APPENDIX C: SURVEY METHODOLOGY

New Orleans Three Years after the Storm, the Second Kaiser Post-Katrina Survey was designed and analyzed by researchers at the Kaiser Family Foundation including: the survey research team led by Kaiser Vice President and Director for Public Opinion and Survey Research Mollyann Brodie along with Claudia Deane and including Liz Hamel, Sasha Buscho, and Pam Murnane; the health policy team led by Kaiser Executive Vice President Diane Rowland and including Adele Shartzer, Samantha Artiga, and David Rousseau; and Kaiser President and CEO Drew Altman. Dr. Brodie had overall responsibility for the project. Interviews were completed between March 5 and April 28, 2008, in English and Spanish among 1,294 randomly selected adults ages 18 and older residing in Orleans Parish. An address-based sample with a mixed-mode interviewing design was used to ensure that households without telephones, those with unlisted telephone numbers, and those that are cell-phone only were included. As such, 669 interviews were completed by telephone, 447 were in-person interviews, and 178 were self-administered via the Internet.

The table below shows the number of respondents and margin of sampling error for the total sample and for key subgroups. For results based on other subsets of respondents the margin of sampling error may be higher.

	Number of respondents	Margin of sampling error (accounting for design effect)
Orleans Parish	1294	±3
African Americans in Orleans	610	±5
Whites in Orleans	574	±5

ICR/International Communications Research collaborated with Kaiser researchers on sample design and weighting, and supervised all phases of the fieldwork. Dr. Karen DeSalvo and her colleagues in New Orleans provided helpful guidance and feedback throughout this project, and were instrumental in shepherding the questionnaire through Tulane University's Office of Human Research Protection.

SAMPLE SELECTION AND FIELDWORK

The sample was selected using a multi-stage stratified area probability design. In the first stage, a sample of 275 segments based on Census Block Groups (CBGs) was selected as primary sampling units (PSUs) in each of the 14 Census tract defined neighborhoods in Orleans Parish (New Orleans proper). In order to increase the efficiency of the resulting sample, these PSUs were randomly selected using selection probabilities that were proportional to the number of residences in each neighborhood as measured by the U.S. Postal Service's Delivery Sequence File (DSF).[46] In the second stage of selection, a systematic random sample of addresses was selected as secondary sampling units (SSUs) using the DSF. In the final stage, an adult was randomly selected in each contacted household to serve as the final sampling unit (FSU).

To ensure coverage of all types of households and to improve the response rate, the project was fielded using a mixed-mode design, incorporating telephone, face-to-face, and self-administered interviews via the Internet. In deciding on this approach to data collection, we took several factors into account. First, given the increased reliability of DSF as a source for drawing a sample, and the fact that the New Orleans population (and the population with reliable phone service) has stabilized somewhat since 2006, we felt it was possible to complete at least some of our interviews by phone.[47] The second factor was the desire to

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[46] DSF is a comprehensive address database from the United States Postal Service, at the ZIP+4 level, with over 135 million records. This database relates the delivery status of every postal deliverable address in the US and whether each individual address is active, vacant, seasonal, etc. Using daily feedback from letter carriers, the database is updated on a nearly continuous basis. This source has become a standard for defining and enumerating non-telephone sample frames, from face-to-face designs to multi-mode (e.g., mail-telephone-personal) and strictly mail.
[47] In an analysis of DSF housing counts in the months following Katrina, the Greater New Orleans Community Data Center found that while household counts based on the DSF immediately following the storm were unreliable, these counts eventually stabilized

produce cost savings over the fully in-person approach we took in 2006. Given that our 2006 survey found that 31 percent of Orleans residents did not have a land line at home, however, we did not feel comfortable moving the entire sample to telephone interviewing. Thus the mixed-mode design. Question wording was comparable across modes in an attempt to minimize mode effects.

Selected addresses were matched to listed telephone databases in order to get a phone number for as many addresses as possible. We were able to match about 45 percent of the addresses with a landline phone number. Addresses with a listed telephone number were sent a pre-notification letter informing the household about the survey, and then were contacted by telephone to take the survey.[48] Those without listed telephone numbers were sent a letter inviting them to call a toll-free number to complete the survey or to visit a specified website and take the survey online. Unlisted households (which include those with a telephone who choose not to have their number listed as well as those with no landline phone) were offered a $15 incentive to complete the survey to compensate them for the additional effort of contacting us and to defray possible cell phone costs they might incur. Such individuals were given the choice of receiving the incentive in the form of a personal check or having Kaiser Family Foundation donate their incentive to one of four local charities.

