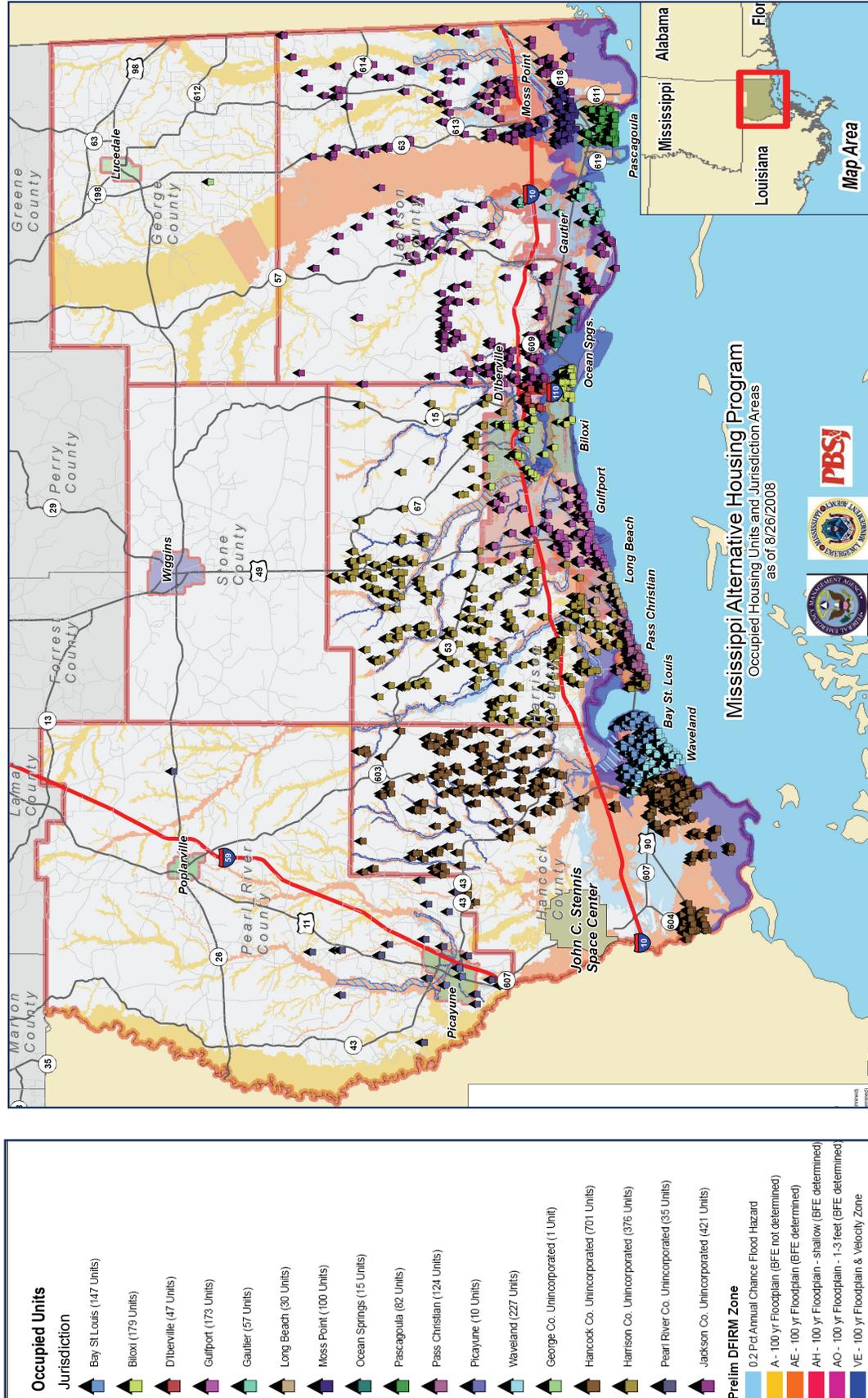
### **Housing Characteristics for Respondents Living in MAHP Units in Fall of 2008**

At the time of the survey in the fall of 2008, 236 of the 281 survey respondents (84 percent) were still living in their MAHP unit, while 45 respondents had moved elsewhere. This section presents the housing characteristics of MAHP households that still lived in MAHP units at the time of the survey. In the next section, we discuss the households that moved out.

**Location of MAHP units.** The map in Exhibit 3-2 shows the location of all 2,806 occupied MAHP units in August 2008. An overwhelming majority of the MAHP units were located in the three coastal counties—Harrison, Hancock, and Jackson. These areas were the most devastated by the storm and were the initial focus of the program. MEMA later added Pearl River, Stone, and George Counties, the three inland and more rural counties that were also affected by the storm. The locations of survey respondents' MAHP units show a similar geographic pattern. At the time of the follow-up survey in the fall of 2008, 78 percent of MAHP survey respondents lived in Harrison and Hancock Counties. Almost all remaining respondents (22 percent) lived in Jackson County. Less than one percent of respondents lived in the three inland counties (Exhibit 3-3).

Two-thirds of the MAHP units were located on the same property on which the MAHP household was living prior to Hurricane Katrina. (See Exhibit 3-3.) While the expectation might be that all of the households living on the same property as before Katrina were pre-Katrina homeowners, the survey responses indicate 19 percent of these households were pre-Katrina renters. Evidently, some pre-Katrina renters were able to install MAHP units on the property or lot of their pre-Katrina landlords.

**Exhibit 3-2. Distribution of MAHP Units in Six-County Program Area**



**MAHP unit type.** MAHP units occupied by survey respondents were almost evenly split between Park Models (48 percent) and Cottages (53 percent). Park Models are one-bedroom units with 396 square feet of living space. They are one-third larger than FEMA travel trailers, which have 256 square feet of living space. Cottages are two- or three-bedroom units that have 728 or 840 square feet. They were meant to replace FEMA mobile homes, which typically have 840 square feet. As described in Chapter 2, both units offer significant structural advantages over FEMA travel trailers and mobile homes.

**Length of occupancy in MAHP unit.** As Exhibit 3-3 shows, at the time of the survey almost 59 percent of respondents who still lived in MAHP units had lived in the MAHP unit a year or longer. Eligibility for the survey was limited to participants who had moved into the unit before February 1, 2008; so all had lived in the unit at least eight months prior to the fall 2008 survey. The first MAHP units were occupied in June 2007, so the longest a respondent could have lived in the unit prior to the survey was approximately 17 months. The average length of occupancy among respondents was 12.5 months. This was not enough time for the respondent to know the long-term livability issues of the unit, but ample time to have passed the initial “euphoria” and readjustment stage of moving into a new, usually larger unit.

**Exhibit 3-3. Characteristics of Current MAHP Units**

Housing Characteristics	Percent (n=236)
Location of MAHP unit	
Harrison	39.0%
Hancock	38.6%
Jackson	21.6%
Pearl River, Stone, and George Counties	0.8%
Same property or lot as pre-Katrina housing	66.7%
Percent that were pre-Katrina homeowners	81%
Percent that were pre-Katrina renters	19%
MAHP Unit type	
Park Model	47.5%
Cottage	52.5%
Length of time in MAHP unit	
8 to 12 months	41.6%
Longer than 12 months	58.5%
Average number of months in unit	12.5

*Source: 236 respondents who lived in a MAHP unit at time of the follow-up survey in fall 2008.*

## Housing Characteristics of Movers from MAHP Units

***Reason for moving out of MAHP unit.*** As shown in Exhibit 3-4, of the 45 survey respondent who had left their MAHP unit by the time of the survey, 21 reported that they left because their MAHP unit was damaged, destroyed, or became unavailable. Based on administrative data from MEMA, we found that Hurricane Gustav had damaged all of 21 of these units. Hurricane Gustav hit Mississippi on September 1, 2008. Although far less severe than Hurricane Katrina, it flooded the coastal areas and damaged homes, including 249 MAHP units. Even though many damaged MAHP units appeared perfectly livable to residents, MEMA’s insurance company declared them uninhabitable because of the likelihood that future mold could develop from wet flooring insulation.<sup>16</sup>

Another 16 movers cited completion of their permanent housing as the reason for moving out of the MAHP unit. In total, 37 (82 percent) of movers transferred into permanent housing or were forced out because of Gustav. Only 8 movers gave other reasons, including personal or family reasons, eviction, dissatisfaction with the location of the unit, or insufficient space in the unit for all family members. Only one or two households cited each of these other reasons. Hence, there seems to be no common reason for moving out of MAHP units other than completion of permanent housing or displacement due to Gustav.

***Length of time in MAHP unit before moving out.*** Thirty-six of the 45 mover households had lived in the MAHP unit one year or less, and only 9 households had lived in the unit longer than a year. Mover households had an average length of stay of 10.2 months. As expected, this is a shorter duration than the average length of stay of current MAHP residents (12.5 months). The difference of two months—which is also the time elapsed between Hurricane Gustav and the middle of the follow-up survey period—reinforces the notion that Hurricane Gustav was one of the primary reasons households moved out of MAHP units.

***Post-MAHP housing situation.*** Of the 45 households that moved out of MAHP units, 19 households are still located on the same property on which they lived on before Hurricane Katrina. Nearly all of these households (17) reported they currently own a home. They likely lived in MAHP units while their homes were being rebuilt and moved out of the MAHP units when the rebuilding was completed. The other two movers who are back at their pre-Katrina addresses reported that they are living with family and paying rent.

Exhibit 3-4 also shows the type of housing that movers were living in at the time of the survey. Twenty-four of forty-five movers now own a home including 5 households that do not live on

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<sup>16</sup> In total, 27 of the 281 survey respondents (9.6 percent) lived in units declared “uninhabitable” after Hurricane Gustav. Approximately 9 percent of all the 2,806 units that were occupied prior to Hurricane Gustav were declared “uninhabitable” after the storm, so the survey sample and overall percentages of uninhabitable units from Hurricane Gustav are nearly the same. Six of the 27 MAHP households in the survey sample were still living in their Gustav-damaged, “uninhabitable” Cottages at the time of the follow-up survey in October and November 2008. These households had either failed to observe MEMA’s warnings about moving out of the units or were unable to find alternative housing and had not yet been forced out. In the analysis for this report, these six households are included in the group still living in their MAHP units in fall 2008.

pre-Katrina property they owned. The remainder of the movers lives with family or friends (14 households) or rent a unit in the private market (5 households). Most of the movers have been in their current non-MAHP units for 6 months or less.

**Exhibit 3-4. Housing Characteristics of MAHP Participants Who Left MAHP Units**

<b>Characteristics</b>	<b>Number of Movers (n=45)</b>	<b>Percent of Movers (n=45)</b>
Main reason for moving out of MAHP unit		
MAHP unit damaged, destroyed or became unavailable (result of Hurricane Gustav)	21	46.6%
Permanent housing was ready	16	35.6%
Other reasons	8	17.8%
Length of time in MAHP unit		
7 to 12 months	36	80.5%
Longer than 12 months	9	19.5%
Average number of months	10.2 months	
Same property or lot as pre-Katrina housing	19	42.2%
Of these, homeowners	17	89.5%
Of these, renters	2	10.5%
Type of current housing		
Own a home	24	53.3%
Live with family or friend	14	31.1%
Rent	5	11.1%
Other	2	4.4%
Length of time in current unit		
6 months or less	39	86.6%
Longer than 6 months	6	13.3%

*Source: The 45 respondents who had moved out of their MAHP unit by the time of the follow-up survey in Fall 2008.*

## 3.2 Socio-Economic Characteristics of MAHP Participants

MAHP participants are similar in race, pre-Katrina homeownership status, and educational attainment to the overall population in the six-county MAHP service area, but tend to be older, poorer, and more likely to be disabled than the rest of the population.

### Demographic Characteristics of MAHP Participants

Over three-quarters of survey respondents were white, and 15 percent were black. The remaining 8 percent of respondent primarily reported being Native American or multi-racial.<sup>17</sup> As can be seen in Exhibit 3-5, this racial breakdown matches the pre-Katrina population of the six counties where MAHP units were eligible to be located. According to Census 2000, 78 percent of people in the six counties were white, 18 percent were black and 4 percent identified with other races.

<sup>17</sup> Three respondents who reported their ethnicity as Hispanic are included in the race category they reported.

Nearly two-thirds of the MAHP participants reported owning their own home prior to Hurricane Katrina, which is similar to the homeownership rate for the six-county area according to the 2000 Census. The preponderance of homeowners is a reflection of who was affected by the storm and of how the program was implemented in Mississippi. MEMA did not provide land on which to place a MAHP unit. Instead, participants had to identify land where the unit could be placed. This favored property owners, because they did not need to find a third party willing to have a MAHP unit placed on their land. Renters had to identify a family member, friend, or independent landlord willing to allow them to place the MAHP unit on their land, whether the land was provided for free or for rent. This turned out to be possible for 29 percent of the participants who were renters prior to Katrina. MEMA’s initial plan for the MAHP program also included group sites where MEMA would provide the land for participants. However, local jurisdictions resisted this plan – possibly because of fears these group sites would become permanent “FEMA Trailer Parks.” In the face of this resistance and the desire to provide the replacement units for travel trailers and mobile homes as soon as possible, MEMA dropped its plans for temporary group sites.

MAHP participants are significantly older than the overall adult population in the six-county area. Just over three-quarters of MAHP participants (75.5 percent) are age 45 or older compared to less than half (46.1 percent) of the overall adult population. Consistent with being older than the overall population, MAHP participants are more likely than adults in the six-county area to be divorced, separated, or widowed and less likely to have never been married or to be currently married. Despite the age and marital status differences, MAHP households are only slightly less likely to have children under age 18 (33.8 percent) than the entire six-county population (39.1 percent).

The proportion of MAHP households that reported at least one person with a physical disability (39.1 percent) is significantly higher than in the six-county population (29.3 percent). Furthermore, over one-fifth of the MAHP households with at least one disabled member (11 percent of all MAHP households) reported that a household member needed wheel-chair access or that a household member had difficulty walking up the stairs.

**Exhibit 3-5. Demographic Characteristics of MAHP Participants**

<b>Characteristics</b>	<b>Percent of MAHP Participants (n=281)</b>	<b>Percent of all Persons in Six-County MAHP Program Area (n=445,375)</b>
Race		
White	77.0%	77.7%
Black or African American	14.7%	18.1%
Multiracial	5.8%*	1.3%
American Indian/Alaska Native/Asian	2.5%	2.9%
Pre-Katrina homeowner	65.6%	71.0%

**Exhibit 3-5. Demographic Characteristics of MAHP Participants (continued)**

Age		
18 – 34	9.8%*	32.3%
35 – 44	14.9%*	21.7%
45 – 61	51.3%*	27.3%
62 or over	24.0%*	18.8%
Marital status		
Divorced/separated/widowed	47.1%*	21.2%
Married or in marriage-like situation	38.5%*	54.9%
Single never married	14.4%*	23.6%
Household size		
1 person	36.4%	--
2 people	25.0%	--
3 or 4 people	27.1%	--
5 or more people	11.4%	--
Average	2.4	2.6
Household type		
Households with children	33.8%	39.1%
Married	18.8%	--
Other multiple-adults	8.1%	--
Single adult	7.0%	--
Households without children	66.2%	60.9%
Non-elderly single adult	25.0%	--
Non-elderly multiple-adults	21.7%	--
Elderly single adult	12.5%	--
Elderly multiple-adults	7.0%	--
Households with disabled member(s)	39.1%*	29.3%
Of such households, those with need for house with wheel-chair access	22.9%	--

\* indicates statistically significant difference at the 10 percent significance level

**Sources:** MAHP estimates are from the 281 respondents to MAHP follow-up survey in fall 2008. Six-county MAHP program area estimates are from 2000 Census. Census estimates are based on persons (n=445,375) or households (n=165,678), except marital status is restricted to persons 15 and older (n=347,490) and disability status is restricted to non-institutionalized persons age 21 and older (n=293,424).

**Education, Employment, and Income Profile of MAHP Participants**

Exhibit 3-6 presents the educational attainment, employment status, and monthly household income of MAHP survey respondents.

The educational attainment of MAHP respondents is similar to that of the general population in the six southernmost counties according to Census 2000 data. Approximately two-thirds of MAHP respondents had completed high school or some college and 13 percent were college graduates, while a fifth had not obtained a high school diploma or equivalent.

### Exhibit 3-6. Education, Employment and Income of MAHP Participants

Characteristics	Percent of MAHP Participants (n=281)	Percent of all Persons Six-County MAHP Program Area (n=445,375)
Educational attainment of respondent		
Less than high school diploma	20.1%	21.0%
High school diploma or equivalent	32.0%	30.3%
Two-year degree or some college	34.9%	32.0%
BA or higher	13.0%	16.6%
Employment of respondent		
Employed	50.4%*	58.6%
Unemployed and looking for work	7.2%*	3.9%
Not Working	42.5%	37.5%
Monthly household income		
\$500 or less	11.3%	--
\$501 - \$1,000	23.8%	--
\$1,001 - \$2,500	44.4%	--
\$2,501 - \$5,000	16.9%	--
\$5,001 or more	3.6%	--
Median Monthly Income	\$1,500*	\$3,446

\* indicates statistically significant difference at the 10 percent significance level

**Sources:** MAHP estimates are from the 281 respondents to MAHP follow-up survey in fall 2008. Six-county MAHP program area estimates are from 2000 Census. Census estimates are based on persons (n=445,375) or households (n=165,678), except educational attainment estimates are restricted to persons age 25 or older (n=281,863) and employment status estimates are restricted to person's age 16 or older (n=339,590).

A comparison with Census data indicates that MAHP households are less likely to be employed and have lower household income levels than the pre-Katrina general population. Approximately half of survey respondents reported that they were employed.<sup>18</sup> This employment rate is nine percentage points lower than the Census-based pre-Katrina share of persons employed (59 percent). At least some of this difference in employment levels between the pre-Katrina general population and the MAHP households could be attributable to the state of the economy in two different time periods. In 2000, the unemployment rate in Mississippi was 5.7 percent. In November 2008, the unemployment rate in Mississippi had risen to 7.2 percent.

The Mississippi program was open to all households that had their primary residence in the six southernmost counties of Mississippi destroyed by Hurricane Katrina, regardless of income. The storm destroyed homes of people across the income spectrum and thus served people of all income levels. However, overall the program served a higher proportion of relatively low income households than in the local population as a whole. The median monthly income for MAHP participants (\$1,500) is less than half of the pre-Katrina household median in the six southernmost counties median income ranged from \$3,019 to \$3,873 across the six counties). One possible reason for this difference is that households who were living in travel trailers or

<sup>18</sup> Sixty-two percent of the MAHP households reported having at least one working adult (not necessarily the survey respondent), including 20 percent that reported having two or more working adults.

other temporary disaster housing 2 to 2.5 years after Hurricane Katrina had fewer financial and familial resources or were less able to navigate the post-disaster housing market than those who had found alternatives to the trailers. Hence, it is likely that the many MAHP households had lower incomes than the general population in 2000. In addition, the current economic downturn may have negatively affected income sources, particularly employment income.

### **3.3 Summary**

At the time they applied to the program, 95 percent of MAHP households were living in FEMA travel trailers or mobile homes, and the remaining 5 percent had lived in FEMA travel trailers at some point in time after Hurricanes Katrina or Rita.

Approximately 84 percent of MAHP households were living in MAHP units at the time of the follow-up survey in the fall of 2008, and two-thirds of them were living on the same property as their pre-Katrina housing. Of the 16 percent who had moved from their MAHP units, nearly all had moved out because their permanent unit was ready or their MAHP unit was designated by MEMA as uninhabitable after Hurricane Gustav.

Similar to the general population of the six southernmost Mississippi counties, MAHP participants were predominantly white and were homeowners prior to Katrina (65.6 percent). An elderly person headed almost a quarter of MAHP households and 39 percent had at least one household member with a physical disability. Consistent with an older population profile, nearly two-thirds of MAHP households did not have any children, and almost half of MAHP participants were divorced, widowed or separated.

MAHP participants had a wide range of incomes, but on average they were poorer than the overall population in the area. The median household income was \$1,500 per month, about half of the pre-Katrina median in the six counties.

## **Chapter 4: Did Participants Housing and Neighborhood Improve after Moving into a MAHP Unit?**

The most direct effect of the MAHP program is that participants move to new housing units. The MAHP unit may be in a different location from the previous unit or it may be in the same location, but all participants will live in different units. This means that the most likely impact of the program on participants' quality of life is through a change in the quality of the units they live in.

Participant perceptions of the quality of their MAHP units—as reported in a fall 2008 survey—are explored extensively in this chapter. The survey contained questions about the condition, problems, and attractive features of the unit. Since MAHP is testing units that may be considered as replacements for FEMA travel trailers and mobile homes, the survey also contains questions that ask respondents to compare the MAHP unit with the FEMA unit. All of the MAHP survey respondents reported living in a FEMA trailer or mobile home at some point after Hurricane Katrina, and 95 percent still lived in one when they applied for a MAHP unit. In addition, the survey asked for participant perceptions of how well MEMA is conducting routine maintenance and responding to service calls.

The last section of the chapter examines respondent perceptions of their neighborhoods. In Mississippi's program, 56 percent of participants placed their unit in the same location as their previous FEMA housing, so MAHP did not affect where they live and will not have an impact on their quality of life through moving to a new neighborhood. There could be an impact from changing neighborhoods for the other 44 percent of participants, including the movers who were able to move back to the site of their pre-Katrina housing using the MAHP unit.

### **4.1 Housing Quality**

#### **Condition of the MAHP Unit**

MAHP recipients gave high marks to the condition of their MAHP units: nearly half reported their unit was in “excellent” condition, and another 40 percent reported it was in “good” condition. Furthermore, 90 percent reported their unit was in better condition than the FEMA trailer or mobile home they had lived in, and most of the remainder reported it was “about the same.” Only one respondent reported the condition of the MAHP unit was worse than the FEMA trailer (Exhibit 4-1).

A possible caveat to the respondents' overwhelming report that their MAHP units were in better condition than their prior travel trailers or mobile homes is that many respondents lived in travel trailers longer than in the MAHP units. Respondents had lived in their MAHP units between 8 and 17 months at the time of the survey, but nearly 30 percent had lived in their travel trailer or mobile home more than two years. The longer time living in travel trailers gave more time to expose problems. However, the positive reports about the condition of the MAHP unit come from almost all respondents regardless of how long they had lived in their MAHP units or

previous travel trailer/mobile home. Thus, it does not appear that this finding is a result of respondents having lived a longer time in their FEMA than their MAHP unit.

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**Exhibit 4-1. Condition of MAHP Unit**

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Item and Responses	Percent of MAHP Participants (n=236)
<i>Condition of MAHP Unit</i>	
Excellent	47.5%
Good	40.3%
Fair	10.6%
Poor	1.7%
<i>Overall Condition Compared to FEMA Trailer/Mobile Home</i>	
MAHP Unit Better	89.8%
About the Same	9.8%
MAHP Unit Worse	0.5%

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*Source: Estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008.*

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**Presence of Problems in Unit**

MAHP participants were asked about the presence of specific problems, such as plumbing problems or broken door locks. As can be seen in Exhibit 4-2, the most common problem with MAHP units was mildew, mold or water damage, reported by 20.9 percent of respondents. These estimates are from the respondents who still lived in their MAHP unit after most of participants who had their home flooded by Hurricane Gustav had moved out; therefore, it does not appear that Gustav was driving the reports of mildew, mold, or water damage. The only other problems reported by more than 10 percent of the respondents were electrical and floor problems.

