

**Working Papers
Project on the Public and Biological Security
Harvard School of Public Health**

20.

HIGH-RISK AREA HURRICANE SURVEY

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Despite Last Year's Devastating Hurricane Season, One-Third In High-Risk Areas Say They May Ignore Evacuation Order

Boston, MA -- According to a new survey of high-risk hurricane areas in eight states-- Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Texas--conducted by the Harvard School of Public Health *Project on the Public and Biological Security*, one-third (33%) of residents said if government officials said they had to evacuate due to a major hurricane this season, they would not or are unsure if they would leave. Homeowners (39%), whites (41%) and long-term residents (45%) are the groups most likely to ride out a major hurricane. People with children under 18 are less likely to remain in their homes (26%). Mobile home owners are no more likely to evacuate than the general public.

The top reasons people give for not evacuating involve concerns about safety and security. More than two-thirds (68%) say their home is well-built and they would be safe there. Just over half (54%) feel that roads would be too crowded, and one in three (36%) feels that evacuating would be dangerous. Close to one-third (31%) worry that their possessions would be stolen or damaged.

“It will be a challenge for public officials to convince many of these people to leave their homes because they view their homes as safe and evacuating as dangerous,” said Robert J. Blendon, Professor of Health Policy and Political Analysis at the Harvard School of Public Health. “In addition, most of those who plan on staying believe they would be rescued if they needed to be.”

Challenges for African-Americans

Contrary to the images people might have from Hurricane Katrina, African-Americans are less likely than whites to say they would stay in their homes if government officials said they had to leave in the event of a major hurricane (23% versus 41%). The top reason for both African-Americans and whites for not evacuating is that they feel their homes would be safe (78% versus 71%).

But those African-Americans who are uncertain they will leave their homes are more likely than whites to cite lack of resources and safety concerns as reasons for staying. African-Americans are more than three times as likely as whites to lack transportation (29% versus 9%) or to have a physical or medical problem that makes it difficult to leave (35% versus 10%). They are nearly three times as likely to say they cannot afford to leave (41% versus 15%) and over twice as likely to say they might not evacuate because they do not know where to go (34% versus 14%). African-Americans are almost twice as likely as whites to say that they might not evacuate because it is dangerous to do so (60% versus 33%).

Confidence In Being Rescued Or Helped

Most people believe that they would get help if they needed it during a major hurricane. Two-thirds (66%) are confident that they would be rescued if they were unable to

evacuate and needed help. This sense of confidence is particularly prevalent among those who do not intend to evacuate (75%). Most people also feel they can rely a lot or some on their immediate neighbors should they need help (73%).

“Despite the disturbing images of people trapped without help after Hurricane Katrina, people in hurricane-prone areas have high expectations that they will be rescued in a future storm,” said Professor Blendon.

Evacuation and Shelter Conditions

If residents of high-risk hurricane areas have to evacuate because of a major hurricane, few plan to go to a shelter. Only 12% of potential evacuees say they would go to a shelter, but another one in ten (11%) do not yet know where they would go. Most would stay with family or friends (56%); 18% intend to go to a hotel. A majority would go more than 100 miles from their homes, with 36% travelling more than 200 miles.

Although few plan to go to an evacuation shelter, most would be concerned about what conditions would be like if they had to go to one. More than two-thirds (67%) would be worried about their safety and shelter conditions. The biggest worries people have is that shelters would be unsanitary (79%), they would be exposed to sick people (71%), there wouldn't be enough clean water to drink (70%), the shelter would be too crowded (67%), medical care would be lacking (66%), and they would be threatened by violence (61%).

Hurricane Preparations

Many residents of hurricane-prone areas have not made critical preparations for a major storm. Hurricane Katrina showed that families can get separated and communication can break down in the aftermath of a major storm, but most residents have not prepared for that possibility. Nearly two in three (63%) have not agreed on a meeting place if their family is separated, and one in two (49%) have not agreed on a phone number outside the region that family members could call. Of those who have a household member with a chronic illness or disability requiring help to evacuate, 40% do not have that help lined up.

Forty percent do not have \$300 in cash ready to take with them if they need to evacuate. Nearly one in three (29%) do not have enough drinking water for each family member for three days if they are unable to leave. Of those taking prescription drugs, 37% do not have a three-week supply in case of an emergency. Nearly one in four (23%) do not have a first-aid kit in the house.