Those who did not respond to this first wave of outreach (and who were living in low-response rate segments) were visited at their homes by a trained interviewer whether or not they were in the listed or unlisted portion of the sample. All members of the 2008 interviewing team had experience with the 2006 Kaiser Family Foundation survey of New Orleans. Interviewers visited non-respondents four times. On their last visit, upon still not reaching the desired respondent, they left an additional letter re-inviting the respondent to call in or reach us via the web.[49]

In all the modes, interviewers were instructed to attempt their outreach at different times of the day and different days of the week at each randomly selected household until an interview or a hard refusal was obtained. These field methods were put in place to ensure a representative sample of people who were home at different times, rather than just including the people who were easiest to find at home. In-person interviews were conducted via CAPI, and telephone interviews via CATI.[50]

When an interviewer made contact with a randomly selected household, an eligible adult within the household was randomly selected to complete the interview using the "most recent birthday" method. Household residents aged 18 and older were eligible to participate in the survey. There was no substitution of selected households, or of respondents within or across households. The one exception to this policy: the 180 interviews which were completed on the web, where random in-house selection was deemed impractical.

SAMPLE WEIGHTING

Two sets of weights were generated for these survey data: household level and population level.

Household-level weights were calculated in three distinct, successive phases. In the first phase, a base weight was calculated to adjust for the employed sample design, which includes proportional-to-size selection probabilities at the CBG level within each neighborhood. These base weights also reflected the selection probabilities of households in each sample segment. The resulting weights were then adjusted to compensate for differential nonresponse in each neighborhood. In the final step, nonresponse-adjusted weights were post-stratified to counts of occupied housing units within each neighborhood as reported by the latest version of the DSF.

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by mid- to late-2006, giving us confidence that by 2008, these counts were an appropriate benchmark for weighting our data. http://www.gnocdc.org/reports/GNOCDC_research_note_May07.pdf

[48] All letters distributed had a Spanish translation on the reverse side.

[49] Using sequential mixed-modes has been shown to improve response. See E.D. de Leeuw. "To Mix or Not to Mix Data Collection Modes in Surveys," *The Journal of Official Statistics.* 21 (2), 2005: p. 233-255.

[50] CAPI b= Computer Assisted Personal Interviewing. CATI = Computer Assisted Telephone Interviewing.

Person-level (population) weights were calculated to reflect the random selection of one adult per household and to compensate for potential undercoverage of certain subsets of adults in the city. For this purpose, person-level base weights were generated by multiplying the final household-level weights by reported number of adults in each responding household. Using a proportional fitting algorithm, the resulting weights were then adjusted simultaneously to match the distribution of adults in Orleans Parish by race/ethnicity, age, and gender according to the latest projections provided by Claritas, Inc. The 2008 Claritas projections incorporate Census demographic estimates for Orleans Parish as of July 1, 2006 (post-Katrina).

This post-stratification weighting to reported population totals is an important tool used in almost all survey research, and is considered an effective method for reducing bias due to differential nonresponse and undercoverage among different demographic subgroups. We did not perform the above weighting adjustment in our 2006 survey due to the lack of reliable post-Katrina demographic data for the area at the time. In contrast, these data *were* available in 2008. To address potential concerns about comparing 2008 data to those from 2006, which had no post-stratification adjustments, we computed and compared two versions of the demographic estimates from the 2008 survey: The first uses a weight that accounts only for the sample design and number of adults in the household (phases 1 and 2) but does not take into account the available Claritas information on demographics, while the second uses all three phases of weighting, including post-stratification. The table below compares these demographic estimates using the two different weights for 2008, as well as the estimates from our 2006 survey. The overall differences are relatively small, and in no case are there statistically significant differences between the two considered 2008 weights. It should also be noted that none of the substantive results on the survey questionnaire more generally differed significantly when using the phase 1-2 weight compared with the weight that included post-stratification.

	2008 Estimate (including post-stratification)	2008 Estimate (no post-stratification)	2006 Estimate (no post-stratification)
Gender			
Male	46%	43%	44%
Female	54	57	56
Age			
18-29	19	17	18
30-49	32	33	39
50-64	28	33	27
65+	19	15	17
Race/Ethnicity			
White	35	38	39
African American	56	53	53
Hispanic	5	5	5
Other race	3	3	2
Education			
Less than high school graduate	13	12	12
High school graduate	26	25	29
Some college or technical school	26	25	25
College graduate	35	37	31

*Note: No statistically significant differences between any observations for the 2008 data using two different weights.