We compared the reported unit problems of the 52 people who completed both the baseline survey (prior to moving into their MAHP units) and the follow-up survey (while living in their MAHP unit). As discussed in Chapter 1, only a small, non-random sample of eventual MAHP participants completed the baseline survey at the time they applied for a MAHP unit. Thus, these 52 respondents by themselves (i.e., without the rest of the survey sample) are not necessarily representative all of all MAHP participants. Among respondents to both surveys, fewer reported problems in every category while living in their MAHP than while living in their travel trailer or mobile home. The most dramatic decreases in reported problems were with broken locks on outside doors or windows and bad odors in the home. Reported problems with broken locks decreased from 38.3 percent to 3.9 percent of respondents. Reports of bad odors decreased from 35.4 percent to 5.8 percent. Reported problems with electricity not working also declined substantially (by 17.7 percentage points) for the MAHP participants that participated in both surveys.

## Exhibit 4-2. Presence of Problems in Housing Unit

Presence of Problems in Unit	All Follow-Up Respondents Living in MAHP Unit (n=236)	Respondents to Both Baseline and Follow-Up Survey		
		Pre-MAHP Unit (n=52)	MAHP Unit (n=52)	Difference in Percentage Points (pp) (n=52)
Mildew, mold or water damage	20.9%	36.7%	27.5%	-9.2 pp
Electricity that did not work for 2 hours or more	15.8%	29.2%	11.5%	-17.7 pp*
Floor problems (e.g., broken tiles, loose carpets)	12.3%	22.5%	15.4%	-7.1 pp
Plumbing problems that caused bathroom floors to be covered by water	8.5%	12.5%	9.6%	-2.9 pp
Toilet that did not work for 6 hours or more	5.9%	14.6%	5.8%	-8.8 pp
Bad Odors	5.1%	35.4%	5.8%	-29.6 pp*
Broken locks on outside doors or windows	4.3%	38.3%	3.9%	-34.4 pp*
Used oven to heat home in cold weather	2.1%	10.4%	1.9%	-8.5 pp*

\* Indicates statistically significant difference at 10 percent significance level.

Sources: Follow-up estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008. Baseline findings are based on a mail survey of MAHP applicants that was administered by HUD in summer and fall of 2007. Fifty-two people of the sixty who responded to both surveys lived in a MAHP unit in fall of 2008.

### Features of the Unit

In one-on-one discussions with MAHP recipients during field visits to Mississippi, two features of the MAHP units often were compared favorably to the travel trailers: a more spacious bathroom with a full-size a bath and shower and a “real” stove and oven for cooking. Travel trailers do not have bathtubs, so the ability to take a hot bath in the new unit was seen as a real improvement. Most travel trailers came equipped with small, compact stoves and refrigerators and minimal counter space, which made cooking difficult. The trailers also did not have enough room to have people over for a meal. In these discussions, respondents expressed their appreciation that the MAHP unit allowed them to invite family and friends to share meals.

The anecdotal information from the in-person discussions was supported by the responses to the follow-up survey. When respondents were asked about attractiveness of the different features of the MAHP unit, the two features cited by most people were bathroom facilities (95.8 percent) and kitchen appliances (91.9 percent). Room design, amount of privacy, and amount of living space were cited by approximately 90 percent of respondents as attractive features of the MAHP unit.

Even the feature that was cited by the least number of people—the amount of storage space—was still considered an attractive feature by a majority of people. The MAHP units have additional storage space in the attic that neither travel trailer nor mobile homes possessed, but a little under half the respondents still seemed to find the space was inadequate or not an appealing feature of the unit.

## Overcrowding

Overcrowded housing—too many people living in the available space or sleeping areas—can lead to stress and mental health problems, facilitate the spread of illnesses, and result in lower educational achievement for children who do not have a quiet place to read or do homework.<sup>19</sup> Overcrowding is common in travel trailers, as they contain only 256 square feet of living space and, in the emergency situations in which they are deployed, have been known to

house families with as many as seven people. The trailers have no private bedrooms, but instead have sleeping alcoves that are just large enough for a small bed and are separated from the rest of the unit by a curtain. Even the smallest MAHP unit—the one-bedroom Park Model—has a private bedroom and 396 square feet of total living space.

We would expect the MAHP units to reduce overcrowding when they replace travel trailers. However, MAHP units would not necessarily reduce overcrowding when they are used to replace mobile homes, about 15 percent of the pre-MAHP units. Mobile homes typically have about 840 square feet, the same size as the three-bedroom MAHP unit, so in these cases, the MAHP recipient may get a unit that is better designed for long-term living but not necessarily a larger unit. Furthermore, because MEMA was trying to be true to the mission of testing alternative housing immediately following a disaster, its initial occupancy policies allowed up to four people per one-bedroom unit, five people per two-bedroom unit, and six or more people per three-bedroom unit.<sup>20</sup> Thus, MAHP units may still appear overcrowded based on non-emergency housing standards.

The housing literature has many different measures of overcrowding based on persons-per-room and persons-per-bedroom. The threshold of what is considered overcrowding varies by study.

<sup>19</sup> Office of the Deputy Prime Minister, Great Britain. *The Impact of Overcrowding on Health and Education: A Review of Evidence and Literature*. (London: Office of the Deputy Prime Minister Publications, 2004).

<sup>20</sup> As the program matured, MAHP changed the standard to allow fewer people per unit.

**Exhibit 4-3. Attractive Features of MAHP Unit**

Unit Feature	Percent Reporting this Feature is an Attractive Feature of the MAHP Unit (n=236)
Bathroom Facilities	95.8%
Kitchen Appliances	91.9%
Room Design and Layout	91.1%
Amount of Privacy	90.6%
Amount of Living Space	89.3%
Number of Bedrooms	72.8%
Amount of Storage Space	56.6%

Source: *Estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008.*

However, a meta analysis of the literature identified the most commonly used and theoretically defensible thresholds for overcrowding measures.<sup>21</sup> The quantitative measures of overcrowding we used are based on this meta analysis. The quantitative definitions of overcrowding are:

- Having more than 1 household member per room (excluding bathrooms and hallways); and
- Having more than 2 household members per bedroom.

The follow-up survey also asked about behavioral activities that indicated overcrowding existed—in particular the sleeping arrangements of household members. The behavior activities that are indicators of overcrowding are:

- Whether someone in the household regularly sleeps in a room other than a bedroom because there are not enough bedrooms; and
- Whether a household member sometimes goes to another house to sleep because there is not enough space in the unit.

The results for these overcrowding measures are presented in Exhibit 4-4. Based on the quantitative measures, the share of MAHP households in overcrowded housing ranges from 10.6 percent (based on persons-per-bedroom) to 24.1 percent (based on persons-per-room). Both estimates of overcrowding are substantially higher than the national average. Based on American Housing Survey data, the national share of overcrowded households is 2.4 or 2.7 percent using these two measures.<sup>22</sup> Given Mississippi’s efforts to simulate disaster housing, the higher percentage of overcrowded units is not unexpected.

The much higher estimate of overcrowded housing using the persons-per-room measure compared to the persons-per-bedroom measure reflects the design of the MAHP units. The kitchen, dining, and living room areas are not separated by walls, but are open. This maximizes the perception of space for people living in the unit, but may lead to undercounting in respondent reports of the “number of rooms” in the unit.<sup>23</sup> The persons-per-room as a standard is based on a model where there are separate, small rooms rather than one larger area. For the MAHP units, this type of measure may exaggerate the extent of overcrowding or at least put an upper bound on how much overcrowding there is.

Interestingly, for the MAHP units, one of the behavioral activity measures for overcrowding—whether someone sleeps in a room other than a bedroom—falls between the two quantitative measures of overcrowding based on persons-per-bedroom and persons-per-room. More respondents reported people sleeping in a room other than a bedroom (16.9 percent) than the share of households considered overcrowded by the persons-per bedroom measure (10.6 percent).

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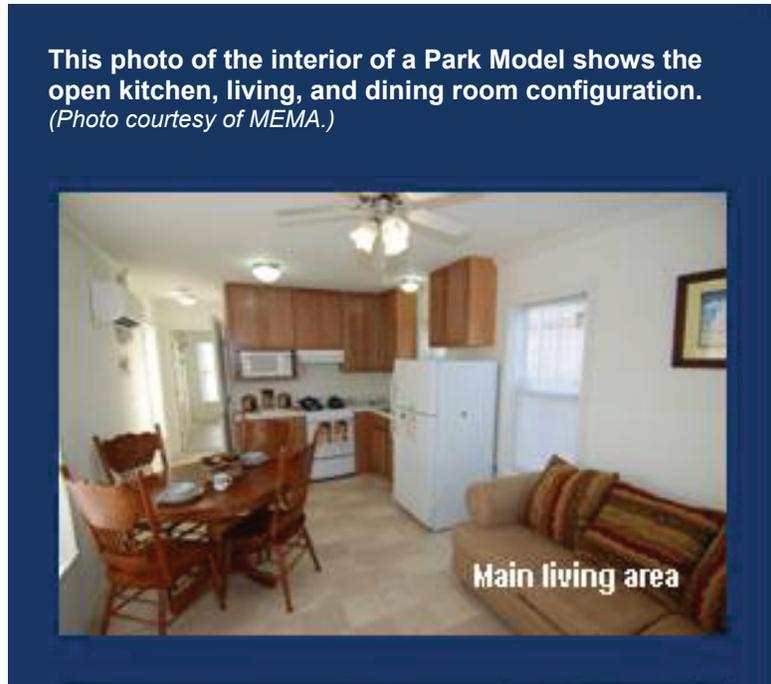
<sup>21</sup> Blake, Kevin S., Rebecca L. Kellerson, and Aleksandra Simic. *Measuring Overcrowding in Housing*. (Washington, DC: Department of Housing and Urban Development, Office of Policy Development and Research, 2007).

<sup>22</sup> *Ibid*, p.4.

<sup>23</sup> Respondents clearly viewed the larger open area as one room in their survey answers: 200 of 236 respondents in MAHP units reported that all but one room in their house was a bedroom (excluding bathrooms and hallways).

However, it is lower than the share of overcrowded households by the persons-per-room measure (24.1 percent). MAHP units are all furnished with a full-size sofa bed, which makes it easier for some household members sleeping in the main living area.

Despite having some overcrowding, few MAHP households (6.4 percent) report the more severe indicator of overcrowding: a household member who sometimes sleeps in another house because there is not enough room in the MAHP unit.



**Exhibit 4-4. Percent of Households in Overcrowded MAHP Units**

Indicators of Overcrowding	Percent of MAHP Households (n=236)
More than 1 person per room	24.1%
More than 2 persons-per-bedroom	10.6%
Household member sleeps in a room other than a bedroom	16.9%
Household member sometimes sleeps in another house because not enough space	6.4%

Source: Estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008.

### Accessibility of Units for People with Physical Disabilities

One of the frequent criticisms of the travel trailers is that they do not satisfactorily accommodate people with disabilities. Several newspaper articles and news reports covered the challenges people with disabilities faced living in travel trailers.<sup>24</sup> MEMA provided units compliant with the Uniform Federal Accessibility Standards (UFAS) to MAHP recipients with mobility disabilities.

<sup>24</sup> For example, National Center for Law and Economic Justice. “Press Release 26 September 2006: Brou Settlement”; available from <http://www.nclaj.org/pdf/BrouPressRelease.pdf>; Internet; accessed 24 February 2009.

In addition, all the units were designed using the basic tenets of universal design such as wider door frames to make retrofitting any unit for persons with disabilities less costly.

The follow-up survey asked respondents from households in which someone had a physical disability or condition about the accessibility of the MAHP unit and the previous FEMA unit. More than 93 percent of respondents reported that the disabled household member was able to enter and exit the MAHP unit, move around from room to room, and access the bathroom facilities by his or herself. This is a significant improvement compared to what respondents reported for their previous travel trailer or mobile home. For all three activities, less than three-quarters of respondents reported that that the disabled household member had as much mobility in the previous FEMA travel trailer or mobile home.

### Perceived Safety from Floods and Hurricanes

Given participants' experience with Hurricane Katrina and the ongoing threat of hurricanes on the Mississippi Gulf Coast, we asked participants how safe they felt from flooding, high winds, and hurricanes in the MAHP unit. The results are shown in Exhibit 4-6. Somewhat surprisingly, just a few months after Hurricane Gustav forced most people on the Mississippi Gulf Coast to evacuate, MAHP participants reported feeling fairly high levels of safety in their MAHP units. Between 86 and 88 percent of respondents reported feeling very safe or safe from floods or high winds.

**Exhibit 4-5. Comparison of Functionality of FEMA Trailer and MAHP Unit for a Person with a Physical Disability**

Could the person with a physical disability...	FEMA Trailer/Mobile Home (n=84)	MAHP Unit (n=84)
...get in and out of the unit by themselves.	73.4%	93.8%*
...move around from room to room by themselves.	71.4%	97.6%*
...access the bathroom facilities by themselves.	73.1%	96.3%*

\* Indicates statistically significant difference at 10 percent significance level.

Source: Estimates are from the 84 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008 and reported having a household member with a "physical disability or condition that limits one or more basic activities such as walking, climbing stairs, reaching, lifting, or carrying?"

When we asked the survey respondents to directly compare their feelings of safety from high winds and flooding in the MAHP unit compared to the FEMA trailer or mobile home, 97 percent reported feeling safer in their MAHP unit. The other three percent reported they felt the same level of safety in both. (Figures not shown in exhibit.)

Participant responses about the performance of the units correlate with the design standards used for the units, and MEMA’s experience during Gustav. The MAHP units—even when installed as temporary housing—are designed to withstand winds of up to 150 miles per hour. MEMA staff reported that there was very little wind damage from Hurricane



Gustav. Even the few units that had been knocked off their foundations by heavy flooding had maintained their structural integrity. Were it not for the water damage, they could have been placed back on their foundations and continued to be used. In one-on-one interviews with MAHP participants who had been displaced by Hurricane Gustav, several mentioned that the MAHP units did not shake in the wind like the travel trailers and that the sound of the wind was muted.

When specifically asked about hurricanes, respondents were not as confident about their safety. As can be seen in Exhibit 4-6, approximately 40 percent of respondents reported feeling unsafe or very unsafe from hurricanes in their MAHP units and neighborhoods. This could in part be a function of the current location of the MAHP unit, particularly if the unit is located in an area that has higher elevation requirements for permanent housing than for the temporary MAHP housing.

**Exhibit 4-6. Perception of Safety from Flooding and High Winds**

	Perception of Safety in MAHP Unit and Neighborhood			
	Very Safe	Safe	Unsafe	Very Unsafe
Safety from flooding (n=236)	47.4%	38.8%	9.9%	3.9%
Safety from high winds (n=236)	29.2%	59.2%	8.6%	3.0%
Safety from hurricanes (n=236)	16.7%	43.0%	29.0%	11.4%

*Source: Estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008.*

**Feels More Like a Home**

Survey interviewers asked respondents how the MAHP unit compared to the FEMA trailer or mobile home in feeling like a home. Specifically, they were asked: “Do you agree or disagree with the following statement: ‘Living in my current unit makes me feel more at home than living in a FEMA trailer did?’” All, but two of the respondents agreed that their MAHP unit felt more like a home.

The final question on the survey was an open-ended question designed to capture qualitative data. It simply asked in what ways the MAHP program affected the respondent's quality of life without providing possible topics or response categories. The responses were consistent with the answers to the earlier survey question about whether respondents felt more at home in the MAHP unit than the previous FEMA unit. The responses were almost universally positive, and a remarkable number of focused on how the MAHP unit felt like a home or allowed respondents to resume normal activities. Many of the answers were general:

*"A house that someone could make a home out of."*

*"A place to live and get back to normal."*

*"It gives increased senses of security, a sense of future, normality."*

A few people mentioned specific activities that made it feel more like a home, such as:

*"We were not able to have company before, but now we can."*

*"I have a bathtub I can sit in. I have a bed, not a bunk to sleep in."*

*"I have a stove. I can cook a meal and have company over."*

This sense of feeling at home and that things are returning to normal is an important aspect of helping people recover from a disaster. In the aftermath of a disaster like Hurricane Katrina, it is crucial to work towards re-establishing a sense of normalcy as soon as possible. In Ellen Gerrity and Brian Flynn's model of psychological responses to disaster, the *reconstruction sequence* is the fifth and final stage of a person's response. To reclaim their lives, disaster victims must work to restore some sense of normalcy. Among children, this return to normalcy is even more important, as children depend on routine and consistency in their life to establish their sense of security and identity.<sup>25</sup> As a result, this return to normalcy is an important function of a post-disaster housing once basic emergency needs for shelter are addressed.

## 4.2 Maintenance of the Unit

At the time of the follow-up survey in the fall of 2008, MAHP was still in the temporary housing phase, and all of the units were still managed and maintained by MEMA. To gauge satisfaction with property management, the survey asked respondents about their experiences and satisfaction with maintenance and repairs to the MAHP unit.

### Routine Maintenance

All respondents were asked about their satisfaction with routine maintenance. Routine maintenance includes activities like the maintenance of the winter heating system and summer air conditioners and repairs related to minor issues. More than four-fifths of respondents reported being very satisfied or satisfied with the quality of routine maintenance. Only 4 percent of the respondents reported being dissatisfied.

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<sup>25</sup> Ellen T. Gerrity and Brian W. Flynn, "Mental Health Consequences of Disasters." In *The Public Health Consequences of Disasters*, ed. Eric K Noji. (New York: Oxford University Press, 2007). 101-121.

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**Exhibit 4-7. Satisfaction with Routine Maintenance**

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**Satisfaction with quality of routine maintenance (n=236)**

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Very satisfied	39.5%
Satisfied	44.9%
Neither satisfied or dissatisfied	11.7%
Dissatisfied	2.9%
Very dissatisfied	1.0%

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*Source: Estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008.*

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**Repair Service Calls**

MAHP participants were asked about serious repair issues they may have had in or outside their units in the six months prior to the survey. In follow-up questions, they were asked if they called to have the item repaired and about their experience with the repair. Here we report on just the repair issues for which the recipient called to have a repair made, about 80 percent of the issues. We assume that items that were not called about were minor or could be repaired by someone in the household, because 99 percent of all respondents reported knowing the phone number or where to find the phone number to make a service call to MEMA.

More than half of the MAHP recipients (54.7 percent) reported making a repair service call in the previous six months. The most common reason for a service call was for the air conditioning unit. Three of every ten MAHP recipients reported calling about their air conditioning, as can be seen in Exhibit 4-8. This is consistent with reports from MEMA about chronic problems with water leaking in the units from air conditioners that were installed in some of the Park Models. Installation procedures were altered mid-way through the program to try to prevent these ongoing issues. The second most common issue for service calls was the plumbing (14.4 percent), followed by calls about electric outlets or switches (11.4 percent). The relatively high number of calls about air conditioners and about plumbing may be related to the reports from 20 percent of the respondents that they had mold, mildew, or moisture problems (see Exhibit 4-2). Likewise, the 14 percent of the respondents who reported being without electricity for two or more hours, as shown in Exhibit 4-2, is similar to the 11.4 percent who reported making service calls for electrical issues, suggesting that electrical problems are not simply wide-area outages from storms.

The participant reports of repair calls are consistent with findings from an analysis of MEMA maintenance records by the National Association of Home Builders' (NAHB) Research Center.<sup>26</sup> During the first 20 months of MEMA's program, households from 84 percent of the units had called about a maintenance or warranty issue, for a total of 12,330 calls. Approximately one-third of the calls were about miscellaneous repair or adjustment issues (e.g., carpentry items or

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<sup>26</sup> NAHB Research Center, Inc. (June 10, 2009). "DRAFT Analysis of MEMA Maintenance Records." A report prepared for HUD's Office of Policy Development and Research as part of the Building Science Evaluation of Housing produced under FEMA's Alternative Housing Pilot Program.

final adjustments to windows, doors, and bathroom fixtures) that likely were likely associated with the installation of the unit. The next two most common issues were plumbing and heater-air conditioner repair issues, each comprising about 20 percent of the maintenance and warranty calls. Electrical problems were the fourth most common issue, representing 8.7 percent of the calls. These are the same three issues that respondents reported calling about most frequently in the survey.

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**Exhibit 4-8. MAHP Resident Reported Maintenance and Repair Calls in Last Six Months**

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<b>Problem Area</b>	<b>Percent who Called About Such Problem in Last Six Months (n=236)</b>
Air conditioning	30.5%
Plumbing	14.4%
Electric outlets or switches	11.4%
Exterior of house	11.0%
Heating system	7.2%
Stove or refrigerator	3.4%
Something else on inside of house	19.5%
Total (Any service repair call)	54.7%

*Source: Estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008.*

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**Satisfaction with Speed and Quality of the Repair**

Respondents who reported a service call were asked about their experience with their most recent repair call. (See Exhibit 4-9). Eighty percent of the respondents reported that the repair person came within one week of the service request, and 92 percent of participants reported the repair person came within a month. Fewer than four percent of respondents reported it took longer than a month for a repair person to respond. Interviewers did not ask for details about the repair need, so we do not know how well timeliness of the repair matched with the urgency of the request. However, 81.4 percent of respondents were satisfied with how quickly the broken item was repaired. An even higher percentage of respondents reported they were satisfied with the quality of the repair.

**4.3 Neighborhood Quality**

Two indicators of neighborhood quality are analyzed in this section: perceptions of safety and the features of the neighborhood. Both of these indicators were also included in HUD’s baseline survey, thus we can compare the responses of respondents who completed both surveys.

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**Exhibit 4-9. MAHP Resident Reported Speed and Satisfaction with Repair**

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	Percent of MAHP Recipient who Made a Repair Call (n=129)
<i>Time before repair person came</i>	
0 to 7 days	80.6%
8 to 14 days	8.5%
15 to 30 days	3.1%
More than 30 days	3.9%
Have not come yet (survey did not ask when they called)	3.9%
<i>Satisfied with Speed of Repair</i>	81.4%
<i>Satisfied with Quality of Repair</i>	85.2%

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*Source: Estimates are from the 129 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008 and who reported calling MEMA about repair request in last six months.*

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### **Perceptions of Safety**

We theorize that the MAHP program could improve a participant's feeling of safety from crime either by providing a more secure unit or because a household could place the unit in a safer neighborhood. It appears that MAHP succeeded in providing more secure units. As reported earlier in this chapter, participants reported fewer problems with broken locks on outside doors and windows in their MAHP unit than in their trailer or mobile home. Participants also reported that the MAHP unit felt more like a home and may have offered some of the comforts of a permanent home, even though for many of the participants it is a temporary living situation. Both of these factors may make the participant feel safer.

MAHP participants report high levels of feeling safe on the streets near their home during the day and at night, as can be seen in Exhibit 4-10. During the day, 95 percent report feeling very safe or safe near their home, and at night 88 percent report this level of safety. For the non-random sample of respondents who also completed the baseline survey, we compared perceptions of safety across the two time periods. In the fall of 2008, while living in their MAHP unit, these respondents were significantly more likely to report feeling very safe on the streets near the home than they reported at baseline in 2007. This change reflects a large movement of people from the feeling "safe" to the feeling "very safe" category. When those two categories are combined, there is no statistically significant change in the reported feelings of safety for these 52 respondents.

Respondents' perceptions of safety are consistent with their reports of problems with criminal activity in their neighborhood. Most respondents reported no problems with people being attacked or robbed in their neighborhoods or with other types of violence; only three percent of respondents reported these issues as big problems in their neighborhoods. Most respondents also reported that drug selling was not a problem in their neighborhoods, but 13.6 percent of respondents reported it as a big problem. And for many of them, it does appear to affect their perceptions of safety. More than one third of the people who reported a big problem with drug selling in their neighborhood

reported feeling unsafe on the streets near their home at night, whereas less than 7 percent of other respondents reported feeling unsafe at night. (Figures not shown in exhibits.)