Methodology

This is the 24th in a series of studies by the Harvard School of Public Health *Project on the Public and Biological Security*. The study was designed and analyzed by researchers at the Harvard School of Public Health (HSPH). The project director is Robert J. Blendon of the Harvard School of Public Health. The research team also includes John M. Benson, Tami Buhr and Kathleen J. Weldon of the Harvard School of Public Health, and Melissa J. Herrmann of ICR/International Communications Research. Fieldwork was conducted

via telephone for the Project by ICR/International Communications Research of Media (PA) between July 5 and 11, 2006.

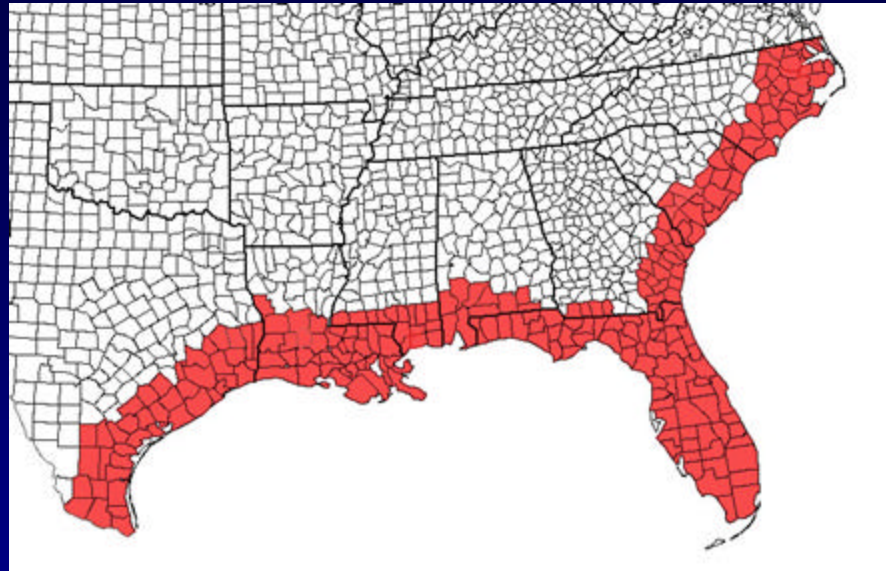
The survey was conducted with a representative sample of 2,029 non-institutionalized adults ages 18 and over in high hurricane risk counties in eight states. Survey participants included residents of all counties within 50 miles of the coast in Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Texas. Approximately 250 interviews were conducted in each state. The results were weighted to represent the total adult population in the high hurricane risk counties of the region as a whole. The margin of error for the total sample is plus or minus 4.4 percentage points.

Possible sources of nonsampling error include nonresponse bias, as well as question wording and ordering effects. Nonresponse in telephone surveys produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population. To compensate for these known biases, sample data are weighted to the most recent Census data available from the Current Population Survey for gender, age, race, education, as well as number of adults and number of telephone lines in the household. Other techniques, including random-digit dialing, replicate subsamples, callbacks staggered over times of day and days of the week, and systematic respondent selection within households, are used to ensure that the sample is representative.

The Harvard School of Public Health *Project on the Public and Biological Security* is funded by the Centers for Disease Control and Prevention through a grant to the Association of State and Territorial Health Officials (ASTHO). HSPH provides ASTHO and the CDC with technical assistance for public health communication by monitoring the response of the general public to public health threats.

Figure 1

High Hurricane Risk Counties Surveyed



Among those surveyed...