The safety results—high levels of feeling safe in the neighborhood and feeling even safer since moving into the MAHP unit—demonstrate a positive outcome for MAHP participants. However, more than half of participants did not change neighborhoods when they moved into a MAHP unit, and thus the improvements in safety might be driven community recovery from the disaster rather than moving into a MAHP unit. For the subsample of respondents to both the baseline and follow-up survey, we looked at safety results by whether or not the respondent was in the same neighborhood as reported in the baseline and found the perception of safety improved slightly more for the people who changed neighborhoods when they moved to their MAHP unit. However, the subsample that responded to the baseline and follow-up survey was small and the difference was not statistically significant.

**Exhibit 4-10. Perception of Safety in the Neighborhood**

<i>Feeling of safety on the streets near your home...</i>	All Follow-Up Respondents in MAHP Unit (n=236)	Respondents to Both Baseline and Follow-Up Survey		Difference in Percentage Points (pp) (n=52)
		Pre-MAHP Unit (n=52)	MAHP Unit (n=52)	
<i>...during the day</i>				
Very safe	60.9%	38.0%	71.1%	33.1%*
Safe	34.0%	58.0%	25.0%	33.0%*
Unsafe or very unsafe	5.1%	4.0%	3.9%	0.1%
<i>...at night</i>				
Very safe	46.1%	26.5%	61.5%	35.0%*
Safe	41.8%	57.1%	28.9%	28.2%*
Unsafe or very unsafe	12.1%	16.4%	9.6%	6.8%

\* Indicates statistically significant difference at 10 percent significance level.

Sources: Follow-up estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008. Baseline findings are based on a mail survey of MAHP applicants that was administered by HUD in summer and fall of 2007. Fifty-two of the sixty people who responded to both surveys lived in a MAHP unit in fall of 2008.

### Neighborhood Features

Exhibit 4-11 shows respondent satisfaction on various neighborhood features.

Overall, MAHP recipients appeared to be satisfied with most features of their neighborhoods in the fall of 2008. Over 90 percent of respondents are satisfied with garbage pick-up, police response, and the quality and distance of the schools in their neighborhoods. The only aspect of the neighborhood for which fewer than three-quarters of respondents are satisfied is the distance to a grocery store (72.4 percent).

The responses from the non-random sample of people who completed both a baseline and follow-up survey suggest that MAHP recipients were satisfied with these features of their neighborhood prior to moving to an MAHP unit and became slightly more satisfied after moving to the MAHP unit (which was located in a different neighborhood less than half the time). The results by whether the respondent changed neighborhoods when they moved into their MAHP unit are similar for both neighborhood movers and stayers. Movers usually, but not always reported higher levels of satisfaction than stayers, but the differences were not statistically significant.

#### **4.4 Summary**

MAHP participants were overwhelmingly positive about the quality of their MAHP units. They reported having many fewer problems in their MAHP unit than in their previous FEMA housing and reported feeling safer from floods and high winds in the MAHP unit. Respondents also reported that the “amount of space” and the “amount of privacy” is much better in their MAHP unit than in their FEMA trailer or mobile home, but 10 percent still live in overcrowded conditions according to the persons-per-bedroom measure of overcrowding. This is in part because of MEMA’s initial occupancy standards were based on replicating an emergency response to a disaster. Almost all the respondents with mobility impairments or household members with mobility impairments reported the MAHP unit was appropriately designed for the mobility impaired person to access and move around the unit by his or herself. Only three-quarters of these respondents reported the same for their previous FEMA housing.

MAHP participants reported a high level satisfaction with routine maintenance, and more than four-fifths of those who made service calls in the last six months were satisfied with the speed and the quality of the repair. Nearly 31 percent reported service calls for their air conditioning system, and 55 percent reported making at least one service call in the previous six months.

Nearly all the participants reported feeling safe on the streets near their home during the day, and 88 percent felt safe even at night. At least four-fifths of participants reported satisfaction with each item on a list of neighborhood features (e.g., garbage pick up and police response time). The only two items with less than 80 percent satisfaction were “Distance to grocery store” and “availability of health care.”

The positive impact of the change in housing quality—which is directly attributable to the MAHP program—as well as the small improvements in the perception of the neighborhood, which may or may not be related to the program, could affect other aspects of MAHP participants’ quality of life. Such aspects include participants’ mental health or economic situation: these are explored in subsequent chapters.

**Exhibit 4-11. Satisfaction with Various Neighborhood Features**

Neighborhood Feature	All Follow-Up Respondents in MAHP Unit (n=236)	Respondents to Both Baseline and Follow-Up Survey		
		Pre-MAHP Unit (n=52)	MAHP Unit (n=52)	Difference in Percentage Points (pp) (n=52)
<i>Community Services and Infrastructure</i>				
Garbage pick-up	95.7%	89.6%	96.2%	+6.6 pp
Police response	92.7%	83.3%	90.0%	+6.7 pp*
Quality of your child(ren)'s school	91.4%	--	--	--
Quality of outdoor space, such as parks	82.7%	66.7%	75.6%	+8.9 pp
Availability of child care	81.6%	--	--	--
Availability of health care	79.4%	63.6%	76.5%	+ 12.9 pp
<i>Convenience of Location</i>				
Distance to child(ren)'s school?	95.7%	--	--	--
Distance to your job?	82.7%	81.5%	84.6%	+3.1 pp
Distance to grocery store	72.4%	69.6%	72.6%	+3.0 pp
<i>Neighborliness</i>				
Friendliness of your neighbors	85.8%	84.4%	91.1%	+6.7 pp*

\* Indicates statistically significant difference at 10 percent significance level.

"--" Indicates cell sample size is below 20 and is therefore not reported—only parents with school-age or younger children answered these questions.

Sources: Follow-up estimates are from the 236 respondents to the MAHP follow-up survey in fall 2008 who moved into a MAHP unit by February 2008 and still occupied the unit in the fall of 2008. Baseline findings are based on a mail survey of MAHP applicants that was administered by HUD in summer and fall of 2007. Fifty-two of the sixty people who responded to both surveys lived in a MAHP unit in fall of 2008.



# Chapter 5: Did Participant Health Improve after Moving into a MAHP Unit?

Traumatic events such as experiencing a hurricane can have profound effects on the emotional health of those who live through them. The stress from this traumatic event may be exacerbated by a long recovery process, including extended stays in temporary and sometimes overcrowded housing and being away from one's community and normal daily activities. In addition, the mold and mildew caused by the storm waters and possible elevated levels of formaldehyde in the temporary FEMA trailers have been cited as risk factors for asthma and other respiratory problems, particularly for children. Given these concerns, this evaluation seeks to understand if moving from a FEMA trailer into a MAHP unit reduced these mental and physical health risks for participants by providing a unit that feels more like a home than a travel trailer or mobile home, providing more living space and privacy, and possibly reducing exposure to mold and formaldehyde.

This chapter examines health outcomes for 281 MAHP unit recipients who responded to the follow-up survey. Participants were asked about three key areas of health: the mental health of adult respondents; respiratory illness among all adults in the household; and child health and behavior. The survey results are compared with national or local norms where possible and are also compared to a baseline survey that some MAHP participants completed before moving into a unit.

## 5.1 Mental Health of Adults

People who undergo traumatic events often experience emotional health issues. Some develop symptoms that are linked to post-traumatic stress disorder (PTSD); others develop serious psychological distress (SPD), such as depression or anxiety. This section reports on symptoms of SPD and PTSD among MAHP participants and compares the results to national norms and studies of similar populations.

### Serious Psychological Distress

Serious psychological distress (SPD) among the MAHP respondents was measured using the K6 screening scale of anxiety-mood disorder developed by Ron Kessler. The K6 scale asks respondents how often they experienced symptoms of unspecified psychological distress (e.g., hopelessness, sadness) over the past 30 days and is intended to indicate a potentially diagnosable mental illness.<sup>27</sup> Three years after Katrina, the rate of SPD was 19.8 percent among MAHP respondents. This is 16.8 percentage points higher than the 3 percent national rate reported by the

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<sup>27</sup> According to Kessler et al. (2008) [Ronald C. Kessler et al. "Trends in Mental Illness and Suicidality after Hurricane Katrina," *Molecular Psychiatry*. 2008 April, 13(4): 374-384.], scores for the K6 scale range from 0 to 24. The scale has been proven valid in predicting DSM-IV anxiety-mood disorders that meet the severity requirements of the Substance Abuse and Mental Health Services Administration's definition of Serious Mental Illness (SMI). K6 scores of 13-24 indicate serious psychological distress (SPD) and a likelihood of a diagnosable serious mental illness (SMI). All the items in the scale are shown in Exhibit 5-1. See [http://www.hcp.med.harvard.edu/ncs/k6\\_scales.php](http://www.hcp.med.harvard.edu/ncs/k6_scales.php) for more information on the K-6 scale.

CDC in 2007<sup>28</sup> and a little higher than a Harvard Medical School study of Hurricane Katrina survivors in all states severely affected by the storm.

In 2006, the Harvard Medical School established the Hurricane Katrina Community Advisory Group (CAG), which is a panel of Hurricane Katrina survivors from the affected areas of New Orleans, Alabama, and Mississippi.<sup>29</sup> A team of researchers led by Ron Kessler conducted numerous interviews with this panel over time that examined various elements of mental illness after Hurricane Katrina. Kessler et al. (2006, 2008) published two reports of particular relevance to the MAHP evaluation.<sup>30,31</sup> In the 2006 study, comprised of 1,043 respondents, researchers found that 11.3 percent of the population met the criteria for SPD. This is much higher than the national level found by the CDC, but not as high as the level found among MAHP survey respondents.

In the 2008 study, the researchers compared data for 815 CAG panel members interviewed 6 to 12 months after the hurricane and again 20 to 23 months after the hurricane. Typically, symptoms of psychological distress associated with a disaster diminish over time, often resolving themselves within two years. However, this study showed an increase in serious psychological distress between the two interviews (10.9 percent at baseline and 14.0 percent at follow-up). That is, the prevalence of SPD among panel members increased by 3.1 percentage points between the first and second year after the hurricane. Nevertheless, the rate of SPD among the panel members at follow-up (14.0 percent) still remained 5.8 percentage points lower than prevalence among MAHP participants (19.8 percent).

We do not know why there was a higher rate of SPD among MAHP respondents compared to the rates found in the Harvard studies. It could be that the MAHP program served a more psychologically distressed population. The first MAHP units were available in June 2007, nearly two years after the disaster. People who had not yet rebuilt their home or found permanent housing within those two years had to cope with the pressures and disruption of not having permanent housing for an extended period of time, which may have exacerbated the stress of the disaster. Furthermore, at the time of the survey, many of the MAHP participants had still not identified a permanent housing option, possibly leading to further feelings of instability. Finally, people suffering from psychological distress may have more difficulty navigating the post-disaster housing market and recovery programs and thus be more likely to need a MAHP unit two to three years after the disaster.

The 60 MAHP recipients that responded to baseline and follow-up surveys had a higher rate of SPD initially than the CAG panel members, but—in contrast to the Harvard studies—the change

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<sup>28</sup> National Center for Health Statistics. “Health, United States, 2007”; available from [http://cdc.gov/nchs/data/07.pdf](http://cdc.gov/nchs/data/hus/07.pdf); Internet; accessed 10 February 2009.

<sup>29</sup> See <http://www.hurricanekatrina.med.harvard.edu/index.php> for more information on the Hurricane Katrina CAG.

<sup>30</sup> Ronald C. Kessler et al. “Mental Illness and Suicidality after Hurricane Katrina.” *Bulletin of the World Health Organization*. 84, no. 12, (2006): 930-939.

<sup>31</sup> Ronald C. Kessler et al. “Trends in Mental Illness and Suicidality after Hurricane Katrina,” *Molecular Psychiatry*. 2008 April, 13(4): 374-384.

over time was positive.<sup>32</sup> Most of the MAHP recipients were living in a FEMA travel trailers at the time they applied for the program. Among the respondents who completed a baseline and a follow-up survey, 31 percent met the criteria for SPD at the time they completed the baseline survey. At the time of the follow-up survey, 26 percent of this subgroup met the criteria for SPD, representing a decrease of 5 percentage points. Receipt of a MAHP unit may have diminished the stress level of recipients by providing a higher quality, less crowded unit and a greater sense of stability. However, it may also be that the improvement reflects the overall recovery efforts that were occurring in the area and the longer time period people had to recover from the disaster. In any case, no definitive conclusions can be drawn that SPD was reduced after moving into the MAHP unit because of the small sample size and because the subgroup of respondents that completed both the baseline survey and the follow-up survey is not necessarily representative of the MAHP population as a whole. The change is also not statistically significant.

Although the decline in the rate of SPD among MAHP respondents cannot definitively be attributed to the MAHP unit, improvements to mental health as a result of receiving a MAHP unit were cited by many of the MAHP respondents when given the chance to provide an open-ended comment on how the MAHP unit affected their lives. A number of respondents mentioned a sense of peace; less stress; a feeling that ‘life had returned to normal,’ and that family members felt ‘hopeful.’ One respondent said “...it’s greatly improved. I don’t cry every day now, and I like to come home.” These qualitative responses support the possibility that moving into a MAHP unit improved the participants’ mental health.

A closer look at the individual screening criteria that make up the K-6 scale offers additional evidence that mental health among MAHP respondents improved between the baseline and follow-up survey.<sup>33</sup> As shown in Exhibit 5-1, respondents reported improvements for all six screening criteria, but the most dramatic change was in the percentage of the MAHP respondents who reported that they felt hopeless at least a little of the time the previous month. Among these respondents, the share of people who reported feeling hopeless declined from nearly 70 percent to below 40 percent. This change is reflected in one respondent’s sentiments, who said of the MAHP unit: “It made me feel like I am living again. Made me feel like I am springing forward. It gave us a whole different life.”

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<sup>32</sup> There were timing differences between the baseline and follow-up surveys in this study and the Kessler study. Kessler et al. (2006, 2008) conducted the baseline survey 6 to 12 months after the hurricane and the follow-up 20 to 23 months later. The MAHP baseline survey occurred between 18 to 24 months after the hurricane (which was the Kessler et al. follow-up time frame), with follow-up eight months later—a full three years after the initial trauma.

<sup>33</sup> Measures of SPD are based on a summary score of all the symptoms listed in Exhibit 5- 1. While the individual items show large increases in the number of people experiencing symptoms of psychological distress none of the time, the overall summary scores do not change as drastically.

**Exhibit 5-1. Changes in Emotional Health between Baseline and Follow-up**

<b>Emotional Health During the Past Month</b>	<b>Baseline (n=60)</b>	<b>Follow-up (n=60)</b>	<b>Difference</b>
Felt hopeless	69.6%	39.0%	-30.6 pp*
Felt worthless	48.2%	24.1%	-24.1 pp*
Felt restless or fidgety	77.2%	62.7%	-14.5 pp
Felt that everything was an effort	71.4%	62.7%	-8.7 pp
Felt nervous	75.4%	66.1%	-9.3 pp
Felt so sad that nothing could cheer you up	70.7%	64.4%	-6.3 pp

\* indicates statistically significant difference at 10 percent significance level.

*Sources: Baseline findings are based on a mail survey of MAHP applicants administered by HUD in summer and fall of 2007. Follow-up findings are based on an in-person or telephone survey of MAHP participants in the fall of 2008. Sixty people responded to both surveys.*

*Note: The possible responses to each of the emotional health questions are (1) All of the time, (2) Most of the time, (3) Some of the time, (4) A little of the time, and (5) None of the time. The estimates above include all of these answers except "None of the time."*

In addition to the changes shown in Exhibit 5-1, the percentage of participants who reported feeling calm and peaceful most or all of the time increased from 27 to 39 percent between baseline and follow-up. This is not surprising, as many of the respondents cited feelings of peace and hope when asked to comment on the MAHP unit. One quote from a respondent was simply "Peace, sweet peace."

**Post Traumatic Stress Disorder**

Another key mental health indicator among people who experience trauma is the prevalence of post traumatic stress disorder (PTSD). Estimates from the National Center for Post-Traumatic Stress Disorder indicate that between 25 to 30 percent of those exposed to traumatic events like Hurricane Katrina develop PTSD or other psychological disorders.<sup>34</sup>

Kessler et al.'s (2008) analysis of the data from the 815 CAG panel members showed some unexpected results. As was true with serious psychological distress, the incidence of PTSD symptoms increased between the two surveys. The study also showed that PTSD symptoms were higher in the New Orleans metropolitan area, but that the increase in PTSD symptoms was greater for those outside of the New Orleans area. In the New Orleans area, the share of people with PTSD symptoms increased from 24 percent in the first year after the hurricane to 26 percent a year later. Outside the New Orleans area, PTSD increased from 15 percent to 21 percent.

Using the PTSD Civilian Checklist,<sup>35</sup> 17 percent of MAHP respondents met the criteria for PTSD at the time of the follow-up survey. It is possible that the rate among MAHP survey respondents was lower than 20 to 25 percent estimate from the National Center for PTSD because of the 3

<sup>34</sup> See The National Center for Post-Traumatic Stress Disorder at: <http://www.ncptsd.va.gov/ncmain/index.jsp>.

<sup>35</sup> See Appendix C for the PTSD checklist and guidelines used to measure PTSD.

years that elapsed between the hurricane and the follow-up survey. The rate of PTSD among the MAHP participants (17 percent) is in between the initial and follow-up rates (15 and 21 percent) found by Kessler et. al. (2008) among people living outside the New Orleans area at 6 and 20 months after the hurricane. Using the most comparable timeframe — the 20-month follow-up — from Kessler et al. (2008), the rate of PTSD is 4 percentage points lower among MAHP respondents than the CAG panel. However, the scales used to measure PTSD in the Kessler study and the one used in the MAHP evaluation were different. The Kessler study used a modified version of the Trauma Screening Questionnaire; the AHPP evaluation used the PTSD Checklist (Civilian Version).<sup>36</sup> Finally, as with SPD, differences in socio-demographic characteristics between the two study populations could also contribute to the differences in rates of PTSD.

Research shows that people who experience PTSD often have symptoms of mental illnesses such as depression, anxiety, or substance abuse. Of the MAHP participants who meet the criteria for PTSD, 69 percent also met the criteria for serious psychological distress (SPD). The MAHP study did not collect information on alcohol or substance use, so that comparison can not be made.

Since the PTSD scale was not part of the baseline survey, we cannot determine whether the rate of PTSD for the MAHP participants has changed over time. The MAHP participants will be surveyed a final time in the fall of 2010. At that time, we will be able to make comparisons of their PTSD symptoms with those reported in the 2008 survey.

## 5.2 Physical Health of Adults

The physical health of residents displaced by Katrina could be affected in a number of ways by the receipt of an MAHP unit. Similar to mental health, physical health also is affected by stress, and the receipt of an MAHP unit may reduce the stress associated with living in overcrowded or temporary conditions. Respiratory issues could also lessen if the MAHP units have better ventilation, less mold and mildew, and lower levels of formaldehyde than the FEMA trailers. This section first discusses overall health conditions then reviews data on smoking and respiratory health among MAHP respondents. Comparisons between the baseline and follow-up surveys are available for overall health conditions, but not for smoking and respiratory health, which were not covered on the baseline survey.

### Overall Health Status

The MAHP population is generally in poorer health than the populations of Mississippi and the United States overall. Exhibit 5-2 shows these comparisons.<sup>37</sup> Almost 27 percent of MAHP recipients reported that their health was very good or excellent, much lower than the 47 percent for Mississippi and the 55 percent across the United States. A much higher percentage of MAHP

<sup>36</sup> The Trauma Screening Questionnaire (TSQ) uses fewer questions than the PTSD Checklist (Civilian Version); the TSQ uses ten items, while the PTSD Checklist measures self-reported symptoms of PTSD with 17 items.

<sup>37</sup> Data for the Mississippi and national estimates are based on the Centers for Disease Control's National Center for Chronic Disease Prevention and Health Promotion online data system.

survey respondents reported fair or poor health, 41 percent versus 21 percent of all people in Mississippi and 15 percent nationally.

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**Exhibit 5-2. Health Status of MAHP Recipients**

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Self-Reported General Health Status	MAHP Participants		
	(n=281)	Mississippi State	National
Excellent/Very Good	26.7%	47.2%	55.0%
Good	32.4%	31.5%	30.0%
Fair/Poor	40.9%	21.1%	14.4%
Missing	0%	0.2%	0.6%

*Sources: MAHP participant findings are based on an in-person or telephone survey of 281 MAHP participants in the fall of 2008. Mississippi State and National percentages based on National Center for Chronic Disease Prevention & Health Promotion Behavioral Risk Factor Surveillance System trend data 2008. n=281 for respondents who self-reported their general health status.*

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Among MAHP participants who responded to both the baseline and follow-up surveys, the percentage reporting that their health was fair or poor decreased almost 6 percentage points (from 49.1 percent at baseline to 43.4 percent at follow-up). This suggests that physical health improved, but the difference is not statistically significant, since only a small subgroup of the MAHP respondents (60 in all) completed both the baseline and follow-up surveys.

**Cigarette Smoking**

Smoking is detrimental to overall health and is a leading contributor to respiratory problems. Sixty-three percent of the MAHP respondents reported that they smoked at least 100 cigarettes in their lifetime. Two-thirds of those who ever smoked, and thus 42 percent of all respondents, have smoked that much since Hurricane Katrina. According to the National Center for Chronic Disease Prevention and Health Promotion, roughly 18 percent of the nation’s adults and almost 23 percent of Mississippi adults smoke cigarettes.<sup>38</sup> The percent of MAHP respondents who have smoked since the Hurricane is higher than percentage of smokers both nationally and in Mississippi. This indicates that MAHP recipients are at above average risk for health problems associated with smoking.

Roughly half of the MAHP adult respondents who smoke currently indicated that they smoke in their home now and did so in their FEMA trailer or mobile home (49 and 51 percent respectively). Since both the FEMA units and the MAHP units are relatively small, everyone in the household experiences the dangers of second hand smoke. However, 32 percent of current adult smokers report that they smoked less after they moved into their MAHP unit and only 5 percent reported smoking more.

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<sup>38</sup> The National Center for Chronic Disease Prevention and Health Promotion, Behavioral Risk Factor Surveillance System. “Prevalence and Trends Data, Tobacco Use. 2008.” Available from <http://apps.nccd.cdc.gov/brfss/page.asp?cat=TU&yr=2008&state=US#TU>; Internet; accessed 30 June 2009.

## Respiratory Health

Potential unhealthy levels of formaldehyde in FEMA trailers, as well as issues with mold, mildew, and lingering debris from the storm itself have made respiratory health issues among Hurricane Katrina victims a focus of the media and policy makers. This evaluation collected information about respiratory issues for the respondent and other adult household members in three key areas: asthma, allergies, and other breathing problems. Overall, 53 percent of survey respondents reported that they had been diagnosed with a respiratory problem. When the question was broadened to include other adults in the household, 63 percent of the MAHP respondents reported that at least one adult had a respiratory problem.

MAHP respondents who reported that they or another adult in the household had been diagnosed with a respiratory problem were asked about the timing of the diagnosis. Exhibit 5-3 shows the timing of the respiratory diagnosis for the MAHP respondents and for other adults in the household in relation to Hurricane Katrina. In both groups, about half developed their breathing problems prior to Hurricane Katrina. The breathing problems for most of the remainder reportedly started after the hurricane but before moving into the MAHP unit. A small percentage of adults reported having breathing problems that were diagnosed only after moving into their MAHP unit.

**Exhibit 5-3. Timing of Diagnosis of Respiratory Problems for Adult Household Members**

<b>Adult that had Breathing Problem</b>	<b>All breathing problems pre-Katrina</b>	<b>All breathing problems post-Katrina, pre-MAHP unit</b>	<b>Some breathing problems post-Katrina, pre-MAHP unit</b>	<b>All breathing problems post-MAHP</b>	<b>Some problems pre-Katrina, some post-MAHP</b>
Adult Respondent (n=148)	49.3%	31.1%	14.9%	2.0%	2.7%
Other Adults in Household (n=74)	46.0%	31.1%	21.6%	1.4%	0%

*Source: Findings are based on an in-person or telephone survey of 281 MAHP participants in the fall of 2008 who reported an adult in the household had respiratory problems.*

The survey asked respondents who reported breathing problems whether the breathing problems had become better, worse, or stayed the same after they moved into their MAHP units. The same question was asked if the respondent had reported that other adults in the household had breathing problems. As Exhibit 5-4 illustrates, a slight majority of the respondents reported no change in their breathing problems or the breathing problems of other adults after moving into a MAHP unit, but most of the other respondents (37.8 percent overall) reported that the breathing problems improved after moving into the MAHP unit. Only a small share of respondents reported adult breathing problems got worse after moving into a MAHP unit.

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**Exhibit 5-4. Change in Breathing Problems since Moving into MAHP Unit for Adults**

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Adult that had Breathing Problem	Change in Breathing Problem After MAHP Unit		
	Breathing problems improved	Breathing problems stayed the same	Breathing problems got worse
Survey respondent (n=148)	37.8%	55.6%	6.7%
Another adult household member (n=74)	41.7%	52.8%	5.6%

*Source: Findings are based on an in-person or telephone survey of MAHP participants in the fall of 2008 who reported an adult in the household had respiratory problems.*

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MAHP units may have contributed to improvements in respiratory problems. They are roomier than FEMA travel trailers and have more windows, which can improve air circulation. Furthermore, just under one-third of smokers reported smoking less in their MAHP unit, which could help the breathing problems of the respondent and other members of the household.<sup>39</sup>

One of the respiratory illnesses asked about on the survey was asthma. The prevalence of asthma was much higher than the national and Mississippi average. According to the Centers for Disease Control, the nationwide prevalence of asthma among adults was 12.9 percent in 2007 and the statewide prevalence of asthma in Mississippi was 11.0 percent.<sup>40</sup> By contrast, the prevalence of asthma among adult MAHP participants was 23.6 percent. This is another indication that the people being served in MAHP are less healthy than the average person in Mississippi.

### 5.3 Children's Health and Behavior

Another key research question for the MAHP evaluation is what effect, if any, the receipt of an MAHP unit has on the health and behavior of children who were displaced by Hurricane Katrina. Ninety-two survey respondents (32.7 percent) indicated that they had at least one child age 17 or under living with them.

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<sup>39</sup> Information on respiratory health was collected from MAHP respondents on a retrospective basis -- that is, respondents were asked to report on changes to their own and other adults' respiratory problems over a three-year period. Respondent answers may have been affected by recall bias.

<sup>40</sup> Center for Disease Control, "Table L1: Adult Self-Reported Lifetime Asthma Prevalence Rate (Percent) and Prevalence (Number) by State or Territory: BRFSS 2007"; available from <http://www.cdc.gov/asthma/brfss/07/lifetime/tableL1.htm>; Internet; accessed 10 February 2009.

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**Exhibit 5-5. Number of Children with Breathing Problems**

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	Number of households (n=92)	Percent of households (n=92)
Total households with children 17 and under who had experienced any breathing problems	50	54.3%
Type of Breathing Problems		
Allergies	34	37.0%
Asthma	26	28.3%
Other Breathing problems	18	19.6%

*Source: Findings are based on an in-person or telephone survey of MAHP participants in the fall of 2008 who reported having one or more children age 17 or younger in the household.*

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As shown in Exhibit 5-5, of the 92 respondents with children, 54 percent indicated that at least one child had a breathing problem, with allergies the most common cause.

Exhibit 5-6 shows the timing of children’s breathing problem diagnoses compared to the hurricane. Among all three diagnoses—asthma, allergies, and other breathing problems—over half of MAHP respondents reported that a child in their household was diagnosed after the hurricane, but before moving into the MAHP unit.

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**Exhibit 5-6. Timing of Breathing Problem Diagnoses among Children Living in MAHP Units**

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	Allergies (n=34)	Asthma (n=26)	Other Breathing Problems (n=18)
<i>Diagnosis occurred...</i>			
Before Hurricane Katrina	28.1%	37.5%	29.4%
After hurricane, before MAHP unit	65.6%	54.2%	58.8%
After MAHP unit	6.3%	8.3%	11.8%

*Source: Findings are based on an in-person or telephone survey of MAHP participants in the fall of 2008 who reported one or more children age 17 or younger living in the household who had breathing problems.*

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Exhibit 5-7 details whether children living in an MAHP unit experienced a change in their breathing problem after receipt of the MAHP unit. Nearly 90 percent of the MAHP respondents indicated that their child’s breathing problems stayed the same or improved after receiving an MAHP unit, including 52 percent who reported it improved. Without additional in-depth survey questions and further testing, it is not possible to conclude that the high prevalence of breathing problems is related to the FEMA unit, the Hurricane, or other causes. Similar to findings on adult breathing problems, the children’s findings are also susceptible to respondent recall bias since respondents are reporting on changes over a three year period.

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**Exhibit 5-7. Change in Children’s Breathing Problem after Receipt of MAHP Unit**

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<b>Status of Breathing Problem Since Moving into MAHP Unit</b>	<b>Breathing problems got better</b>	<b>Breathing problems stayed the same</b>	<b>Breathing problems got worse</b>
Overall (n=50)	52.2%	37.0%	10.9%

*Source: Findings are based on an in-person or telephone survey of MAHP participants in the fall of 2008 who reported one or more children age 17 or younger living in the household who had breathing problems.*

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MAHP respondents reported that moving into the MAHP unit had a positive effect on their children’s behavior. Exhibit 5-8 shows the percent of households for which the respondent indicated that the child’s behavior improved, stayed the same, or got worse after the receipt of the MAHP unit. Fifty-five percent of the respondents reported that the emotional health of the child improved. Improvements in behavior, enthusiasm, and a desire to do well in school were reported for roughly 40 percent of the households with at least one child. Very few respondents reported that the children’s attitude or behavior became worse after moving into the MAHP unit.

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**Exhibit 5-8. Changes in Children’s Attitude and Behavior Since Living in MAHP Unit According to Parent/Adult Respondent**

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	<b>Percent (n=92)</b>
Emotional health of only or oldest child	
Improved	55.1%
Same	40.5%
Worse	4.5%
Behavior of only or oldest child	
Improved	42.2%
Same	46.7%
Worse	11.1%
Enthusiasm of only or oldest child	
Improved	40.2%
Same	56.1%
Worse	3.7%
Desire to do well in school of only or oldest child	
Improved	39.8%
Same	59.0%
Worse	1.2%

*Source: Findings are based on an in-person or telephone survey of MAHP participants in the fall of 2008 who reported one or more children age 17 or younger living in the household.*

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Overall, MAHP respondents reported that their children’s health and emotional well-being were better since moving into the MAHP unit. When asked about their overall views of the MAHP unit, some MAHP respondents commented specifically on their children, stating that their unit “made children happier and healthier” and that “the children’s behavior has changed.” The number of MAHP respondents with children under 17 and younger was small (92 of the 281 respondents). Further, without a control group, it is difficult to say that the changes in behavior

resulted from the children getting older, the time elapsed since the hurricane, the receipt of the MAHP unit, or a combination of factors.

## **Conclusion**

The MAHP respondents reported higher rates of SPD than other Hurricane victims, but this rate declined among the MAHP participants that responded to both the baseline and follow-up surveys. These respondents also reported positive changes in the individual screening criteria used to measure mental health between the baseline and follow-up surveys. Compared to other populations that experience traumatic events, MAHP respondents had a lower rate of post traumatic stress disorder (PTSD).

The MAHP unit appears to have had a positive affect on some aspects of physical health among adults and children, particularly for respiratory problems. For both adults and children with diagnosed breathing problems, slightly over one-third of the respondents reported that the breathing problems had improved since moving into the MAHP unit and most of the other respondents reported it stayed the same. Very few respondents reported the breathing problems became worse.

Based on the health-related data gathered to date, we are able to make only speculative conclusions about the affect of the MAHP unit on program participants' quality of life. Results for this report were limited by several factors. First, there is no control group to show what the health status of MAHP recipients would have been in the absence of the program. Second, the baseline survey had a low response rate, so the respondents to both the baseline and follow-up surveys are not necessarily representative of all MAHP participants. Third, several mental and physical health measures—post traumatic stress disorder, overall health, respiratory illnesses, and children's health and behavior—were not captured at baseline to enable a comparison. We compensated for this by asking retrospective questions about changes in health, but note that this approach raises concerns about recall bias.



## Chapter 6: Employment, Income and Use of Additional Resources

Hurricane Katrina was a major disaster that brought everyday life to a halt. All along the Gulf Coast homes and businesses were destroyed. Similar to other natural or man-made disasters, it had a widespread impact on the economy, including a loss of jobs from businesses that were destroyed and the loss of the consumer base from people who relocated from their damaged homes. During recovery, households often have to rely on alternatives to employment income, such as savings, government assistance, and help from family, friends or charitable organizations until they can get back on their feet. In many instances, such support is not immediate or adequate, and disaster victims face further hardships.

One of the goals of programs such as MAHP is to ameliorate such negative effects by providing a housing unit that is not just an emergency shelter, but instead more closely resembles traditional housing. By design, emergency housing is intended to provide only basic shelter and minimum amenities suitable for a temporary living situation. Although the program rules for MAHP units also specified that MAHP units were temporary, they were designed with a look, space, and amenities that are more familiar and could generate a sense of stability to speed up recovery from the disaster. Living in such a unit could help MAHP participants focus more on regular life activities such as employment. The MAHP unit could also help participant's economic situation if it was located in a more convenient location for working than their prior FEMA trailer.

In this chapter, we discuss the employment status and household income of MAHP households in the fall of 2008, including the use of additional resources such as savings and government assistance. Understanding economic outcomes for MAHP participants is important for understanding their overall quality of life after moving into a MAHP unit. This information is based on the follow-up survey of a representative sample 281 MAHP participants. We also compare employment and income outcomes for MAHP households before and after moving into their MAHP unit by comparing the baseline and follow-up responses for the non-representative sample of 60 MAHP participants who responded to both surveys.

### 6.1 Employment of MAHP Households

The current employment profile of the 281 MAHP respondents was discussed in Chapter 3. At the time of the follow-up survey, 50 percent of the MAHP respondents were employed, 43 percent were not in the labor force, and 7 percent were unemployed (meaning they were not working, but were looking for work).

When employment status at baseline is compared to that at follow-up for the 60 MAHP participants who responded to both surveys, we found a small decline in the share of households with an employed respondent. This small difference was not statistically significant. MAHP households were apparently able to maintain, but not improve, employment status between the time of the baseline survey when they applied for a MAHP unit and the follow-up survey. The absence of employment increases is not surprising, given the changes in the economy between

2007 and 2008. In 2007—the year the baseline survey was administered—the unemployment rate in Mississippi was 6.3 percent. By the fall of 2008, when the follow-up survey was administered, it had increased to 7.2 percent.

In addition to the comparison of baseline and follow-up employment, other responses to the follow-up survey indicate that the employment situation of MAHP households remained largely unchanged from the time period before they moved into their MAHP units until the fall of 2008. Among the MAHP respondents who were employed at the time of the follow-up survey, approximately 80 percent reported working for the same employer that they worked for before they moved into their MAHP unit. This proportion is the same regardless of whether the household placed the MAHP unit on the same property they lived on prior to the MAHP program or a different property.

Based on this information, the employment status of MAHP households has been affected more by the economic downturn than by the MAHP unit. It is possible, however, that without MAHP the employment status of these households would have been worse by the fall of 2008. Without the benefit of a control group, this analysis is unable to distinguish the effects of MAHP from the effects of the economic environment.

In the follow-up survey, we asked households with an employed respondent to compare their MAHP units to their previous housing in relation to ease of commuting to work or finding a higher paying job. The comparison is appropriate only if the two unit locations are different from one another. Therefore, we isolated the 47 employed households whose MAHP units at the time of the follow-up survey were located on a different property from their pre-MAHP housing. The responses of these employed MAHP households are presented in Exhibit 6-1. Depending on the question, between 65 and 77 percent of such households reported that the MAHP units did not affect their ability to work. More of the remaining respondents reported the new location made it harder rather than easier to work. For example, 26.1 percent of the respondents reported it was harder to travel to work from their new location compared to 8.7 percent who reported it was easier.

Respondents who were either unemployed or not in the labor force at the time of the survey were asked the main reason for not working. Their responses are presented in Exhibit 6-2. About 70 percent of non-workers cited disability or retirement as the primary reason for not working. This is consistent with the high share of elderly or disabled MAHP households. The other most common reasons cited for not working at the time of the follow-up survey included family responsibilities or child care problems (9 percent) and health (9 percent). None of the non-workers cited distance from home to an employer as the main reason for not working. Thus, most of the reasons cited for not working pertain to retirement, health or other personal reasons and are not related to living in an MAHP unit.

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**Exhibit 6-1. Effects of MAHP on Displaced Households' Ability to Work**

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<b>MAHP Compared to Prior Living Situation</b>	<b>Percent (n=47)</b>
<i>Traveling to work</i>	
Easier	8.7%
Same	65.2%
Harder	26.1%
<i>Working extra hours</i>	
Easier	6.4%
Same	76.6%
Harder	17.0%
<i>Finding higher paying jobs</i>	
Easier	4.7%
Same	67.4%
Harder	27.9%

---

*Source: Estimates are based on the 47 respondents to the follow-up survey in the fall of 2008 who were employed and living in an MAHP unit that was on a different property than their pre-MAHP housing.*

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**Exhibit 6-2. Main Reason for Not Working**

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<b>Reason</b>	<b>Percent (n=138)</b>
Disabled	38.9%
Retired	31.7%
Unable to work for health reasons	8.6%
Family responsibilities	5.8%
Could not find work	3.6%
Child care problems	2.9%
Employer no longer in business	2.2%
Has job but temporarily absent	1.4%
Other	4.9%

---

*Source: Estimates are based on the 138 respondents to the follow-up survey of MAHP participants who were not working at the time of the survey in the fall of 2008.*

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## **6.2 Income of MAHP Households**

The median income of MAHP households at the time of the follow-up survey was \$1,500 per month. When we compared the baseline and follow-up income of the 60 households that responded to both surveys, we found a slight decline in household income, but it was not statistically significant. As discussed in the section on employment status, we suspect that the deteriorating economy has affected household income more than the MAHP unit.

In Exhibit 6-3 we present the sources of household income for MAHP households in the month before the survey. The most common income source and the only one reported by a majority of households was employment income (including self-employment income), which was reported by 59.5 percent of households. When only households with a working age head of household and no household members with disabilities are examined, the percent of households with income from a job increases to 75 percent. A little less than half of the households reported income from sources available to elderly or disabled people, such as Social Security or Supplemental Security Income.

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**Exhibit 6-3. Sources of Household Income**

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<b>Sources of Income in the Past Month</b>	<b>Percent (n=281)</b>
<i>Employment income</i>	59.5%
<i>Retirement and disability income</i>	46.8%
Social security and railroad retirement	29.2%
Retirement, survivor, or disability pensions	17.7%
Supplemental security income	12.7%
<i>Assistance income or Food Stamps</i>	21.7%
Food stamps	18.1%
Unemployment compensation	3.6%
Public assistance or welfare payments	2.2%
<i>Interest, dividends, net rental income, royalty income or income from estates and trust</i>	8.3%
<i>Alimony or child support</i>	6.5%
<i>Other</i>	3.6%

*Source: Estimates are based on the survey of 281 MAHP participants in the fall of 2008.*

*Note: Because a household may have multiple sources of income, the percentages do not total to 100 percent.*

---

Respondents were also asked about sources of household income during the baseline survey. We compared the sources cited by the 60 households that responded to both baseline and follow-up surveys. We found only small changes that were not statistically significant. Basically, MAHP households maintained the same sources of household income before and after moving into their MAHP unit.

### **6.3 Use of Additional Resources and Hardship**

Since many MAHP households either cannot work or have not found higher-paying employment opportunities while recovering from the economic devastation of Katrina, it is not surprising that households rely on additional resources to make ends meet. In the following section, we present households' use of resources available from a variety of sources, as well as their difficulties in paying for living expenses.

In Exhibit 6-4, we show MAHP households' use of their own resources and outside help in the month prior to the follow-up survey. Most often households used their own savings (33 percent)

to make ends meet. They also used money from a state grant program for hurricane victims (14 percent), credit cards or other debt sources (13 percent), and insurance proceeds (8 percent). Seventeen percent of MAHP households obtained financial help from friends and family and 8 percent lived with them or in a house provided by them. The respondents reporting living with family and friends in the past month include people displaced by Hurricane Gustav.

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**Exhibit 6-4. Use of Resources and Outside Help in the Past Month**

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Use of Resources and Outside Help in the Past Month	Percent (n=281)
<i>Use of own resources</i>	
Money from savings	33.3%
Money from a state grants program for hurricane victims	14.1%
A new credit card or other debt	13.0%
Insurance proceeds from your homeowner or renter policy	8.3%
<i>Use of outside help</i>	
Friends or family provided financial help	17.1%
Lived with friends or family or in a house provided by them	7.9%
Charitable organization provided financial help	5.0%
Lived in housing provided by charitable organization	1.1%

*Source: Estimates are based on the survey of 281 MAHP participants in the fall of 2008.*

---

When we compared the use of various resources between the baseline and the follow-up periods for the 60 households that responded to both surveys, we found statistically significant differences in the use of the household's savings and money from the state grants. For these 60 households, the use of savings to make ends meet had increased from 22.8 percent at the time the household applied for the unit in 2007 to 35.6 percent at the time of the follow-up survey in 2008. Likewise, money received from the state grants had increased in the intervening time period by 16.7 percentage points. These comparisons are presented in Exhibit 6-5. The use of debt, insurance proceeds, or financial assistance from friends, family and charitable organizations did not change for these survey respondents upon moving into the MAHP unit (not shown in exhibit).

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**Exhibit 6-5. Comparison of Use of Resources in the Past Month**

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Use of Resources and Outside Help in the Past Month	Baseline Percent (n=60)	Follow-up Percent (n=60)
<i>Use of resources</i>		
Money from savings	22.8%	35.6%*
Money from a state grants program for hurricane victims	7.0%	23.7%*

*\* Indicates a statistically significant difference at the 10 percent significance level*

*Source: Estimates are based on the 60 respondents who completed both the MAHP baseline survey in 2007 and the follow-up survey in the fall of 2008.*

*Note: Because Exhibit 6-5 only presents the 60 MAHP respondents who also responded to the baseline survey, the follow-up percentages reported are somewhat different than in Exhibit 6-4.*

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Survey respondents were asked whether there was a time during the 12 months preceding the survey that they did not have their own place to stay. Respondents were explicitly instructed to consider FEMA or MAHP units as having their own place. Almost 14 percent of the MAHP respondents stated that they did not have their own place to stay at some point during the prior 12 months. We suspect that these periods of housing instability occurred prior to moving into the MAHP unit or among Gustav-affected families that had to move out of uninhabitable MAHP cottages. The various places these MAHP respondents stayed in are presented in Exhibit 6-6.

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**Exhibit 6-6. Places Stayed by MAHP Respondents Who Did Not Have their Own Place to Stay Within the Past 12 Months**

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Place Stayed	Percent (n=38)
Stayed with a relative	78.1%
Stayed with a friend	50.0%
Stayed in a shelter	12.9%
Stayed on the streets or some place not generally used for housing	16.7%

---

*Source: Estimate are based on 38 respondents from the MAHP in-person or telephone survey in fall 2008 who reported not having their own place to stay at some point during the 12 month period prior to the survey.*

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In the follow-up survey, we also asked MAHP respondents about their ability to pay for basic services such as utilities. Specifically, the survey asked if the respondent was ever more than 15 days late in paying utility bills in the 12 month period prior to the survey. More than one quarter of the MAHP households indicated that they were late in paying utilities at least once. Of the households that were late at least once, 12 percent reported that their utilities were turned off because of non-payment.

## 6.4 Summary

There were no discernable changes in the employment status or earnings of MAHP households from the time they applied for MAHP housing in 2007 to the fall of 2008 when they were living in (or had recently moved out of) their MAHP unit.

The main reasons households cited for not working were retirement and disability, which is consistent with the demographic characteristics of the MAHP households. Households' sources of income also are consistent with their demographic characteristics. A large share reported income related to retirement and disability such as social security.

MAHP households rely on a variety of resources to survive. They cobble together savings and financial or housing help from family, friends, or charitable organizations to make ends meet. Households appear to have better access to state grants for hurricane victims than they did at baseline, but they are also increasingly using savings. It is important to remember that this trend may be a function of the souring economy and not barriers to work associated with the MAHP unit.

## Chapter 7: Conclusion

FEMA awarded grants for the Alternative Housing Pilot Program to four states in December 2006. The pace of program implementation differed between the grantees, with the Mississippi program the first to install and occupy all its AHPP units. The first MAHP unit was occupied late in June 2007, and all 2,830 units were occupied by August 2008. In Mississippi, the units were placed in temporary installations with the plan to convert the units to permanent installations or remove them when participants found other permanent housing. This demobilization process is ongoing.

All MAHP recipients that were surveyed in the fall of 2008 had lived in FEMA travel trailers or mobile homes at some point following Hurricanes Katrina and Rita. Nearly one-third had lived in the disaster unit for more than two years before moving into a MAHP unit. At the time of the survey—8 to 17 months after respondents moved into MAHP units—more than four-fifths of the survey respondents were still living in the MAHP unit. Of the 16 percent who left their MAHP unit by the time of the survey, most had either completed the rebuilding of their pre-Katrina home or were displaced by flooding damage to their unit by Hurricane Gustav in September 2008.

Mississippi's alternative housing program served a wide spectrum of people hurt by the storm; however the people that did not have permanent housing two years after the storm and participated in the program tended to be older, poorer, and more likely to have a disabled household member than the overall pre-Katrina population of the area. About 80 percent of MAHP households reported low- and moderate- incomes, and the average income was lower than the pre-Katrina median of the six county program area.

The MAHP program appears to have achieved the most direct affect a housing program can have on the quality of life for participants: It improved their housing situation. Compared to their pre-MAHP housing—typically a FEMA travel trailer or mobile home—participants reported their housing was in better condition, had fewer housing quality problems, had more space, had better features, allowed more privacy, and just felt more like a home. Households with a physically disabled household member also reported the units were more accessible than the travel trailers and mobile homes. These positive effects on housing quality can be directly attributed to the program.

The follow-up survey also revealed a high level of satisfaction with the quality of routine maintenance and repairs. During the time period covered by this study, MEMA and its contractors were responsible for maintenance and repair work.