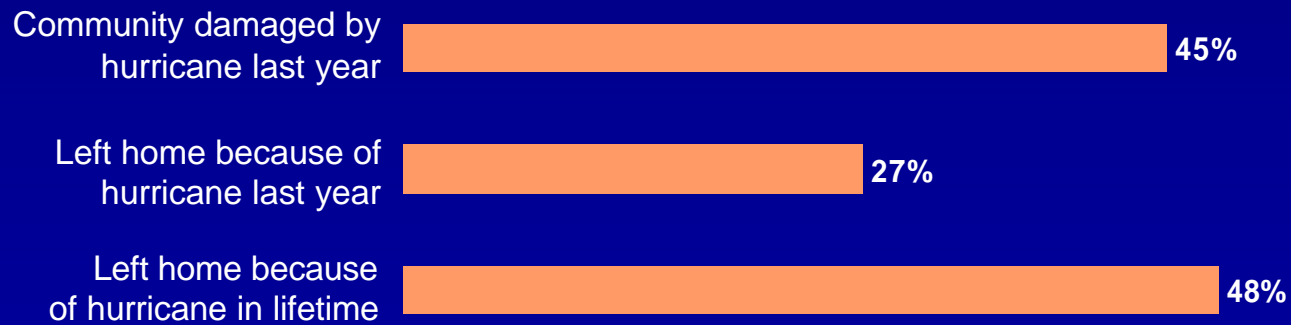
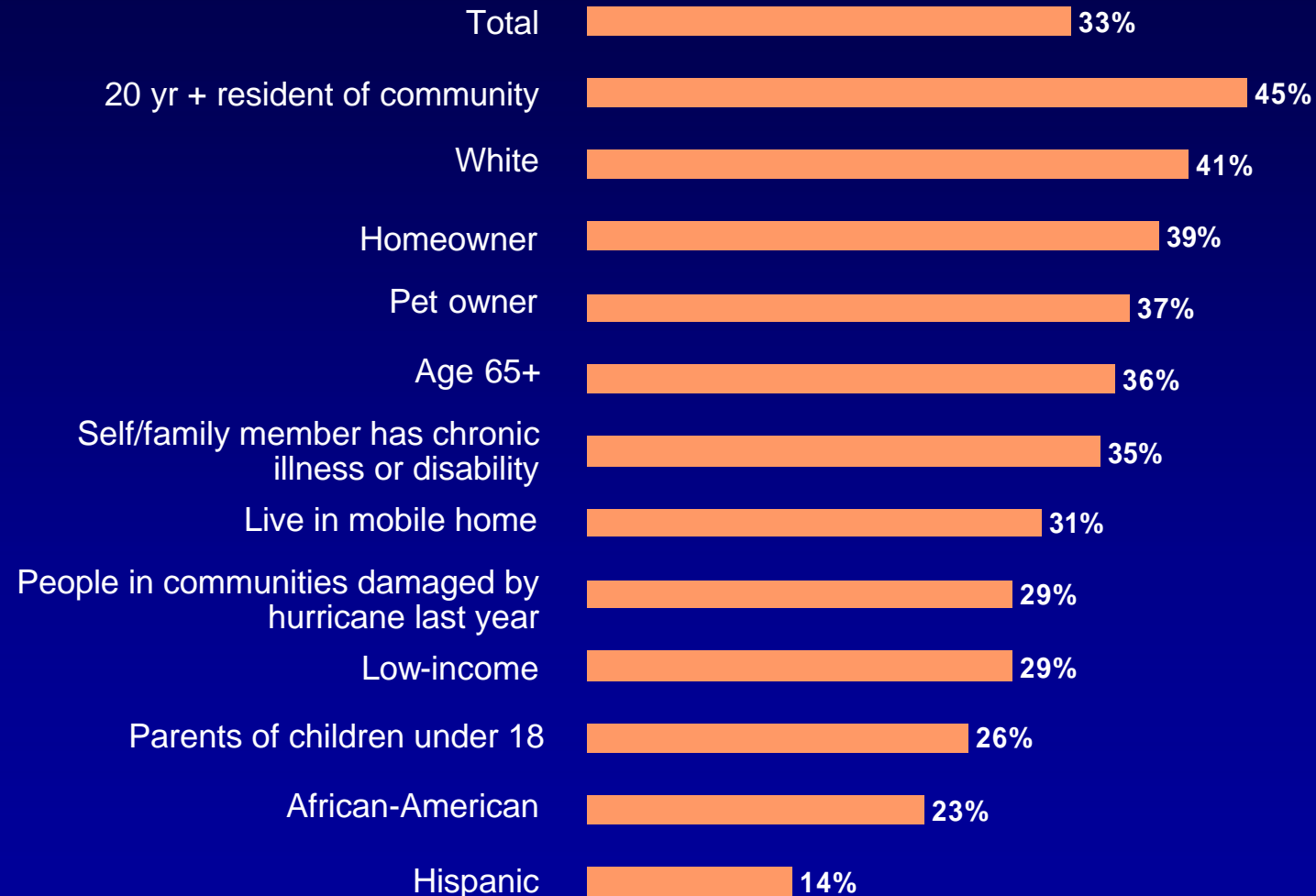


Figure 2

People who would **stay**/not sure would leave if told by government officials to evacuate because of major hurricane



Harvard School of Public Health *Project on the Public and Biological Security*, July 5-11, 2006.