The findings of the follow-up survey were that MAHP participants had increased feelings of safety near their home, small improvements in mental health, and more substantial improvements in respiratory health after the participants moved into their MAHP units. Employment and income sources did not change much after participants moved into a MAHP unit. However, no definitive conclusions can be made that the improvements in feelings of safety, mental health, and respiratory issues are attributable to MAHP or that employment and income would not have remained stagnant in the absence of MAHP because other factors—such as time since the

disaster, community recovery overall, and the national economic downturn—likely also affected these outcomes. Without a control group of similar households that did not participate in the program, we do not know what the outcomes of the MAHP participants would have been in the absence of the program.

MAHP participants will be surveyed again in the fall of 2010, as will participants in the alternative housing programs in the other three states. A final report summarizing the findings from both the surveys and the process studies in all four states will be produced in 2011.

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**Appendix A:  
Alternative Housing Pilot Program  
Baseline Questionnaire**

# Alternative Housing Pilot Program Baseline Questionnaire

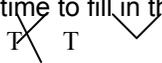
The U.S. Department of Housing and Urban Development (HUD) is evaluating the Alternative Housing Pilot Program (AHPP) for FEMA. It is a requirement of the grant that Mississippi assist with this evaluation.

- If you **are selected** to receive an AHPP unit, the federal government needs to know how living in the unit affects you. This will allow FEMA and HUD to make better decisions about how to respond to future disasters.
- If you **are not selected** to receive an AHPP unit, the federal government needs to know how not receiving the unit affects you. By **comparing** the experiences of those that get a unit to those that do not get a unit, FEMA and HUD can understand the true effect of living in an AHPP unit.

The information obtained through this survey will be used as **baseline** information to compare your responses to two follow-up surveys, one that would be conducted about **a year from now**, and another about **two years from now**. Whether or not you receive an AHPP unit, it is important that you respond to the later two surveys in addition to this baseline survey. The results from these surveys will be used to determine if the AHPP houses should be used as housing after future disasters.

Public reporting burden for this collection of information is estimated to average 25 minutes per response. This agency may not collect this information, and you are not required to complete this Form, unless it displays a currently valid OMB control number. The OMB Control Number for this survey is 2528-0248. This collection is authorized by 12.U.S.C. 1701z-1, which authorizes HUD to undertake studies of this type.

**Sensitive Information:** The information on these surveys is sensitive and is protected by the Privacy Act. **Your individual responses will be maintained securely and will only be seen by the researchers working on this project.** If you have any questions about this survey, please contact Paul Joice at 202-402-4608.

This is an automated form, please take the time to fill in the bubbles like this: S  
Please DO NOT fill in the bubbles like this: 

If any of the information below is incorrect, please make corrections, and fill in any blanks:

1. First Name

2. Last Name:

3. Date of birth:

Month	Day	Year
<input type="text"/>	<input type="text"/>	<input type="text"/>

4. FEMA Registration Number:

--	--	--	--	--	--	--	--	--	--	--

5. Please provide the address of where you are currently living:

Address:  Apt. #:

City:  State:  Zip

6a. If possible, please provide us with **up to** three phone numbers where we might be able to reach you or another household member if we need to ask you a question. Please also tell us what phone it is (for example, "My mobile phone", "Home Phone", "Work Phone", "My Husband/Wife's mobile phone").

Area Code                      Number

Phone Number 1:   -

Whose Phone?

Area Code                      Number

Phone Number 2:   -

Whose Phone?

Area Code                      Number

Phone Number 3:   -

Whose Phone?

6b. If possible, please provide us with **up to** three email addresses where we might be able to reach you or another household member if we need to ask you a question. Please also tell us whose email address it is.

Email 1:  @

Whose email?

Email 2:  @

Whose email?

Email 3:  @

Whose email?

**Please provide us the following information about yourself.**

7. Are you Male or Female?

- T Male
- T Female

8. What race or ethnicity do you consider yourself? You may indicate more than one.

- T White
- T Black or African American
- T Spanish, Hispanic, or Latino
- T American Indian or Alaska Native
- T Asian
- T Pacific Islander
- T Some other race

9. What is the highest degree or level of school you have completed? (select only one)

- T Nursery School to 6th grade or no schooling
- T 7th to 12th grade - NO DIPLOMA
- T High School Graduate or Equivalent (for example, GED)
- T Some College
- T Associates Degree
- T Bachelors Degree
- T Masters Degree, Doctorate Degree, or other Professional Degree (for example, MD, DDS, DVM, LLB, JD)

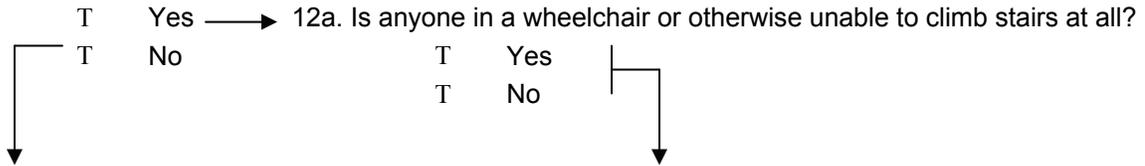
**Now we would like to know something about who currently lives with you.**

10. How many people do you live with?

11. Please provide for each person:

First Name	Last Name	Age	Gender (M/F)	Relationship to you	Currently Living with you? (Y/N)

12. Do you or anyone in the household have a physical disability or condition that limits one or more basic activity such as walking, climbing stairs, reaching, lifting, or carrying?



13. Do you or anyone in the household have a sensory disability such as blindness or deafness?

- T Yes
- T No

**The next set of questions ask about your income in the past month and generally what resources you are depending on to support yourself. This information is important for understanding what impact the AHPP program might have.**

14a. Are you currently:

- T Employed full-time (30 hours of work per week or more)
- T Employed part-time (less than 30 hours per week)
- T Self-employed
- T Unemployed Looking for Work
- T Not working for pay (retired, disabled, taking care of family, etc...)

14b. How many of the people your household (including yourself) are employed full-time or part-time?

15a. Please check ALL of your HOUSEHOLD'S sources of income in the past month: (you may check more than one)

- T Wages, salary, commissions, bonuses or tips from a job
- T Self-employment income
- T Interest, dividends, net rental income, royalty income, or income from estates and trust
- T Social Security or Railroad Retirement
- T Supplemental Security Income (SSI)
- T Alimony or Child Support
- T Any public assistance or welfare payments from the state or local welfare office (including TANF, but NOT including Food Stamps)
- T Food Stamps
- T Retirement, survivor, or disability pensions (NOT including Social Security)
- T Unemployment Compensation
- T No income in past month
- T Other

15b. What is your household's total **monthly** income last month from all of the sources checked above. MONTHLY HOUSEHOLD INCOME:

\$		.00
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16. In the past month, have you or anyone in your household had to use savings, insurance proceeds, state repair grant, or credit card debt in order to cover your living expenses? (check all that apply)

- T Yes, savings
- T Yes, insurance proceeds from your homeowner or renters policy
- T Yes, state grants program for hurricane victims
- T Yes, new credit card or other debt (that you did not pay off this month)
- T No

17. In the past month, have you lived in housing or received financial assistance from family, friends, or a charitable organization (such as a church or the Red Cross)? (check all that apply)

- T Yes, living with friends or family (or in a house provided by friends or family)
- T Yes, friends or family provided some financial help
- T Yes, living in housing provided by charitable organization (including a homeless shelter)
- T Yes, charitable organization provided some financial help
- T No

**Please tell us something about the house or apartment you lived in immediately before the Hurricane.**

18. What was the address of the home you lived in before the Hurricane?

Address:	<input type="text"/>	Apt. #:	<input type="text"/>
City:	<input type="text"/>	State:	<input type="text"/>
		Zip	<input type="text"/>

19. What type of building did you live in? (select only one)

- T A Mobile Home on my own land
- T A Mobile Home on leased land (in a "trailer park")
- T A one-family house detached from any other house
- T A one-family house attached to one or more houses (duplex, row house)
- T A building with 2 to 4 apartments or condominiums
- T A building with 5 or more apartments or condominiums
- T Hotel or Motel
- T Homeless Shelter
- T Homeless - living on the street
- T Other (such as boat, RV, van, etc.)

20. What best describes the level of damage your home sustained?

- T Destroyed or more than 50 percent damaged. The house was washed away or damaged so badly that it is uninhabitable without major reconstruction.
- T Major Damage - 20 to 50 percent damaged. The house needed substantial repairs such as a new roof and repair of most walls and fixtures
- T Moderate Damage - 5 to 20 percent damaged. One or more rooms in the house needed substantial repairs but other rooms were relatively undamaged.
- T Low Damage - 1 to 5 percent damaged. The home had limited damage such as roof shingles blown off, damaged siding, or minor water damage.
- T No Damage
- T Don't Know
- T Homeless before the hurricane

21. Did you own or rent?

- T Own or buying
  - T Rent
  - T Other (such as homeless) (*skip to question 31*)
- 21a. Pre-hurricane, how much were you paying in monthly rent?
- \$  .00 (*skip to question 31*)
- 

**Answer questions 22 to 30 ONLY if you or someone else in the household OWNED OR WAS BUYING the house or condominium you lived in immediately prior to the Hurricane. Otherwise, SKIP to question 31.**

22a. How much do you estimate the home you lived in was worth before the storm?

\$  .00 or range: \$  .00 to \$  .00

- T Don't Know

22b. Do you or the person that owned the home still own the home that was damaged?

- T Yes
  - T No → If you no longer own the home, what happened to the house?
    - T Lender foreclosed (*skip to question 31*)
    - T Sold it (*skip to question 31*)
    - T Other (specify, then *skip to question 31*)  
\_\_\_\_\_
- 

23. If you still own the home, do you have a mortgage on the damaged home?

- T Yes
- T No (*skip to question 25*)

24. For owners with a mortgage on the house, are you up-to-date on your monthly payments?

- T Yes
- T No, lender is not requiring me to pay currently
- T No, lender has indicated I am delinquent in my payments
- T No, lender is in the process of foreclosing

25. How much is it estimated that it will cost to repair your home?

\$  .00 or range: \$  .00 to \$  .00

- T Don't Know

26. What percent of the estimated cost to repair has the insurance company said it would cover?

- T All
- T More than half
- T Some, but less than half
- T None, wrong type of insurance or insurance company will not pay
- T None, did not have insurance
- T Don't Know

27. Please indicate what programs you have been approved to receive assistance from because your home was damaged in the storm.

<u>Approved</u>	<u>Denied</u>	<u>Pending</u>	<u>Did not apply</u>	
T	T	T	T	FEMA Housing Assistance Repair Grants
T	T	T	T	State Disaster Recovery Grant ( <i>tailor to each state</i> )
T	T	T	T	SBA Disaster Recovery Loans
T	T	T	T	Private Bank or Mortgage Company Financing
T	T	T	T	Other Program

28. Do you plan to repair/rebuild your home?

- T Yes
- T No → If you do not plan on repairing or rebuilding your, what are you planning to do with it?
  - T Sell it (skip to question 31)
  - T Nothing (skip to question 31)

29. If you are planning to repair or rebuild, what is the status of the rebuilding?

- T Completed
- T Construction started and will be completed in less than 6 months
- T Construction has just begun
- T Plan to start construction within 6 months
- T Plan to start construction within 1 year
- T Do not know when construction might start

30. When construction is completed, do you expect to move back into your rebuilt home?

- T Yes
- T No

Now, please tell us something about your **current housing**.

31. How many different places have you lived for a week or longer since the hurricane that caused you to leave your house? For example, if you lived in a shelter, moved to a motel, and then received a FEMA travel trailer, that would be "3".

32. Please indicate the type of housing you are currently living in:

- T FEMA travel trailer on my property
- T FEMA mobile home on my property
- T FEMA travel trailer in a "group site"
- T FEMA mobile home in a "group site"

33. What is the MAIN reason you would like an AHPP unit?

- T To have a LARGER place to live
- T To have a SAFER place to live
- T To be CLOSER TO HOME
- T To have a NEWER place to live
- T To have a PERMANENT house
- T Some Other Reason (specify) \_\_\_\_\_

***We'd like to know a few things about the quality of your current housing and neighborhood.***

35. Does your current housing have any of the following problems ...

	<u>Yes</u>	<u>No</u>
a. Is there mildew, mold, or water damage on any wall, floor, or ceiling?	T	T
b. Are there any floor problems such as boards, tiles, carpeting or linoleum that are missing, curled, or loose?	T	T
c. Are there any holes or large cracks where outdoor air or rain can come in?	T	T
d. In your home, do you smell bad odors such as sewer, natural gas, etc.?	T	T
e. In the last three months has any bathroom floor been covered by water because of a plumbing problem?	T	T
f. In the last three months has your toilet not worked for 6 hours or more?	T	T
g. In the last three months has your electricity not worked for 2 hours	T	T

	<u>Yes</u>	<u>No</u>
or more?		
h. In cold weather, do you ever need to use your oven to heat your home?	T	T
i. Do all outside doors and windows have locks that work?	T	T

36. Now, please tell us how satisfied you are with the following neighborhood amenities for your current housing...

	<u>Satisfied</u>	<u>Neither satisfied or unsatisfied</u>	<u>Unsatisfied</u>	<u>Not Applicable or Don't Know</u>
a. Distance to your job?	T	T	T	T
b. Distance to your child/children's school?	T	T	T	T
c. Quality of your child/children's school?	T	T	T	T
d. Garbage pick-up?	T	T	T	T
e. Police response?	T	T	T	T
f. Quality of outdoor space, such as parks?	T	T	T	T
g. Distance to grocery store?	T	T	T	T
h. Friendliness of your neighbors?	T	T	T	T
i. Availability of child care?	T	T	T	T
j. Availability of health care?	T	T	T	T

***Now we'd like to get a sense of how safe you think the area is where you currently live.***

37. How safe do you feel...

	<u>Very safe</u>	<u>Safe</u>	<u>Unsafe</u>	<u>Very Unsafe</u>
a. On the streets near your home during the day?	T	T	T	T
b. On the streets near your home at night?	T	T	T	T

38. Please tell me if any of the following things has happened to you or anyone who (lives/lived) with you in the past 6 months...

	<u>Yes</u>	<u>No</u>
a. Was anyone's purse, wallet, or jewelry snatched from them?	T	T
b. Was anyone threatened with a knife or a gun?	T	T
c. Was anyone beaten or assaulted?	T	T
d. Did someone try to break into your home?	T	T
e. Was anyone stabbed or shot?	T	T

**Several recent studies have shown a relationship between health and housing. To see if the AHPP has any impact on your health, please tell us about your current health.**

39. Would you say your health in general is excellent, very good, good, fair, or poor?

- T Excellent
- T Very Good
- T Good
- T Fair
- T Poor

40. Have you ever been told by a doctor or other health professional that you have asthma?

- T Yes
- T No

**Past studies have shown that the where you live and the type of housing you live in can affect how much you exercise and your weight. To see if the AHPP program might have a similar impact, the next questions ask about moderate physical activity and your height and weight. As noted earlier, these data will be used for this study only and averaged with other respondents. Your individual responses will be kept private.**

41. In a usual week, do you do moderate activities on three or more days for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that cause small increases in breathing or heart rate?

- T Yes
- T No

42. About how tall are you without shoes?

Feet       Inches

43. About how much do you weigh without shoes?

Pounds

**We also want to know about how you are feeling.**

44. How much of the time during the past month have you felt ...

	All Of The Time	Most Of The Time	Some Of The Time	A Little Of The Time	None Of The Time
a. So sad that nothing could cheer you up?	T	T	T	T	T
b. Nervous?	T	T	T	T	T
c. Restless or fidgety?	T	T	T	T	T
d. Hopeless?	T	T	T	T	T
e. That everything was an effort?	T	T	T	T	T
f. Worthless?	T	T	T	T	T
g. Calm and peaceful?	T	T	T	T	T

**Thank you for completing this survey. Without your help, we would not know if this program works.**

**Appendix B:  
Alternative Housing Pilot Program  
Follow-Up Questionnaire**

# Alternative Housing Pilot Program Questionnaire Non-Experimental Version

OMB Control Number: 2528-0254

OMB Expiration Date: 09/30/2011

## Introduction

Hello, my name is \_\_\_\_\_ and I work for Abt Associates. We are assisting the U.S. Department of Housing and Urban Development (HUD) to evaluate the Alternative Housing Pilot Program (AHPP). One way in which we are studying the AHPP is to talk to people that received a Mississippi Alternative Housing Program unit to see how things are going for them since they received that unit. We'll ask some questions about how they like the unit itself, how it compares to other places that they have lived, and how the family likes the unit. I'd like to know if you are willing to take a few minutes to complete this study with me now. The survey is voluntary and will take approximately 45 minutes to complete. The collection of this information has been approved by the Office of Management and Budget. The results from these surveys will be used to determine what types of alternative housing would be best to use after future disasters. At the end of the interview, you will be paid \$25 as a token of our appreciation.

**SC1. Are you willing to participate in a survey for me now? The interview will take about 45 minutes to do.**

YES [SKIP TO INTRO SC2, Page 2] ..... 1 9/  
NO ..... 2

**SC1a. Would you be willing to participate in an interview at another time, maybe later today, tomorrow, or one that is more convenient for you?**

YES [SKIP TO SC1b PAGE 2] ..... 1 10/  
NO [READ TERMINATION SCRIPT] ..... 2

**TERMINATION SCRIPT:** Thank you for taking the time to speak with me today. I'm sorry that you aren't able to participate in our study. If you change your mind and would like to participate in this study, please feel free to contact us at a later date to schedule an appointment. You call us at [INSERT TOLL-FREE NUMBER].

SC1b. When would you like to complete the interview?

[RECORD APPOINTMENT DATE AND TIME ON RIB]

INTRO SC2. Thank you for agreeing to participate in this interview. First, I would like to make sure that I am speaking to the right person.

SC2. My records show that your address at the time that you applied for an AHPP unit was

**INTERVIEWER NOTE: CHECK FACESHEET AND READ BASELINE ADDRESS TO RESPONDENT**

SC2a. Is that correct?

YES, RECONDENT CONFIRMED BASELINE ADDRESS

IN OUR RECORDS (SKIP TO INTRO1) ..... 1 11/

NO, RESPONDENT INDICATES BASELINE ADDRESS

IS INCORRECT (SKIP TO SC3) ..... 2

**INTERVIEWER NOTE: CHECK FACESHEET FOR THE MONTH AND YEAR THE RESPONDENT APPLIED FOR THE AHPP UNIT.**

SC3. Where were you living at the time you applied for the AHPP unit in [Baseline month/year] ?

STREET \_\_\_\_\_ 12-51/

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
52-81/ 82-83/ 84-88/

IF RESPONDENT DATA DO NOT VERIFY:

Since your address at [BASELINE ADDRESS] does not match what I have in my records, I'm going to verify the information in our records with my supervisor. I may [come back/call you back] at a later date to conduct the interview. Thank you for your time.

IF RESPONDENT DATA VERIFY:

INTRO1. You were selected for the interview because you received an AHPP unit. Your answers are important. We will ask you a series of questions about your neighborhood, housing, health, family, friendships, employment, and household composition. Your answers are confidential, and your name will never be used in any report about this survey. Participating in this survey cannot affect any housing assistance you may be receiving.

Now I'd like to go over this form that explains more about the study we are doing, and what this interview is about. Once we review the form and answer any questions you have, I'll ask you to sign the form to indicate that you agree to take part in the survey.

**IF IN-PERSON INTERVIEW: GO OVER CONSENT FORM, AND OBTAIN SIGNATURE**  
**IF TELEPHONE INTERVIEW: GO OVER CONSENT FORM, AND ASK RESPONDENT TO**  
**VERBALLY INDICATE THEIR CONSENT.**

Throughout the interview, we will ask questions about your housing at different points in time. Before we begin the interview, I want to make sure I understand your housing situations at different times between Hurricane Katrina and now.

**INTERVIEWER: CHECK FACESHEET FOR PRE-KATRINA ADDRESS. IF PRE-KATRINA ADDRESS IS**  
**KNOWN, GO TO INTRO 2.**  
**IF PRE-KATRINA ADDRESS IS NOT AVAILABLE ASK INTRO1**

**Intro1. Where were you living immediately before Hurricane Katrina hit, that is before August 29, 2005?**

STREET \_\_\_\_\_ 89-128/

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
129-158/ 159-160/ 161-165/

**Intro2. At the time that you applied for AHPP housing, were you living in:**

- A FEMA mobile home **(SKIP TO 3b, Page 4)** ..... 1      166-167/
- A FEMA travel trailer **(SKIP TO 3b, Page 4)** ..... 2
- A Non-FEMA travel trailer ..... 3
- A Non-FEMA mobile home ..... 4
- A rental unit you leased ..... 5
- In a housing unit with others, not paying part of the rent..... 6
- In a housing unit with others, paying part of the rent..... 7
- In a homeless shelter or other homeless situation ..... 8
- Some other location (specify: \_\_\_\_\_)..... 95      168-169/

**MARK DROP SHEET IF INTRO 2 ANSWERED YES, LIVED IN FEMA MOBILE HOME OR TRAILER**

**Intro3. Did you ever live in a FEMA travel trailer or mobile home after Hurricane Katrina or Rita?**

- Yes ..... 1 170/
- No **(SKIP TO A1, Page 5)** ..... 2

**MARK DROP SHEET IF INTRO 3 ANSWERED YES, LIVED IN FEMA MOBILE HOME OR TRAILER**

**3a. When you lived in FEMA housing, did you live in a FEMA travel trailer, a FEMA mobile home, or both?**

- Travel Trailer ..... 1 171/
- Mobile Home ..... 2
- Both ..... 3
- REFUSED ..... 7
- DON'T KNOW ..... 8

**3b. On what kind of site was your FEMA unit located? Was it...**

- On a private site you owned? ..... 1 172-173/
- On a private site someone let you use? ..... 2
- On a private site you rented from someone else? ..... 3
- In a commercial park? ..... 4 174-175/
- IN A PARK DEVELOPED SPECIFICALLY FOR THE AHPP? ..... 5
- In a park developed by FEMA for temporary housing? ..... 6
- SOME OTHER LOCATION (SPECIFY: \_\_\_\_\_)? . 95

**3c. How long did you live in your FEMA trailer and/or mobile home? Would you say you lived in your FEMA trailer and/or mobile home for....**

- Less than one month? ..... 1 176/
- One to six months? ..... 2
- Seven to twelve months? ..... 3
- Between one and two years? ..... 4
- Two years or more? ..... 5
- REFUSED ..... 7
- DON'T KNOW ..... 8





**A6. We know that there may be more than one reason why you moved out of your AHPP unit. I'm going to read you a list of reasons why people move. We are interested in knowing which of these reasons is the main reason you moved out of your AHPP unit. Was the main reason you moved because...**

Your permanent housing was ready? <b>(SKIP TO A7, Page 11)</b> .....	1	198-199/
The land that your AHPP unit was on was no longer available? <b>(SKIP TO A7, Page 11)</b> ...	2	
<i>[NOTE TO INTERVIEWER: THIS CATEGORY WOULD INCLUDE SUCH THINGS AS LOSING A PERMIT OR LANDLORD REFUSING TO RENEW A LEASE]</i>		
Your entire family could not live in your AHPP unit? <b>(SKIP TO A6a, Next Question)</b> .....	3	
You were not satisfied with the AHPP unit itself? <b>(SKIP TO A6b, Page 8)</b> .....	4	
You were not satisfied with the location of your AHPP unit? <b>(SKIP TO A6c, Page 9)</b> .....	5	
You could not afford it? <b>(SKIP TO A6d, Page 9)</b> .....	6	
Of a personal or family problem? <b>(SKIP TO A6e, Page 10)</b> .....	7	
AHPP UNIT WAS DAMAGED, DESTROYED, OR BECAME UNLIVABLE <b>SKIP TO A7, Page 11)</b> .....	8	
I WAS EVICTED <b>(SKIP TO A7, Page 11)</b> .....	9	
SOME OTHER REASON (SPECIFY: _____)		200-201/
_____		
_____ <b>(SKIP TO A7, Page 11)</b> .....	95	
REFUSED <b>(SKIP TO A7, Page 11)</b> .....	97	
DON'T KNOW <b>(SKIP TO A7, Page 11)</b> .....	98	