Figure 3

Top reasons for not evacuating the area if there were a major hurricane

Among those who said they would stay in the area or are not sure (33%)

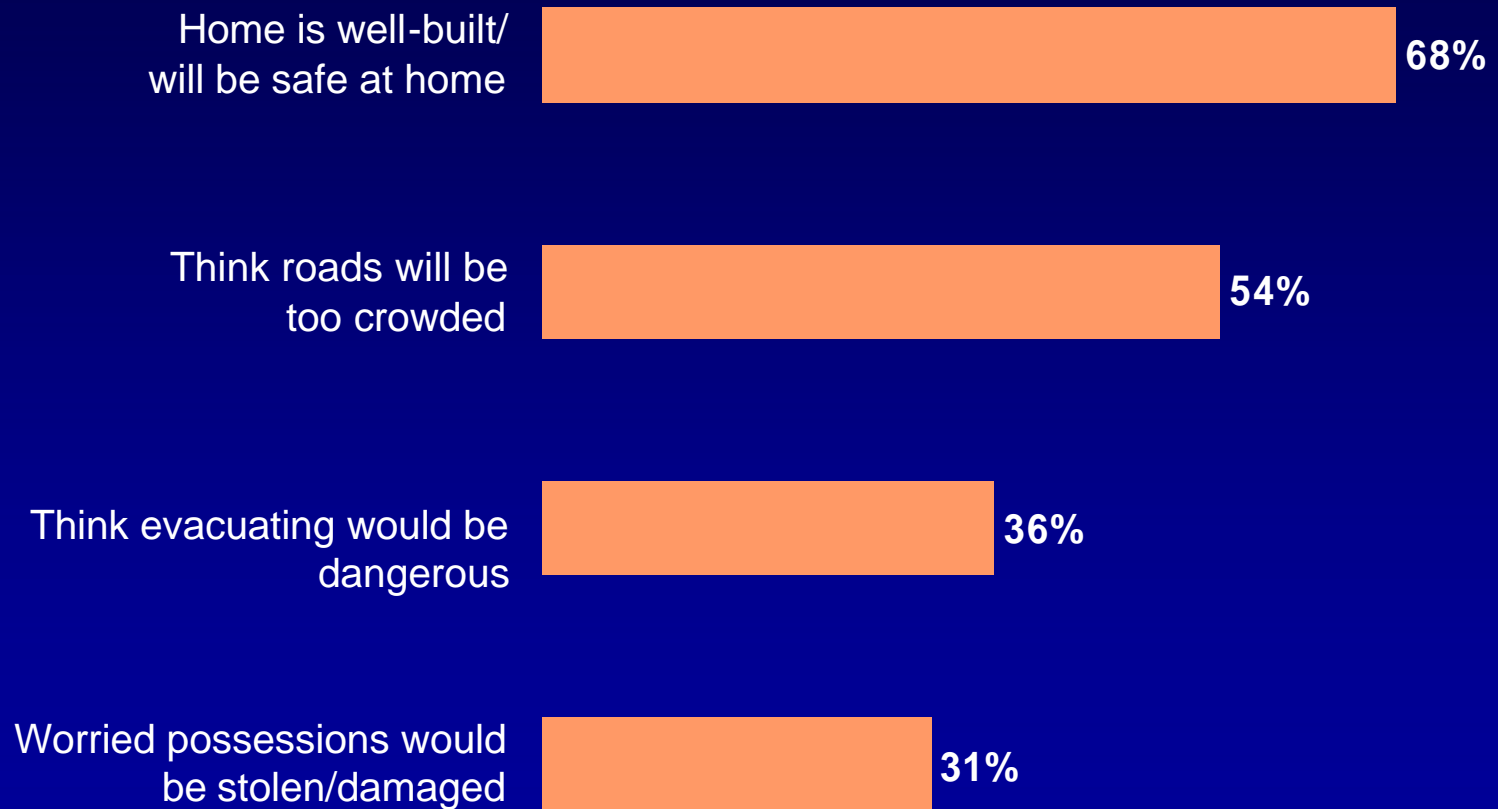
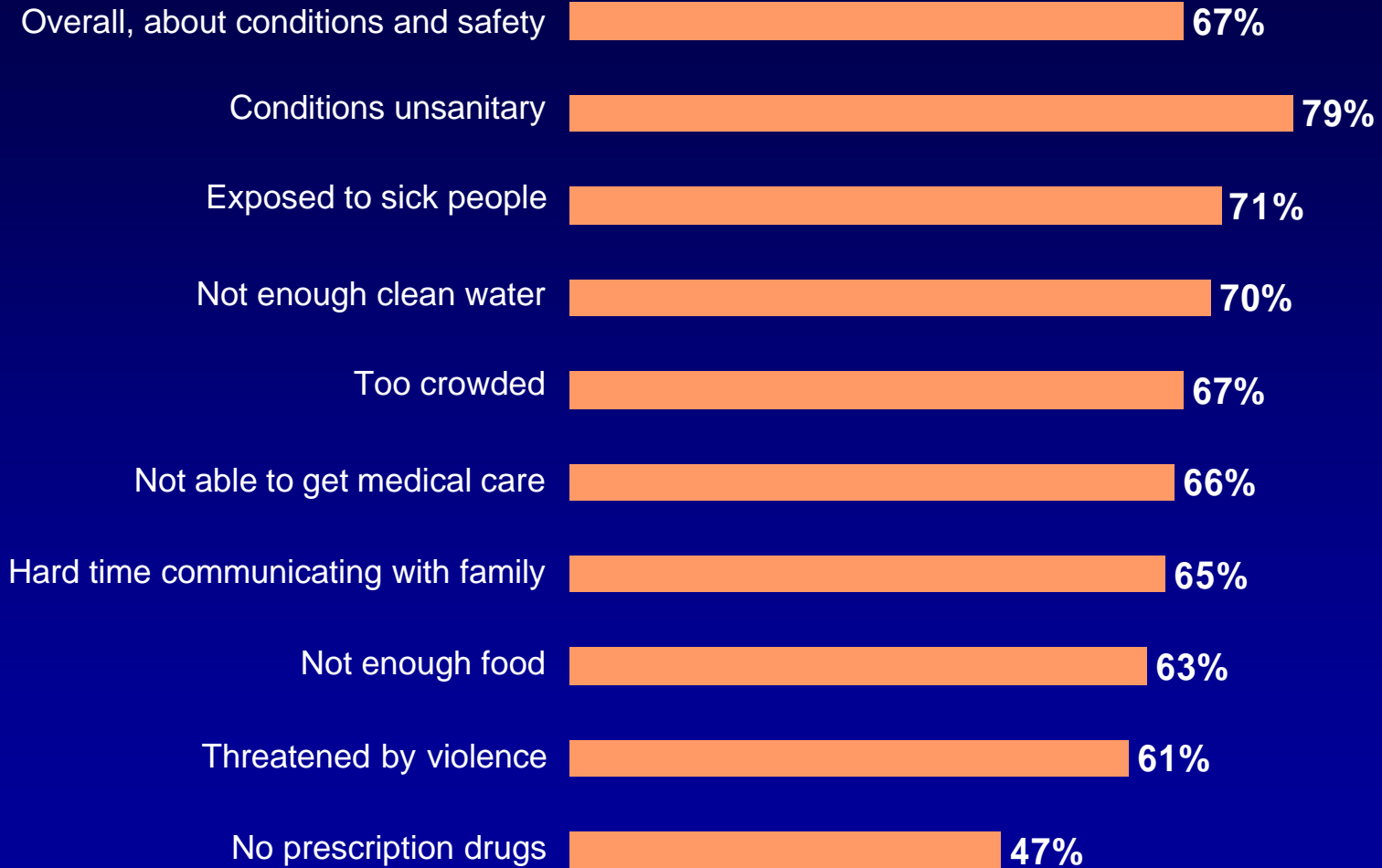