**A6a. What was the main reason your entire family could not live in your AHPP unit? Was it because...**

A FAMILY MEMBER WAS NOT ELIGIBLE FOR AHPP HOUSING .....	1	202/
THE UNIT DIDN'T ACCOMMODATE THE DISABILITY OF A FAMILY MEMBER....	2	
THERE WAS NOT ENOUGH ROOM FOR ALL MY FAMILY MEMBERS.....	3	
FAMILY MEMBER DID NOT LIKE THE AHPP UNIT.....	4	
FAMILY MEMBER DID NOT LIKE LOCATION OF AHPP UNIT.....	5	
REFUSED .....	7	
DON'T KNOW .....	8	

**AFTER RECORDING ANSWER TO A6a, SKIP TO A7, Page 11**

**A6b. What was the main reason you were dissatisfied with your AHPP unit?**

THERE WERE NOT ENOUGH BEDROOMS .....	1	203-204/
THERE WAS NOT ENOUGH STORAGE SPACE .....	2	
THE BEDROOMS WERE TOO SMALL .....	3	
THERE WAS NOT ENOUGH SPACE TO ENTERTAIN FAMILY AND FRIENDS .....	4	
THE UNIT WAS BUILT POORLY .....	5	
THE UNIT WAS NOT ACCESSIBLE FOR A PERSON WITH A DISABILITY .....	6	
THERE WAS NO PLACE FOR MY CHILDREN TO PLAY OUTSIDE .....	7	
THERE WERE LEAKS OR OTHER PROBLEMS IN THE UNIT .....	8	
THE COSTS OF UTILITY PAYMENT .....	9	
DIFFICULTY SCHEDULING UTILITY HOOK-UPS.....	10	
THE LOCATION OF THE UNIT ON YOUR PROPERTY .....	11	
SOME OTHER PROBLEM WITH UNIT (SPECIFY _____ _____	95	205-206/
REFUSED .....	97	
DON'T KNOW .....	98	

**AFTER RECORDING ANSWER TO A6b, SKIP TO A7, Page 11**

**A6c. What was the main reason you were dissatisfied with the location of your AHPP unit?**

PROBLEMS WITH YOUR NEIGHBORS.....	1	207-208/
IT WAS TOO FAR AWAY FROM YOUR WORK.....	2	
IT WAS TOO FAR AWAY FROM SCHOOL .....	3	
IT WAS TOO FAR AWAY FROM WHERE YOUR FAMILY AND FRIENDS LIVE.....	4	
IT WAS TOO FAR AWAY FROM STORES AND SERVICES.....	5	
IT WAS TOO FAR AWAY FROM YOUR CHURCH .....	6	
YOU THOUGHT THE NEIGHBORHOOD WAS UNSAFE .....	7	
THERE WERE NO PARKS OR PLAYGROUNDS NEARBY .....	8	
SOME OTHER REASON (SPECIFY)_____		209-210/
_____	95	
REFUSED .....	97	
DON'T KNOW .....	98	

**AFTER RECORDING ANSWER TO A6c, SKIP TO A7, Page 11**

**A6d. What was the main reason you could not afford to live in your AHPP unit?**

THE COST OF THE RENT OR MORTGAGE EACH MONTH .....	1	211-212/
THE COST OF UTILITIES .....	2	
THE COST OF PAD RENTAL—THE COST OF THE LAND ON WHICH THE AHPP UNIT WAS LOCATED.....	3	
TRANSPORTATION COSTS TO GET TO AND FROM PLACES LIKE WORK OR SCHOOL.....	4	
OTHER COSTS (SPECIFY)_____		213-214/
_____	95	
REFUSED .....	97	
DON'T KNOW .....	98	

**AFTER RECORDING ANSWER TO A6d, SKIP TO A7, Page 11**

**A6e. What was the main personal reason you had for moving out of the AHPP unit?**

A DIVORCE OR SEPARATION (SKIP TO A6e1, NEXT QUESTION) .....	1	215-216/
AN EMPLOYMENT OPPORTUNITY (SKIP TO A7, PAGE 11) .....	2	
TO CARE FOR A RELATIVE/FRIEND IN THEIR HOME (SKIP TO A7, PAGE 11) .....	3	
HEALTH REASONS THAT MADE IT IMPOSSIBLE TO LIVE IN THE UNIT (SKIP TO A7, PAGE 11) .....	4	
BECAUSE YOU WERE ASKED TO LEAVE OR EVICTED FOR NON-COMPLIANCE WITH PROGRAM REQUIREMENTS (SKIP TO A7, PAGE 11) .....	5	
OTHER (SPECIFY _____ _____ ) (SKIP TO A7, PAGE 11) .....	95	217-218/
REFUSED (SKIP TO A7, PAGE 11) .....	97	
DON'T KNOW (SKIP TO A7, PAGE 11) .....	98	

**A6e.1. Did the entire family leave the AHPP unit because of the divorce/separation or were you the only one to leave?**

I LEFT THE UNIT BUT THE OTHERS STAYED.....	1	219/
I LEFT WITH SOME MEMBERS OF THE FAMILY, BUT OTHERS STAYED .....	2	
THE ENTIRE FAMILY LEFT THE UNIT.....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**A7. At any time while you were living in the AHPP unit...**

	YES	NO	REFUSED	DON'T KNOW	
A7a. Was there mildew, mold, or water damage on any wall, floor, or ceiling?	1	2	7	8	220/
A7b. Were there any floor problems such as boards, tiles, carpeting or linoleum that were missing, curled, or loose?	1	2	7	8	221/
A7c. Were there any holes or large cracks where outdoor air or rain could come in?	1	2	7	8	222/
A7d. Did you smell bad odors such as sewer, natural gas, etc. in your home?	1	2	7	8	223/
A7e. Were any bathroom floors covered by water because of a plumbing problem?	1	2	7	8	224/
A7f. Had your toilet not worked for 6 hours or more?	1	2	7	8	225/
A7g. Had your electricity not worked for 2 hours or more?	1	2	7	8	226/
A7h. In cold weather, did you ever need to use your oven to heat your home?	1	2	7	8	227/
A7i. Did all outside doors and windows have locks that worked?	1	2	7	8	228/

**A8. Not including bathrooms and hallways, how many rooms were in your AHPP unit?**

One .....	1	229/
Two .....	2	
Three .....	3	
Four .....	4	
Five .....	5	
Six or more .....	6	
REFUSED .....	7	
DON'T KNOW .....	8	

**A9. How many of the rooms in the AHPP unit were bedrooms?**

One .....	1	230/
Two .....	2	
Three or more .....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**A10. When you were living in the AHPP unit, did anyone in the household regularly sleep in a room other than a bedroom?**

Yes .....	1	231/
No <b>(SKIP TO A11, SAME PAGE)</b> .....	2	
REFUSED <b>(SKIP TO A11, SAME PAGE)</b> .....	7	
DON'T KNOW <b>(SKIP TO A11, SAME PAGE)</b> .....	8	

**A10a. Was this because there were not enough bedrooms in the AHPP unit?**

Yes .....	1	232/
No .....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**A11. When you were living in the AHPP unit, did anyone in the household have to leave your AHPP unit to go someplace else to sleep?**

Yes .....	1	233/
No <b>(SKIP TO A12, NEXT PAGE)</b> .....	2	
REFUSED <b>(SKIP TO A12, NEXT PAGE)</b> .....	7	
DON'T KNOW <b>(SKIP TO A12, NEXT PAGE)</b> .....	8	

**A11a. Was this because there was not enough space in the AHPP unit for everyone to sleep there?**

Yes ..... 1 234/  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**CHECK DROP SHEET: IF A3 is checked, read 'are...' IF A3 NOT checked, read 'were...'**

**A12. What feature(s) of the AHPP units [are/were] attractive to you? For each feature listed, please tell me if it was one of the features that attracted you to the AHPP unit.**

	YES	NO	REFUSED	DON'T KNOW	
A12a. Was the amount of living space an attractive feature to you?	1	2	7	8	235/
A12b. Was the number of bedrooms an attractive feature to you?	1	2	7	8	236/
A12c. Were the kitchen appliances (stove, dishwasher etc.) attractive features to you?	1	2	7	8	237/
A12d. Were the bathroom facilities (tub, shower, size) attractive features to you?	1	2	7	8	238/
A12e. Was the room design and layout an attractive feature to you?	1	2	7	8	239/
A12f. Was the accessibility of the unit for people with disabilities an attractive feature to you?	1	2	7	8	240/
A12g. Was the amount of privacy in the unit an attractive feature to you?	1	2	7	8	241/
A12h. Was the amount of storage space in the unit an attractive feature to you?	1	2	7	8	242/
A12i. Was there any other feature that was attractive to you? SPECIFY _____	1	2	7	8	243/
_____					244-245/
_____					246/
_____					247-248/

**CHECK DROP SHEET. IF INTRO 2 OR INTRO 3 is checked, ASK A13 AND 14**

**ALL OTHERS SKIP TO B1, NEXT PAGE**

**A13. I'd like you to think about your housing unit when you lived in a FEMA travel trailer/mobile home. How would you describe the overall condition of your AHPP unit as compared to the FEMA unit? Would you say your AHPP unit [is/was] in better condition, worse condition, or about the same condition as the FEMA unit?**

AHPP unit in better condition .....	1	249/
AHPP unit about the same.....	2	
AHPP unit in worse condition.....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**A14. I'd like to learn more about how your AHPP unit compare(s/d) to your FEMA unit. I'm going to read a list of unit features. For each feature I read, I'd like you to tell me whether the feature was better in your AHPP unit, worse in your AHPP unit, or about the same in your AHPP unit as in your FEMA unit.**

	Better in AHPP unit	Worse in AHPP unit	About the same in both places	
A14a. Was the amount of living space in your AHPP unit better than, worse than, or about the same as in your FEMA unit?	1	2	3	250/
A14b. Was the accessibility of your AHPP unit for people with disabilities better than, worse than, or about the same as in your FEMA unit?	1	2	3	251/
A14c. Was the amount of privacy in your AHPP unit better than, worse than, or about the same as in your FEMA unit?	1	2	3	252/
A14d. Would you say that your feelings of personal safety from high winds in your AHPP unit were better than, worse than, or about the same as in your FEMA unit?	1	2	3	253/
A14e. Would you say that your feelings of personal safety from floods in your AHPP unit better than, worse than, or about the same as in your FEMA unit?	1	2	3	254/

## SECTION B: CURRENT HOUSING AND HOUSING QUALITY

Now I'd like to ask you some questions about your current housing situation.

**CHECK DROP SHEET. ASK B1 IF A3 is not checked  
ALL OTHERS, SKIP TO B1a**

**B1. I'd like to ask you some questions about where you live right now. Are you...**

Renting your home or apartment? <b>(SKIP TO B2, PAGE 16)</b> .....	1	255-256/
Living in a home you own? <b>(SKIP TO B2, PAGE 16)</b> .....	2	
Living with family or friends and pay part of the rent? <b>(SKIP TO B2, PAGE 16)</b> ..	3	
Living with family or friends and do not pay rent? <b>(SKIP TO B2, PAGE 16)</b> .....	4	
Living in a group shelter? <b>(SKIP TO B4, PAGE 16)</b> .....	5	
Homeless <b>(SKIP TO B4, PAGE 16)</b> .....	6	
Incarcerated <b>(SKIP TO B4, PAGE 16)</b> .....	7	
Living in a group home, dorm or barracks <b>(SKIP TO B4, PAGE 16)</b> .....	8	
Living in a hospital/nursing home/special school <b>(SKIP TO B4, PAGE 16)</b> .....	9	
OTHER (SPECIFY)_____) <b>(SKIP TO B2, PAGE 16)</b> .....	95	257-258/
REFUSED <b>(SKIP TO B2, PAGE 16)</b> .....	97	
DON'T KNOW <b>(SKIP TO B2, PAGE 16)</b> .....	98	

**MARK DROP SHEET IF B1 IF ANSWERED 1 - 9**

**B1a. Do you currently rent or own your AHPP unit?**

Rent.....	1	259/
Own.....	2	
DON'T OWN BUT DO NOT PAY RENT .....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**MARK DROP SHEET B1a IF ANSWERS = 1, 2, OR 3**

**B2. How many years have you lived at your current address?**

Number of Years \_\_\_\_\_ (SKIP TO B3, SAME PAGE) ..... 1-96 260-261/  
 Less Than One Year (SKIP TO B2a, SAME PAGE).....0  
 REFUSED (SKIP TO B3, SAME PAGE).....-2  
 DON'T KNOW (SKIP TO B3, SAME PAGE).....-1

**B2a. How many months have you lived at your current address?**

Number of Months \_\_\_\_\_ ..... 1-12 262-263/  
 REFUSED .....-2  
 DON'T KNOW .....-1

**B3. Was there ever a time during the past 12 months when you did not have your own place to stay? For this question you should consider living in your FEMA or AHPP unit as having your own place.**

Yes ..... 1 264/  
 No (SKIP TO B5, PAGE 17)..... 2  
 REFUSED (SKIP TO B5, PAGE 17)..... 7  
 DON'T KNOW (SKIP TO B5, PAGE 17)..... 8

**B4. During the past 12 months when you did not have your own place to stay, we would like to know about any places where you stayed. Did you...**

	YES	NO	REFUSED	DON'T KNOW	
a. Stay with a relative	1	2	7	8	265/
b. Stay with a friend	1	2	7	8	266/
c. Stay in a shelter [INTERVIEWER: A SHELTER IS A HOMELESS SHELTER, EMERGENCY SHELTER, OR DOMESTIC VIOLENCE SHELTER BUT NOT A GROUP HOME]	1	2	7	8	267/
d. Stay on the streets or in some other place that is not generally used for housing	1	2	7	8	268/

**CHECK DROP SHEET; IF B1 = Group shelter or Homeless, SKIP TO B32, PAGE 29.  
IF B1= Incarcerated, Group home/dorm/barracks, or hospital/nursing  
home/special school SKIP TO C1, PAGE 31**

**We'd like to know a few things about the quality of your current housing and neighborhood.**

**B5. Overall, how would you describe the condition of your current house/apartment/living space? Would you say it is in excellent, good, fair, or poor condition?**

Excellent.....	1	269/
Good .....	2	
Fair .....	3	
Poor.....	4	
REFUSED .....	7	
DON'T KNOW .....	8	

**B6. In your current housing...**

	YES	NO	REFUSED	DON'T KNOW	
B6a. Is there mildew, mold, or water damage on any wall, floor, or ceiling?	1	2	7	8	270/
B6b. Are there any floor problems such as boards, tiles, carpeting or linoleum that are missing, curled, or loose?	1	2	7	8	271/
B6c. Are there any holes or large cracks where outdoor air or rain can come in?	1	2	7	8	272/
B6d. Do you smell bad odors such as sewer, natural gas, etc. in your home?	1	2	7	8	273/
B6e. Have any bathroom floors been covered by water because of a plumbing problem?	1	2	7	8	274/
B6f. Has your toilet not worked for 6 hours or more?	1	2	7	8	275/
B6g. Has your electricity not worked for 2 hours or more?	1	2	7	8	276/
B6h. In cold weather, do you ever need to use your oven to heat your home?	1	2	7	8	277/
B6i. Do all outside doors and windows have locks that work?	1	2	7	8	278/

**B7. Not including bathrooms and hallways, how many rooms are there in your current house/apartment/ living space?**

One .....	1	279/
Two .....	2	
Three.....	3	
Four.....	4	
Five .....	5	
Six or more.....	6	
REFUSED .....	7	
DON'T KNOW .....	8	

**B7a. How many of the rooms in your house/apartment/living space are bedrooms?**  
**[INTERVIEWER NOTE: AN EFFICIENCY UNIT OR TRAVEL TRAILER SHOULD BE CODED AS ZERO]**

Zero .....	0	280/
One .....	1	
Two .....	2	
Three or more .....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**B8. Does anyone in the household regularly sleep in a room other than a bedroom?**

Yes.....	1	281/
No <b>(SKIP TO B9, PAGE 19)</b> .....	2	
REFUSED <b>(SKIP TO B9, PAGE 19)</b> .....	7	
DON'T KNOW <b>(SKIP TO B9, PAGE 19)</b> .....	8	

**B8a. Is this because there are not enough bedrooms in the unit?**

Yes .....	1	282/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**B9. Does anyone in the household ever leave your current unit to go someplace else to sleep at night?**

Yes .....	1	283/
No <b>(SKIP TO B10, SAME PAGE)</b> .....	2	
REFUSED <b>(SKIP TO B10, SAME PAGE)</b> .....	7	
DON'T KNOW <b>(SKIP TO B10, SAME PAGE)</b> .....	8	

**B9a. Is this because there is not enough space in the unit for everyone to sleep there?**

Yes .....	1	284/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**CHECK DROP SHEET: IF INTRO 2 OR INTRO 3 is checked, ASK B10. ALL OTHERS SKIP TO B11, P20**

**B10. Do you agree or disagree with the following statement: “Living in my current unit makes me feel more at home than living in a FEMA trailer did”?**

Agree.....	1	285/
Neither Agree nor Disagree .....	2	
Disagree.....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**B11. Is your current living space your permanent address? By permanent, we mean you no longer consider yourself someone who is living in temporary housing.**

Yes <b>(SKIP TO BOX BEFORE B14, PAGE 21)</b> .....	1	286/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**B12. What is your permanent or long-term housing plan? Do you plan to....**

Continue to live in current housing .....	1	287-288/
Move into repaired or rebuilt pre-storm home .....	2	
Buy a different home .....	3	
Return to the home I [rented/ owned] before the storm .....	4	
Rent a different home .....	5	
OTHER (SPECIFY _____) .....	95	289-290/
REFUSED .....	97	
DON'T KNOW .....	98	

**B13. When do you expect to be in your permanent housing?**

In less than six months .....	1	291/
In six months to just under one year .....	2	
In one to three years .....	3	
In more than three years .....	4	
REFUSED .....	7	
DON'T KNOW .....	8	

**B13a. What is the main reason you have not been able to complete your permanent housing plans? Would you say it is...**

A lack of affordable rental housing in the area? .....	1	292-293/
A lack of affordable homes to buy? .....	2	
Poor credit or criminal background checks?.....	3	
Lack of funds for security deposit? .....	4	
Lack of funds to complete the repairs on my pre-disaster unit? .....	5	
Unable to access or afford insurance? .....	6	
OTHER (SPECIFY _____) .....	95	294-295/
_____ )		
REFUSED .....	97	
DON'T KNOW .....	98	

Now I'd like to talk about any housing related payments you may have.

**CHECK DROP SHEET: ASK IF B1 ANSWER 2 or B1a ANSWER 2 is checked  
(lives in home they own or owns AHPP unit)  
ALL OTHERS SKIP TO BOX BEFORE B16, PAGE 22.**

**B14. What is the monthly amount you pay for owning this (condo/house/unit)? We are interested in the payment you make to the bank or mortgage company.**

Per Month \$__ __ __ .....	0-9999	296-299/
REFUSED <b>(SKIP TO B15, PAGE 22)</b> .....	-2	
DON'T KNOW <b>(SKIP TO B15, PAGE 22)</b> .....	-1	

**B14a. I have recorded that you pay [AMOUNT] monthly to own this unit, is that correct?**

Yes .....	1	300/
No <b>(REPEAT B14 and B14a UNTIL CORRECT)</b> .....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**B15. During the past 12 months, were you ever more than 15 days late paying your mortgage?**

Yes ..... 1 301/  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**CHECK DROP SHEET: ASK B16 - B22 IF B1 ANSWER 1 or 3 or B1a ANSWER 1 is checked  
 (rents home/apartment; lives w/ family friends and pays rent; rents AHPP unit)  
 CHECK DROP SHEET: IF B1 ANSWER 4 or B1a ANSWER 3 is checked (does not pay rent) SKIP TO  
 B21  
 ALL OTHERS SKIP TO B23, PAGE 24**

**B16. Altogether in the month just past, what did you pay as rent? We are interested only in knowing your part of the payment. Please include rent costs for the unit as well as any pad rentals required.**

Per Month \$ \_\_\_\_\_ 0-9999 302-305/  
 REFUSED (SKIP TO B17, SAME PAGE) ..... -2  
 DON'T KNOW (SKIP TO B17, SAME PAGE) ..... -1

**B16a. I have recorded that you pay [AMOUNT] monthly in rent, is that correct?**

Yes ..... 1 306/  
 No (REPEAT B16 AND B16a UNTIL CORRECT) ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**B17. What is the total current monthly rent payment on this (apartment/house)? By total current monthly rent, I mean the amount that you and anyone else pay to pay to rent this unit.**

Per Month \$ \_\_\_\_\_ 0-9999 307-310/  
 REFUSED (SKIP TO B18, PAGE 23) ..... -2  
 DON'T KNOW (SKIP TO B18, PAGE 23) ..... -1

**B17a. I have recorded [AMOUNT] as the total amount of monthly rent for this unit, is that correct?**

- Yes ..... 1 311/
- No **(REPEAT B17 AND B17a UNTIL CORRECT)**..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

**B18. Do you currently receive any governmental housing assistance in paying rent, such as through public housing or Section 8 or Housing Choice Voucher?**

- Yes **(SKIP TO B20, SAME PAGE)**..... 1 312/
- No..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

**B19. Is your rent amount lower because you are in a Federal, State, or local government housing program?**

- Yes ..... 1 313/
- No..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

**B20. During the past 12 months, were you ever more than 15 days late paying your rent?**

- Yes ..... 1 314/
- No..... 2
- NOT APPLICABLE ..... 3
- REFUSED ..... 7
- DON'T KNOW ..... 8

**B21. During the last 12 months, have you been evicted from a home for any reason?**

Yes .....	1	315/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**CHECK DROP SHEET: IF B1 ANSWER 4 OR B1a ANSWER 3 is checked, DO NOT READ PHRASE IN BRACKETS**

**B22. Do you pay utilities [separately from rent]? By utilities, we mean the electric, gas or water bill.**

Yes .....	1	316/
No <b>(SKIP to B24, PAGE 25)</b> .....	2	
REFUSED <b>(SKIP to B24, PAGE 25)</b> .....	7	
DON'T KNOW <b>(SKIP to B24, PAGE 25)</b> .....	8	

**B23. People sometimes have trouble paying their utility bills on time. During the past 12 months, were you ever more than 15 days late paying your electric, gas, or water bill?**

Yes .....	1	317/
No <b>(SKIP TO B24, PAGE 25)</b> .....	2	
NOT APPLICABLE <b>(SKIP TO B24 PAGE 25)</b> .....	3	
UTILITIES INCLUDED IN RENT/CONDO FEES <b>(SKIP TO B24 PAGE 25)</b> .....	4	318/B
REFUSED <b>(SKIP TO B24, PAGE 25)</b> .....	7	
DON'T KNOW <b>(SKIP TO B24, PAGE 25)</b> .....	8	

**B23a. In the past 12 months, was your gas, water, or electricity ever shut off for nonpayment?**

Yes .....	1	319/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**B24. The next set of questions asks about problems you may have had in your unit in the past six months, that is since (month/year). Were any of the following items broken during the last six months?**

		IF YES: Have you called to have [B24ITEM] repaired in the last six months, that is since (month/year)?	
B24a. Your stove or refrigerator?	Yes ..... 1 →	Yes ..... 1	320/
	No ..... 2	No ..... 2	321/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		
B24b. Your bathroom or kitchen plumbing?	Yes ..... 1 →	Yes ..... 1	322/
	No ..... 2	No ..... 2	323/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		
B24c. Electric outlets or light switches?	Yes ..... 1 →	Yes ..... 1	324/
	No ..... 2	No ..... 2	325/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		
B24d. The air conditioning?	Yes ..... 1 →	Yes ..... 1	326/
	No ..... 2	No ..... 2	327/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		
B24e. The heating system?	Yes ..... 1 →	Yes ..... 1	328/
	No ..... 2	No ..... 2	329/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		
B24f. Something else on the inside of the house?	Yes ..... 1 →	Yes ..... 1	330/
	No ..... 2	No ..... 2	331/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		
B24g. Something on the outside of your house like the roof or exterior walls or the stairs or porch?	Yes ..... 1 →	Yes ..... 1	332/
	No ..... 2	No ..... 2	333/
	N/A..... 3	REF ..... 7	
	REF ..... 7	DK..... 8	
	DK..... 8		

**IF ALL ANSWERS TO B24a-g = NO, SKIP TO B28, PAGE 27**

**B25. Thinking about the most recent time you called to have something repaired, how many days did it take for someone to come repair it?**

0-7 days .....	1	334/
8-14 days .....	2	
15-30 days .....	3	
>30 days .....	4	
No one has come yet .....	5	
REFUSED .....	7	
DON'T KNOW .....	8	

**B26. Thinking about the most recent time in the past 6 months that you called to have something repaired, were you satisfied with how quickly the broken item was repaired?**

Yes .....	1	335/
No .....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**B27. Were you satisfied with the quality of the repair?**

Yes .....	1	336/
No .....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**CHECK DROP SHEET: IF B1, ANSWER 1 or 3 OR B1a ANSWER 1 or 3 is checked,  
ASK B28, B29 AND B30.**

**ALL OTHERS SKIP TO B31, HOUSEHOLD COMPOSITION, PAGE 28**

**ALL RENTERS**

**B28. Do you know the phone number or know where to find the phone number to call if you need the landlord to repair something in your house?**

Yes ..... 1 337/  
No..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 8

**B29. In general, how satisfied are you with the quality of routine repairs?**

Very satisfied..... 1 338/  
Satisfied ..... 2  
Neither satisfied nor dissatisfied ..... 3  
Dissatisfied ..... 4  
Very Dissatisfied ..... 5  
REFUSED ..... 7  
DON'T KNOW ..... 8

**B29a. In general, how satisfied are you with the quality of routine maintenance?**

Very satisfied..... 1 339/  
Satisfied ..... 2  
Neither satisfied nor dissatisfied ..... 3  
Dissatisfied ..... 4  
Very Dissatisfied ..... 5  
REFUSED ..... 7  
DON'T KNOW ..... 8

**B30. In general, how satisfied are you with the promptness of emergency repairs?**

Very satisfied.....	1	340/
Satisfied .....	2	
Neither satisfied nor dissatisfied .....	3	
Dissatisfied.....	4	
Very Dissatisfied .....	5	
REFUSED .....	7	
DON'T KNOW .....	8	

**Household Composition**

Now we would like to learn more about who currently lives with you.

**B31. How many people do you live with now? Please include all adults and children who live with you and consider this their primary residence. This total number excludes yourself.**

341-342/

REFUSED .....	-2
DON'T KNOW .....	-1

**MARK DROP SHEET: B31 – NUMBER OF PEOPLE; INCLUDE 0**

**B31a. What is your marital status? Are you currently...**

Single, never married.....	1	343/
Married or living in a marriage like situation .....	2	
Widowed .....	3	
Separated/Divorced .....	4	
REFUSED .....	7	
DON'T KNOW .....	8	

**B32. Now, I'd like you think back to just before Hurricane Katrina and the people you were living with at that time. How many of them are currently living with you? Would you say that all of them are living with you, some of them are living with you, or none of them are living with you?**

- All living with R **(SKIP TO B36, PAGE 30)** ..... 1 344/
- Some living with R..... 2
- None living with R ..... 3
- R LIVED ALONE AT TIME OF HURRICANE **(SKIP TO C1 PAGE 31)** ..... 4
- REFUSED **(SKIP TO B36, PAGE 30)** ..... 7
- DON'T KNOW **(SKIP TO B36, PAGE 30)** ..... 8

**MARK DROP SHEET: B32 IF RESPONDENT LIVED ALONE AT TIME OF HURRICANE**

**B33. Is the reason that these people are not living with you now related to the AHPP unit itself or is it for a reason that is personal to you or the other person?**

- Related to AHPP unit ..... 1 345/
- Personal reason **(SKIP TO B35, Page 30)**..... 2
- REFUSED **(SKIP TO B35, Page 30)**..... 7
- DON'T KNOW **(SKIP TO B35, Page 30)**..... 8

**CHECK DROP SHEET: IF B1 ANSWER 5 or 6 is checked (Group Shelter or Homeless), SKIP TO C1**

**B34. I'd like to learn a little bit more about why those people are no longer living with you. Are any of them no longer living with you because....**

		YES	NO	REFUSED	DON'T KNOW	
B34a.	The program did not allow them to live in an AHPP unit?	1 SKIP TO B35	2	7	8	346/
B34b.	The unit does not accommodate their disability?	1 SKIP TO B35	2	7	8	347/
B34c.	The unit is too small?	1 SKIP TO B35	2	7	8	348/
B34d.	They do not like the AHPP unit?	1 SKIP TO B35	2	7	8	349/
B34e.	They do not like the location of the AHPP unit?	1	2	7	8	350/

**B35. Does your AHPP unit allow more, less, or the same number of your family members to live together than the place you lived in just before your AHPP unit?**

- More ..... 1 351/
- Less..... 2
- The same.....3
- REFUSED ..... 7
- DON'T KNOW ..... 8

**CHECK DROP SHEET: IF B31=0 AND B32 is checked, (Respondent lived alone at time of Hurricane and lives alone now) SKIP TO C1**

**B36. Now, I'd like you to think about all of the people that lived with you both at the time of the hurricane and now. Have you been separated from any of these people for a period of 30 days or more, at any time since Hurricane Katrina or Rita?**

- Yes ..... 1 352/
- No **(SKIP TO C1, PAGE 31)**..... 2
- REFUSED **(SKIP TO C1, PAGE 31)** ..... 7
- DON'T KNOW **(SKIP TO C1, PAGE 31)** ..... 8

**B37. Did receiving your AHPP unit allow you to live together once again?**

- Yes ..... 1 353/
- No..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

## SECTION C: QUALITY OF LIFE MEASURES

### MARK DROP SHEET: SECTION C, CALCULATION – SIX MONTHS PRIOR TO INTERVIEW

#### Health

The next set of questions have to do with your health.

**C1. In general, would you say your health is excellent, very good, good, fair, or poor?**

Excellent.....	1	354/
Very good.....	2	
Good .....	3	
Fair.....	4	
Poor.....	5	
REFUSED.....	7	
DON'T KNOW.....	8	

**C2. Do you or anyone in the household have a physical disability or condition that limits one or more basic activities such as walking, climbing stairs, reaching, lifting, or carrying?**

Yes.....	1	355/
No <b>(SKIP TO C4, PAGE 33)</b> .....	2	
REFUSED <b>(SKIP TO C4, PAGE 33)</b> .....	7	
DON'T KNOW <b>(SKIP TO C4, PAGE 33)</b> .....	8	

**C2a. Is anyone in a wheelchair or otherwise unable to climb stairs at all?**

Yes.....	1	356/
No.....	2	
REFUSED.....	7	
DON'T KNOW.....	8	

**CHECK DROP SHEET: IF INTRO 2 or 3 checked, ASK ABOUT FEMA UNIT;  
 ASK ALL RESPONDENTS ABOUT AHPP UNIT;  
 CHECK DROP: IF B1 ANSWER 1, 2, 3 OR 4 is checked, ASK ABOUT CURRENT UNIT**

**C3. I'd like to ask some questions about how the needs of this person were addressed in your FEMA housing, your AHPP housing, and your current housing. Could the person with the physical disability or condition:**

	FEMA Unit	AHPP unit	Current Unit (if not AHPP unit)	
C3a. Get into and out of their [FEMA/AHPP/CURRENT] unit by themselves	Yes .....1	Yes..... 1	Yes ..... 1	357/
	No.....2	No ..... 2	No.....2	358/
	Not Applicable .....3	Not Applicable..... 3	Not Applicable .....3	359/
	REFUSED .....7	REFUSED..... 7	REFUSED .....7	
	DON'T KNOW .....8	DON'T KNOW..... 8	DON'T KNOW .....8	
C3b. Move around from room to room within the unit by themselves	Yes .....1	Yes..... 1	Yes ..... 1	360/
	No.....2	No ..... 2	No.....2	361/
	Not Applicable .....3	Not Applicable..... 3	Not Applicable .....3	362/
	REFUSED .....7	REFUSED..... 7	REFUSED .....7	
	DON'T KNOW .....8	DON'T KNOW..... 8	DON'T KNOW .....8	
C3c. Access the bathroom facilities by themselves	Yes .....1	Yes..... 1	Yes ..... 1	363/
	No.....2	No ..... 2	No.....2	364/
	Not Applicable .....3	Not Applicable..... 3	Not Applicable .....3	365/
	REFUSED .....7	REFUSED..... 7	REFUSED .....7	
	DON'T KNOW .....8	DON'T KNOW..... 8	DON'T KNOW .....8	

Now I'd like to talk about some specific health conditions.

**C4. Has a doctor or other health professional ever told you that you had asthma?**

Yes .....	1	366/
No <b>(SKIP TO C7, PAGE 34)</b> .....	2	
REFUSED <b>(SKIP TO C7, PAGE 34)</b> .....	7	
DON'T KNOW <b>(SKIP TO C7, PAGE 34)</b> .....	8	

**C4a. Do you still have asthma symptoms, such as coughing, wheezing, shortness of breath?**

Yes .....	1	367/
No .....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**C4b. When were you first diagnosed with asthma? Was it....**

Before hurricane Katrina .....	1	368/
After hurricane Katrina but before your AHPP unit .....	2	
Since moving into your AHPP unit .....	3	
REFUSED .....	7	
DON'T KNOW .....	8	

**CHECK DROP SHEET: CALCULATION FOR MONTH**

**C5. During the past 6 months, that is since [MONTH/YEAR6MO], have you had an episode of asthma or an asthma attack?**

Yes .....	1	369/
No <b>(SKIP TO C7, PAGE 34)</b> .....	2	
REFUSED <b>(SKIP TO C7, PAGE 34)</b> .....	7	
DON'T KNOW <b>(SKIP TO C7, PAGE 34)</b> .....	8	

**CHECK DROP SHEET: CALCULATION FOR MONTH**

**C6. During the past 6 months, that is since [MONTH/YEAR6MO], did you have to visit an emergency room or urgent care center because of asthma?**

- Yes ..... 1 370/
- No..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

**C7. Have you ever been told by a doctor or other health professional that you have...**

		IF YES: When were you diagnosed with [condition]? Was it before the hurricane, after the hurricane but before you received your AHPP unit, or since you received your AHPP unit?	
C7a. Emphysema?	Yes ..... 1 →	Before hurricane ..... 1	371/
	No ..... 2	After hurricane, before AHPP unit ..... 2	372/
	Not Applicable ..... 3	After AHPP unit ..... 3	
	REFUSED ..... 7	REFUSED ..... 7	
	DON'T KNOW ..... 8	DON'T KNOW ..... 8	
C7b. Allergies?	Yes ..... 1 →	Before hurricane ..... 1	373/
	No ..... 2	After hurricane, before AHPP unit ..... 2	374/
	Not Applicable ..... 3	After AHPP unit ..... 3	
	REFUSED ..... 7	REFUSED ..... 7	
	DON'T KNOW ..... 8	DON'T KNOW ..... 8	
C7c. Other respiratory or breathing problems?	Yes ..... 1 →	Before hurricane ..... 1	375/
	No ..... 2	After hurricane, before AHPP unit ..... 2	376/
	Not Applicable ..... 3	After AHPP unit ..... 3	
	REFUSED ..... 7	REFUSED ..... 7	
	DON'T KNOW ..... 8	DON'T KNOW ..... 8	

**C8. We are interested in knowing if living in the AHPP unit affected your breathing problems in any way. While living in the AHPP unit, do you think that your breathing problems got better, worse, or stayed about the same?**

- Better ..... 1 377/
- Worse ..... 2
- Stayed about the same ..... 3
- I DO NOT HAVE ANY BREATHING PROBLEMS..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 8

**CHECK DROP SHEET: if B31 = 0, SKIP TO C11, PAGE 36**

**C9. Has another ADULT member of your household ever been diagnosed with... [INTERVIEWER: If more than one adult was diagnosed, ask follow-up question for the 'most recent' diagnosis.]**

		If Yes: When was the other adult diagnosed with [condition]? Was it before the hurricane, after the hurricane but before you received your AHPP unit, or since you received your AHPP unit?	
C9a. Asthma?	Yes, 1 adult..... 1 →	Before hurricane ..... 1	378/
	Yes, more than 1 adult..... 2 →	After hurricane, before AHPP unit ..... 2	379/
	No..... 3	After AHPP unit ..... 3	
	REFUSED ..... 7	REFUSED ..... 7	
	DON'T KNOW ..... 8	DON'T KNOW ..... 8	
C9b. Allergies?	Yes, 1 adult..... 1 →	Before hurricane ..... 1	380/
	Yes, more than 1 adult..... 2 →	After hurricane, before AHPP unit ..... 2	381/
	No..... 3	After AHPP unit ..... 3	
	REFUSED ..... 7	REFUSED ..... 7	
	DON'T KNOW ..... 8	DON'T KNOW ..... 8	
C9c. Other respiratory or breathing problems?	Yes, 1 adult..... 1 →	Before hurricane ..... 1	382/
	Yes, more than 1 adult..... 2 →	After hurricane, before AHPP unit ..... 2	383/
	No..... 3	After AHPP unit ..... 3	
	REFUSED ..... 7	REFUSED ..... 7	
	DON'T KNOW ..... 8	DON'T KNOW ..... 8	

**C10. We are interested in knowing if living in the AHPP unit affected the breathing problems of any other adult in any way. While living in the AHPP unit, do you think that the other adults' breathing problems got better, worse, or stayed about the same?**

Better..... 1	384/
Worse..... 2	
Stayed about the same ..... 3	
NO ADULTS IN HOUSEHOLD HAVE BREATHING PROBLEMS..... 4	
REFUSED ..... 7	
DON'T KNOW ..... 8	

The next few questions ask about smoking.

**C11. Have you smoked at least 100 cigarettes in your entire life?**

Yes .....	1	385/
No <b>(SKIP TO C15, PAGE 38)</b> .....	2	
REFUSED <b>(SKIP TO C15, PAGE 38)</b> .....	7	
DON'T KNOW .....	8	

**C11a. Have you smoked at least 100 cigarettes since Hurricane Katrina, that is since August 2005?**

Yes .....	1	386/
No <b>(SKIP TO C15, PAGE 38)</b> .....	2	
REFUSED <b>(SKIP TO C15, PAGE 38)</b> .....	7	
DON'T KNOW .....	8	

**C12. On how many of the past 30 days did you smoke a cigarette?**

Zero days <b>(SKIP TO C13b, PAGE 37)</b> .....	0	387-388/
_____ Number of days .....	1-30	
REFUSED .....	-2	
DON'T KNOW .....	-1	

**C12a. On the average when you smoked in the last 30 days, about how many cigarettes did you smoke per day?**

_____ Number of cigarettes .....	1-99	389-391/
REFUSED .....	-2	
DON'T KNOW .....	-1	

**C13. Do you smoke cigarettes inside your home?**

Yes .....	1	392/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**CHECK DROP SHEET: IF INTRO 2 or INTRO 3 checked, ASK C13A**

**ALL OTHERS SKIP TO C14**

**C13a. Thinking back to when you lived in a FEMA trailer or mobile home. Did you smoke cigarettes inside your FEMA trailer or mobile home?**

Yes .....	1	393/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**C13b. Did you quit smoking before you moved into your AHPP unit?**

Yes <b>(SKIP TO C15, PAGE 38)</b> .....	1	394/
No.....	2	
REFUSED .....	7	
DON'T KNOW .....	8	

**CHECK DROP SHEET: IF A3 is checked, ask: "Since living..."**  
**IF A3 is NOT checked, ask "When you lived....."**

**C14. [Since living/when you lived] in the AHPP unit, do you think that you smoke(d) more, less, or about the same amount as before you lived in the AHPP unit?**

- More ..... 1 395/
- Less..... 2
- About the same amount..... 3
- REFUSED ..... 7
- DON'T KNOW ..... 8

The next set of questions help us learn more about how you are feeling.

**C15. How much of the time during the past month have you felt ...**

	All of the time	Most of the time	Some of the time	A little of the time	None of the time	REFUSED	DON'T KNOW	
C15a. So sad that nothing could cheer you up?	1	2	3	4	5	7	8	396/
C15b. Nervous?	1	2	3	4	5	7	8	397/
C15c. Restless or fidgety?	1	2	3	4	5	7	8	398/
C15d. Hopeless?	1	2	3	4	5	7	8	399/
C15e. That everything was an effort?	1	2	3	4	5	7	8	400/
C15f. Worthless?	1	2	3	4	5	7	8	401/
C15g. Calm and peaceful?	1	2	3	4	5	7	8	402/

## Post Traumatic Stress Disorder

Now I'm going to read you a list of problems and complaints that people sometimes have in response to stressful life experiences. As I read each item, please think about the last month and indicate how much you have been bothered by that problem.

**C16.** In the last month, how much were you bothered by [READ ITEM]? Would you say you were bothered not at all, a little bit, moderately, quite a bit, extremely?

	Not at all	A little bit	Moderately	Quite a bit	Extremely	REF	DK	
C16a. Repeated, disturbing <i>memories, thoughts, or images</i> of Hurricane Katrina or Rita?	1	2	3	4	5	7	8	403/
C16b. Repeated, disturbing <i>dreams</i> of Hurricane Katrina or Rita?	1	2	3	4	5	7	8	404/
C16c. Suddenly <i>acting or feeling</i> as if Hurricane Katrina or Rita <i>were happening again</i> (as if you were reliving it)?	1	2	3	4	5	7	8	405/
C16d. Feeling <i>very upset</i> when <i>something reminded</i> you of Hurricane Katrina or Rita?	1	2	3	4	5	7	8	406/
C16e. Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, or sweating) when <i>something reminded</i> you of the hurricanes?	1	2	3	4	5	7	8	407/
C16f. Avoid <i>thinking about or talking about</i> the hurricanes or avoid <i>having feelings</i> related to it?	1	2	3	4	5	7	8	408/
C16g. Avoid <i>activities or situations</i> because <i>they remind</i> you of the hurricanes?	1	2	3	4	5	7	8	409/
C16h. Trouble <i>remembering important parts</i> of the hurricanes?	1	2	3	4	5	7	8	410/
C16i. Loss of <i>interest in things that you used to enjoy</i> ?	1	2	3	4	5	7	8	411/
C16j. Feeling <i>distant or cut off</i> from other people?	1	2	3	4	5	7	8	412/
C16k. Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?	1	2	3	4	5	7	8	413/
C16l. Feeling as if your <i>future</i> will somehow be <i>cut short</i> ?	1	2	3	4	5	7	8	414/
C16m. Trouble <i>falling or staying asleep</i> ?	1	2	3	4	5	7	8	415/
C16n. Feeling <i>irritable</i> or having <i>angry outbursts</i> ?	1	2	3	4	5	7	8	416/
C16o. Having <i>difficulty concentrating</i> ?	1	2	3	4	5	7	8	417/
C16p. Being " <i>super alert</i> " or watchful on guard?	1	2	3	4	5	7	8	418/
C16q. Feeling <i>jumpy</i> or easily startled?	1	2	3	4	5	7	8	419/

The next questions ask about moderate physical activity and your height and weight. As noted earlier, these data will be used for this study only and averaged with other respondents. Your individual responses will be kept private.

**C17. In a usual week, do you do moderate activities on three or more days for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that cause small increases in breathing or heart rate?**

- Yes ..... 1 420/
- No ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

**C18. About how tall are you without shoes?**

- Feet  Inches 421-422/
- 423-424/
- REFUSED ..... -2
- DON'T KNOW ..... -1

**C19. About how much do you weigh without shoes?**

- Pounds 425-427/
- REFUSED ..... -2
- DON'T KNOW ..... -1

## Employment, Education, and Income

The next set of questions asks about your income in the past month and generally what resources you are depending on to support yourself.

**C20. Are you currently:**

Employed full-time (30 hours of work per week or more)		
<b>(SKIP TO C22, PAGE 42)</b> .....	1	428/
Employed part-time (less than 30 hours per week) <b>(SKIP TO C22, PAGE 42)</b> ....	2	
Self-employed <b>(SKIP TO C22, PAGE 42)</b> .....	3	
Unemployed looking for work.....	4	
Not working for pay .....	5	
REFUSED .....	7	
DON'T KNOW .....	8	

**MARK DROP SHEET : C20 IF ANSWER = 4 OR 5: UNEMPLOYED OR NOT WORKING FOR PAY**

**C21. What is the main reason that you are not working for pay?**

Employer no longer in business since hurricane .....	1	429-430/
Employer is too far from home to retain job .....	2	
Unable to work for health reasons .....	3	
Has job but temporarily absent /seasonal work.....	4	
Couldn't find any work .....	5	
Child care problems .....	6	
Family responsibilities .....	7	
In school or other training .....	8	
Waiting for a new job to begin .....	9	
Retired .....	10	
Disabled .....	11	
OTHER (SPECIFY)_____		431-432/
_____	95	
REFUSED .....	97	
DON'T KNOW .....	98	

**C22. Did you have to leave a job in order to move to where your AHPP unit was located?**

Yes ..... 1 433/  
 No..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**CHECK DROP SHEET: IF C20 checked, SKIP TO C26, PAGE 43**

**C23. Are you currently working for the same employer that you worked for before you moved into your AHPP unit?**

Yes ..... 1 434/  
 No..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**CHECK DROP SHEET: IF C20 is NOT checked AND A3 is checked, ASK C24**  
  
**ALL OTHERS SKIP TO C25**

**C24. Now, I'd like to ask a few questions about how where you live affects your ability to work. Compared to where you lived before, since moving into your AHPP unit is it easier, harder, or about the same to....**

	Easier	Harder	Same	REFUSED	DON'T KNOW	
C24a. Travel to work?	1	2	5	7	8	435/
C24b. Work extra hours?	1	2	5	7	8	436/
C24c. Find a higher paying job?	1	2	5	7	8	437/
C24d. Spend more time with your family?	1	2	5	7	8	438/
C24e. Find quality child care?	1	2	5	7	8	439/

**C25. How many of the people in your household (including yourself) are employed full-time or part-time?**

440-441/

REFUSED .....-2  
 DON'T KNOW .....-1

**C26. I'm going to read a list of possible income sources. During the past month, did you or anyone in your household receive income from...?**

	YES	NO	REF	DON'T KNOW	
C26a. Wages, salary, commissions, bonuses or tips from a job	1	2	7	8	442/
C26b. Self-employment income	1	2	7	8	443/
C26c. Interest, dividends, net rental income, royalty income, or income from estates and trust	1	2	7	8	444/
C26d. Social Security or Railroad Retirement	1	2	7	8	445/
C26e. Supplemental Security Income (SSI)	1	2	7	8	446/
C26f. Alimony or Child Support	1	2	7	8	447/
C26g. Any public assistance or welfare payments from the state or local welfare office (including TANF, but NOT including Food Stamps)	1	2	7	8	448/
C26h. Food Stamps	1	2	7	8	449/
C26i. Retirement, survivor, or disability pensions (NOT including Social Security)	1	2	7	8	450/
C26j. Unemployment Compensation	1	2	7	8	451/
C26k. Other (SPECIFY _____)	1	2	7	8	452/

453-454/

**MARK DROP SHEET: C26 IF ALL ANSWERS TO C26a-k ARE NO**

**C27. What was your household's total monthly income last month from all of the sources checked above? Please include income from all family members.**

Monthly Household Income \$\_\_\_\_\_ 0-99999 455-462/  
 REFUSED (SKIP TO C28) ..... -2  
 DON'T KNOW (SKIP TO C28) ..... -1

**C27a. I have recorded that your total monthly household income is [AMOUNT], is that correct?**

Yes ..... 1 463/  
 No (REPEAT C27 and C27a UNTIL CORRECT) ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**CHECK DROP SHEET: IF C27 = 0 AND C26 is checked, ASK C27b.  
 ALL OTHERS SKIP TO C28**

**C27b. I just want to confirm that you had no income at all from any of the above sources last month. Is that correct?**

Yes ..... 1 464/  
 No (REPEAT C27 and C27a UNTIL CORRECT) ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**C28. Was your total household income last month what you would receive in a typical month?**

Yes (SKIP TO C30, PAGE 45) ..... 1 465/  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 8

**C29. In a typical month, what would your household’s total monthly income from all of the sources checked above be? Please include income from all family members.**

Typical Monthly Household Income \$\_\_\_\_\_ 0-99999 466-473/  
 REFUSED (SKIP TO C30, SAME PAGE).....-2  
 DON'T KNOW (SKIP TO C30, SAME PAGE).....-1

**C29a. I have recorded that your total monthly household income in a typical month is [AMOUNT], is that correct?**

Yes..... 1 474/  
 No (REPEAT C29 and C29a UNTIL CORRECT)..... 2  
 REFUSED..... 7  
 DON'T KNOW..... 8

**C30. In the past month, have you or anyone in your household had to use one of the following sources in order to cover your living expenses.**

<i>Did you use...</i>	YES	NO	REFUSED	DON'T KNOW	
C30a. Money from your savings (by savings I mean money that you put aside for a later date)	1	2	7	8	475/
C30b. Insurance proceeds from your homeowner or renters policy	1	2	7	8	476/
C30c. Money from a state grants program for hurricane victims	1	2	7	8	477/
C30d. A new credit card or other debt (that you did not pay off this month)	1	2	7	8	478/

**C31. In the past month, have you lived in housing or received financial assistance from family, friends, or a charitable organization?**

<i>In the past month...</i>	YES	NO	REFUSED	DON'T KNOW	
C31a. Were you living with friends or family or in a house provided by friends or family?	1	2	7	8	479/
C31b. Did your friends or family provide some financial help?	1	2	7	8	480/
C31c. Were you living in housing provided by charitable organization? (Note: includes a homeless shelter)	1	2	7	8	481/
C31d. Did a charitable organization, such as a church or the Red Cross, provide some financial help?	1	2	7	8	482/

Now I'd like to ask a few questions about your education and that of your children.

**C32. What is the highest degree or level of school you have completed? (SELECT ONLY ONE)**

Nursery School to 6th grade or no schooling .....	1	483-484/
7th to 12th grade – NO DIPLOMA .....	2	
High School Graduate or Equivalent (for example, GED) .....	3	
Some College.....	4	
Associates Degree.....	5	
Bachelors Degree .....	6	
Masters Degree, Doctorate Degree, or other Professional Degree (for example, MD, DDS, DVM, LLB, JD).....	7	
REFUSED .....	97	
DON'T KNOW .....	98	

**CHECK DROP SHEET: IF B31 = 0, SKIP TO C39, PAGE 50.**

We'd like to learn more about how your children are doing since you received your AHPP unit.

**C33. Of the [NUMBER ON DROP SHEET for B31] people living with you, are any of them children age 17 or under?**

- Yes ..... 1 485/
- No **(SKIP TO C39, PAGE 50)** ..... 2
- REFUSED **(SKIP TO C39, PAGE 50)** ..... 7
- DON'T KNOW **(SKIP TO C39, PAGE 50)** ..... 8

**C33a. How many children in your household are 5 years old or under?**

486-487/

- REFUSED ..... -2
- DON'T KNOW ..... -1

**C33b. How many children in your household are between 6 and 11 years of age?**

488-489/

- REFUSED ..... -2
- DON'T KNOW ..... -1

**C33c. How many children in your household are between 12 and 17 years of age?**

490-491/

- REFUSED ..... -2
- DON'T KNOW ..... -1

**IF NO CHILDREN IN HOUSEHOLD, SKIP TO C39, PAGE 50.**

**MARK DROPSHEET C33: TOTAL children; sum of C33a, C33b, and C33c AND NUMBER OF CHILDREN 12-17**

**C34. Has any *CHILD* member of your household under the age of 18 ever been diagnosed with...**

**INTERVIEWER: If more than one child has been diagnosed with the condition, ask the follow-up question for the child who was most recently diagnosed.**

		If Yes: When was child diagnosed with [condition]? Was it before Hurricane Katrina, after the hurricane but before you received your AHPP unit, or since you received your AHPP unit?	
C34a. Asthma?	Yes, 1 Child ..... 1 →	Before hurricane ..... 1	492/
	Yes, more than 1	After hurricane, before AHPP unit ..... 2	493/
	Child ..... 2 →	After AHPP unit ..... 3	
	No ..... 3	REFUSED ..... 7	
	REFUSED ..... 7	DON'T KNOW ..... 8	
	DON'T KNOW ..... 8		
C34b. Allergies?	Yes, 1 Child ..... 1 →	Before hurricane ..... 1	494/
	Yes, more than 1	After hurricane, before AHPP unit ..... 2	495/
	Child ..... 2 →	After AHPP unit ..... 3	
	No ..... 3	REFUSED ..... 7	
	REFUSED ..... 7	DON'T KNOW ..... 8	
	DON'T KNOW ..... 8		
C34c. Other respiratory or breathing problems?	Yes, 1 Child ..... 1 →	Before hurricane ..... 1	496/
	Yes, more than 1	After hurricane, before AHPP unit ..... 2	497/
	Child ..... 2 →	After AHPP unit ..... 3	
	No ..... 3	REFUSED ..... 7	
	REFUSED ..... 7	DON'T KNOW ..... 8	
	DON'T KNOW ..... 8		

**C35. We are interested in knowing if living in the AHPP unit affected the breathing problems of children in your household in any way. While living in the AHPP unit, do you think that the breathing problems of the children living in your household got better, worse, or stayed about the same?**

- Better ..... 1 498/
- Worse ..... 2
- Stayed about the same ..... 3
- CHILDREN IN HOUSEHOLD DO NOT HAVE BREATHING PROBLEMS ..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 8

**CHECK DROPSHEET: IF TOTAL CHILDREN = 1 ASK C36A-D AS IS; IF TOTAL CHILDREN =2 OR MORE, USE PHRASE IN BRACKETS.**

**C36. Now I'd like to learn a little more about your opinion on how the AHPP program may have affected your child/ [YOUR OLDEST CHILD] age 17 and under. For each topic, I will ask whether you think there has been a change for the better or a change for the worse or no change at all while you have been living in the AHPP unit.**

		Child(ren)'s [WELLBEINGATTRIBUTE] has...					
		Improved	Same	Worse	REFUSED	DON'T KNOW	
C36a.	Since moving into your AHPP unit would you say that your children's emotional health has improved, stayed the same or gotten worse?	1	2	3	7	8	499/
C36b.	Since moving into your AHPP unit, would you say that the behavior of your <u>children</u> has improved, stayed the same, or gotten worse?	1	2	3	7	8	500/
C36c.	Since moving into your AHPP unit, would you say that your <u>children's</u> enthusiasm to go to school has improved, stayed the same, or gotten worse?	1	2	3	7	8	501/
C36d.	Since moving into your AHPP unit, would you say that your <u>children's</u> desire to do well in school has improved, stayed the same, or gotten worse?	1	2	3	7	8	502/

**CHECK DROP SHEET: IF B31 is checked, OMIT "or another adult"**

**C37. Since moving into your AHPP unit, have you [or another adult] in your household...**

		YES	NO	REFUSED	DON'T KNOW	
C37a.	attended a general school meeting such as back to school night?	1	2	7	8	503/
C37b.	volunteered to serve on a committee or help out in the school?	1	2	7	8	504/
C37c.	attended any school activities your child has participated in such as a sporting event, school play, or science fair?	1	2	7	8	505/
C37d.	met with your child's teacher to discuss their progress in school	1	2	7	8	506/
C37e.	met with child's teacher to discuss any behavior problems he/she has had in school?	1	2	7	8	507/

**C38. Are you or another adult more likely, less likely, or equally likely to do the types of events we just discussed now than you were before you moved into your AHPP unit?**

- More Likely ..... 1 508/
- Less Likely ..... 2
- Equally Likely ..... 3
- REFUSED ..... 7
- DON'T KNOW ..... 8

**Neighborhood Quality**

**C39. Are you living on the same property, or lot, as you were before the hurricane hit?**

- Yes **(SKIP TO C40, PAGE 51)** ..... 1 509/
- No ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8

**CHECK FACESHEET FOR PRE-KATRINA ADDRESS**

**C39a. Thinking about your neighborhood now, are you living in the same neighborhood as when the hurricane hit when you lived at [PRE-KATRINA ADDRESS] or living in a different neighborhood?**

- Same ..... 1 510/
- Different ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 8



Now we'd like to get a sense of how safe you think the area is where you currently live.

**C42. How safe do you feel...**

	Very safe	Safe	Unsafe	Very unsafe	REFUSED	DON'T KNOW	
C42a. On the streets near your home during the day?	1	2	3	4	7	8	522/
C42b. On the streets near your home at night?	1	2	3	4	7	8	523/

**CHECK DROP SHEET: IF INTRO 2 OR INTRO 3 is checked, ASK C42c.  
ALL OTHERS SKIP TO C43.**

**C42c. Think back to when you lived in a FEMA unit. Do you feel more safe, less safe, or equally safe in your current unit than you did in your FEMA unit?**

- More safe ..... 1 524/
- Less safe ..... 2
- Equally safe..... 3
- REFUSED ..... 7
- DON'T KNOW ..... 8

**C43. Please tell me if any of the following things have happened to you or anyone who (lives/lived) with you in the past 6 months.**

<i>In the past 6 months...</i>	YES	NO	REFUSED	DON'T KNOW	
C43a. Was anyone's purse, wallet, or jewelry snatched from them?	1	2	7	8	525/
C43b. Was anyone threatened with a knife or a gun?	1	2	7	8	526/
C43c. Was anyone beaten or assaulted?	1	2	7	8	527/
C43d. Did someone try to break into your home or property?	1	2	7	8	528/
C43e. Was anyone stabbed or shot?	1	2	7	8	529/

**C44. Now, still thinking about the area that you consider your neighborhood, please tell me if the following items are - a big problem, a small problem, or no problem at all**

<i>In your neighborhood [is/are] ...</i>	Big problem	Small problem	No problem at all	REFUSED	DON'T KNOW	
C44a. People being attacked or robbed a...	1	2	3	7	8	530/
C44b. People selling drugs a...	1	2	3	7	8	531/
C44c. Shootings and violence a...	1	2	3	7	8	532/

### Social Support Module

I am now going to ask you some questions about different types of help that may have been or may be available to you if you need it.

**C45. In the six months before Hurricanes Katrina and Rita, if you needed help, please tell me if the following types of support were available to you.**

**C46. If you needed help now, please tell me if the following types of support would be available to you.**

	C45.		C46.		
	Available in 6 months prior to hurricane?		Available now?		
	YES	NO	YES	NO	
C46a. Someone available to help you if you were confined to bed.	1	2	1	2	533/ 534/
C46b. Someone available to give good advice about a crisis or problem you have.	1	2	1	2	535/ 536/
C46c. Someone available to get together with for relaxation.	1	2	1	2	537/ 538/
C46d. Someone available to confide in or talk about your problems.	1	2	1	2	539/ 540/
C46e. Someone available to love you and make you feel wanted.	1	2	1	2	541/ 542/

**C47. Think about the unit and the neighborhood you live in now. How safe do you feel...**

	Very safe	Safe	Unsafe	Very unsafe	REFUSED	DON'T KNOW	
C47a. From flooding?	1	2	3	4	7	8	543/
C47b. From high winds?	1	2	3	4	7	8	544/
C47c. From hurricanes?	1	2	3	4	7	8	545/

**C48. In what ways do you think that AHPP program has affected your quality of life?**

\_\_\_\_\_ 546-547/

\_\_\_\_\_ 548-549/

\_\_\_\_\_ 550-551/

\_\_\_\_\_ 552-1051/

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**I have a couple of questions about you.**

**C49. What is your date of birth?**

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ 1052-1059/

MM DD YYYY

REFUSED .....-2

DON'T KNOW .....-1

**C50. What race do you consider yourself? You may indicate more than one.**

American Indian/Alaskan Native .....	1	1060/
Asian .....	2	1061/
Black or African American.....	3	1062/
Native Hawaiian or Other Pacific Islander .....	4	1063/
White .....	5	1064/
REFUSED.....	7	
DON'T KNOW.....	8	

**C51. Do you consider yourself to be.....?**

Hispanic or Latino .....	1	1065/
Not Hispanic or Latino.....	2	1066/
REFUSED.....	7	
DON'T KNOW.....	8	

## CONTACT INFORMATION

As part of this study, we'd like to speak with you again in a couple of years to see how things are going for you and your family. To be sure that we can reach you, I'd like to confirm your current address and phone number. My records show that your current address is **READ ADDRESS BACK TO RESPONDENT**:

**CHECK FACESHEET FOR CURRENT ADDRESS FOR THE RESPONDENT**

**C52. Now, I'd like to confirm your current address and phone number. My records show that your current address is **READ ADDRESS BACK TO RESPONDENT**:**

[CURRENT STREET ADDRESS] [CURRENT CITY] [CURRENT STATE] [CURRENT ZIP]

Is that correct?

YES, ADDRESS CONFIRMED (**SKIP TO C52e: ASK C52e, C52f, and C52g**) . 1

NO, ADDRESS INCORRECT (**ASK C52a through C52g**) ..... 2

**C52a. What is your current street address and apartment number?**

\_\_\_\_\_

STREET ADDRESS

\_\_\_\_\_

APT OR UNIT #

**C52b. In what city do you live?**

\_\_\_\_\_

CITY

**C52c. In what state?**

\_\_\_\_\_

STATE

**C52d. What is your zip code?**

\_\_\_\_\_

ZIP

**C52e. What is your current home phone number?**

\_\_\_\_\_

HOME PHONE NUMBER

C52f. What is your cell phone number? \_\_\_\_\_  
CELL PHONE NUMBER

C52g. What is your email address? \_\_\_\_\_

Thank you very much for your time today. To help us be able to get back in touch with you in the future, we would like to collect the names, telephone numbers and addresses of two people who will always know how to reach you. Please tell me about people who live at a different address than you. This information will be kept strictly confidential and will only be used if we are unable to contact you.

C53. Could you tell us the name of a primary person who does not live with you and will always know how to contact you?

- Yes ..... 1
- No **(SKIP TO C61, PAGE 60)** ..... 2
- REFUSED **(SKIP TO C61, PAGE 60)** ..... 7
- DON'T KNOW **(SKIP TO C61, PAGE 60)** ..... 8

**CONTACT #1:**

C54. What is his/her first name? \_\_\_\_\_

C54a. What is his/her middle name? \_\_\_\_\_

C54b. What is his/her last name? \_\_\_\_\_

C54c. Does his/her name have a suffix? \_\_\_\_\_

C55. What is (his/her) street address? \_\_\_\_\_

C55a. Is there a complex/building name? \_\_\_\_\_

C55b. Is there an apartment number? \_\_\_\_\_

C55c. In what city? \_\_\_\_\_

C55d. In what state? \_\_\_\_\_

C55e. What is the zip code? \_\_\_\_\_

**C56. What's the best phone number to reach (him/her) at starting with the area code?**

Telephone # with area code: ( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_

**C56a. Is she/he a friend or a relative, or what is (his/her) relationship to you?  
ACCEPT ONE RESPONSE ONLY.**

Friend .....	1
Relative .....	2
OTHER (SPECIFY _____) .....	95
REFUSED .....	97
DON'T KNOW .....	98

**CONTACT #2:**

**C57. Could you tell us the name of a second person who does not live with you and will always know how to contact you?**

Yes .....	1
No <b>(SKIP TO C61, PAGE 60)</b> .....	2
REFUSED <b>(SKIP TO C61, PAGE 60)</b> .....	7
DON'T KNOW <b>(SKIP TO C61, PAGE 60)</b> .....	8

**C58. What is the name of someone else who keeps in contact with you?**

**C58a. What is his/her first name?** \_\_\_\_\_

**C58b. What is his/her middle name?** \_\_\_\_\_

**C58c. What is his/her last name?** \_\_\_\_\_

**C58d. Does his/her name have a suffix?** \_\_\_\_\_

**C59. What is (his/her) street address?** \_\_\_\_\_

**C59a. Is there a complex/building name?** \_\_\_\_\_

**C59b. Is there an apartment number?** \_\_\_\_\_

**C59c. In what city?** \_\_\_\_\_

**C59d. In what state?** \_\_\_\_\_

**C59e. What is the zip code?** \_\_\_\_\_

**C60. What's the best phone number to reach (him/her) at starting with the area code?**

Telephone # with area code: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

**C60a. Is she/he a friend or a relative, or what is (his/her) relationship to you?  
ACCEPT ONE RESPONSE ONLY.**

- Friend ..... 1
- Relative ..... 2
- OTHER (SPECIFY \_\_\_\_\_) ..... 95
- REFUSED ..... 97
- DON'T KNOW ..... 98

## Debriefing Module

I have just a few more questions about the survey itself.

### C61. Were any of the survey questions emotionally upsetting to you?

Yes .....	1	1067/
No (SKIP TO END) .....	2	
REFUSED (SKIP TO END) .....	7	
DON'T KNOW (SKIP TO END) .....	8	

### C62. Are you still feeling emotionally upset, or are you feeling okay now?

Still feeling upset .....	1	1068/
Feeling okay now (SKIP TO END) .....	2	
REFUSED (SKIP TO END) .....	7	
DON'T KNOW (SKIP TO END) .....	8	

If you would like to talk to someone about how you are feeling, you can call someone at the **Mississippi Department of Mental Health**. They have set up a special helpline for people that were affected by Hurricane Katrina.

### C63. **IN PERSON:** The phone number for this organization is on this card. Would you like to take this card and speak to someone about how you are feeling now?

**ON PHONE:** Would you like me to give you the phone number so you can call and speak to someone about how you are feeling now

Yes (COMPLETE ADVERSE EVENT REPORT ONCE YOU LEAVE R).....	1	1069/
No (SKIP TO END SCRIPT).....	2	

**END:** Thank you for taking the time to speak with me today. This brings us to the end of the survey. What you've told us is very important, and it will help us help others after disasters.



**Appendix C:**  
**PTSD Checklist – Civilian Version (PCL-C)**

## PTSD CheckList – Civilian Version (PCL-C)

Client's Name: \_\_\_\_\_

Instruction to patient: Below is a list of problems and complaints that veterans sometimes have in response to stressful life experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem *in the last month*.

No.	Response	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing <i>memories, thoughts, or images</i> of a stressful experience from the past?					
2.	Repeated, disturbing <i>dreams</i> of a stressful experience from the past?					
3.	Suddenly <i>acting or feeling</i> as if a stressful experience <i>were happening</i> again (as if you were reliving it)?					
4.	Feeling <i>very upset</i> when <i>something reminded</i> you of a stressful experience from the past?					
5.	Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, or sweating) when <i>something reminded</i> you of a stressful experience from the past?					
6.	Avoid <i>thinking about</i> or <i>talking about</i> a stressful experience from the past or avoid <i>having feelings</i> related to it?					
7.	Avoid <i>activities</i> or <i>situations</i> because they <i>remind you</i> of a stressful experience from the past?					
8.	Trouble <i>remembering important parts</i> of a stressful experience from the past?					
9.	Loss of <i>interest in things that you used to enjoy</i> ?					
10.	Feeling <i>distant</i> or <i>cut off</i> from other people?					
11.	Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?					
12.	Feeling as if your <i>future</i> will somehow be <i>cut short</i> ?					
13.	Trouble <i>falling or staying asleep</i> ?					
14.	Feeling <i>irritable</i> or having <i>angry outbursts</i> ?					
15.	Having <i>difficulty concentrating</i> ?					
16.	Being " <i>super alert</i> " or watchful on guard?					
17.	Feeling <i>jumpy</i> or easily startled?					

PCL-M for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division

This is a Government document in the public domain.

## PTSD CheckList – Civilian Version (PCL-C)

The PCL is a standardized self-report rating scale for PTSD comprising 17 items that correspond to the key symptoms of PTSD. Two versions of the PCL exist: 1) PCL-M is specific to PTSD caused by military experiences and 2) PCL-C is applied generally to any traumatic event.

The PCL can be easily modified to fit specific time frames or events. For example, instead of asking about “the past month,” questions may ask about “the past week” or be modified to focus on events specific to a deployment.

### ***How is the PCL completed?***

- The PCL is self-administered
- Respondents indicate how much they have been bothered by a symptom over the past month using a 5-point (1–5) scale, circling their responses. Responses range from **1 Not at All** – **5 Extremely**

### ***How is the PCL Scored?***

1) Add up all items for a total severity score

or

2) Treat response categories **3–5** (*Moderately* or above) as symptomatic and responses **1–2** (below *Moderately*) as non-symptomatic, then use the following DSM criteria for a diagnosis:

- Symptomatic response to at least 1 “B” item (Questions 1–5),
- Symptomatic response to at least 3 “C” items (Questions 6–12), and
- Symptomatic response to at least 2 “D” items (Questions 13–17)

### ***Are Results Valid and Reliable?***

- Two studies of both Vietnam and Persian Gulf theater veterans show that the PCL is both valid and reliable (Additional references are available from the DHCC)

### ***What Additional Follow-up is Available?***

- All military health system beneficiaries with health concerns they believe are deployment-related are encouraged to seek medical care
- Patients should be asked, “**Is your health concern today related to a deployment?**” during all primary care visits.
- If the patient replies “**yes**,” the provider should follow the Post-Deployment Health Clinical Practice Guideline (PDH-CPG) and supporting guidelines available through the DHCC and [www.PDHealth.mil](http://www.PDHealth.mil)

DHCC Clinicians Helpline: 1 (866) 559-1627 DSN: 662-6563 [www.PDHealth.mil](http://www.PDHealth.mil)  
PDH-CPG Tool Kit Pocket Cards Version 1.0 December 2003