Figure 4

Concerns about conditions in an evacuation center or shelter

% saying very/somewhat worried

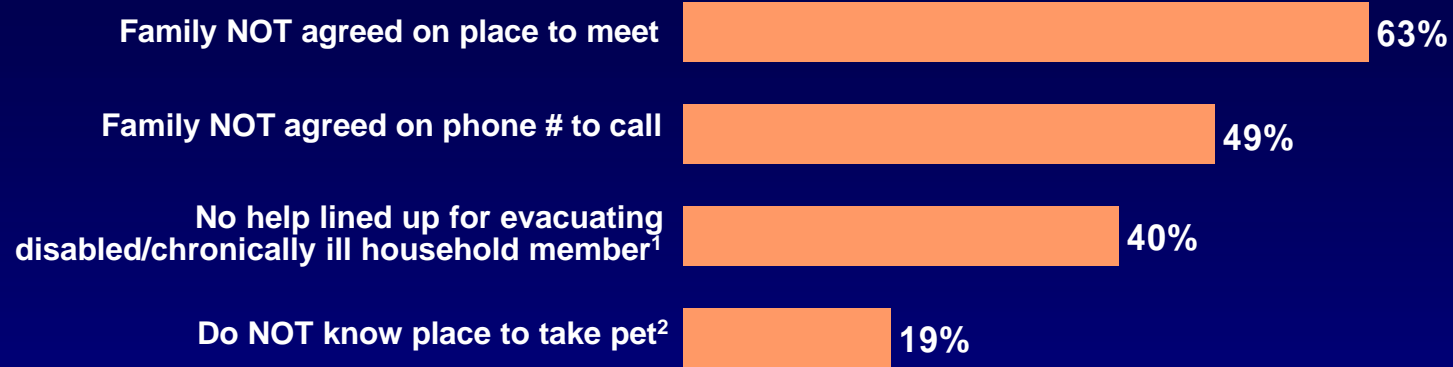


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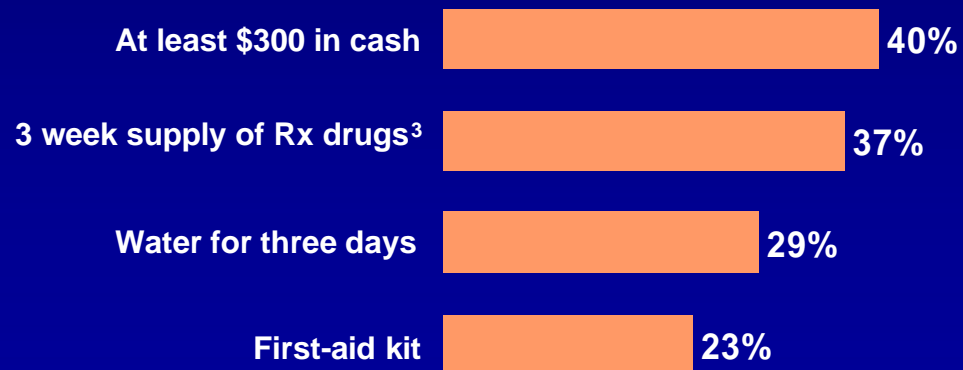
Figure 5

Preparedness for Hurricanes

Have NOT made these preparations



Do NOT have following in home in case of hurricane



¹ Among families with chronically ill/disabled household member who will require help (14%); ² Among those who have pets (49%);

³ Among families who have someone who takes Rx drug on regular basis (59%)

Harvard School of Public Health *Project on the Public and Biological Security*, July 5-11, 2006.

**High-Risk Area Hurricane Survey
Topline Results - TOTAL**

The study was conducted for Harvard School of Public Health via telephone by ICR, an independent research company. Interviews were conducted from July 5 – July 11, 2006, among a representative sample of 2,029 respondents age 18 and older in the states of Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, and North Carolina. Interviewing was conducted in all counties within fifty miles of the coastline for each of these states. The margin of error for total respondents is +/-4.4 percentage points at the 95% confidence level.

1. How worried are you that a major hurricane will hit your community during the next 6 months?

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	22	32	27	18	1	*

2. Overall, how prepared are you if a major hurricane were to strike your community during the next 6 months?

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	35	42	9	12	1	1

3. Compared to last year, are you more prepared for a major hurricane this year, less prepared, or is your preparation about the same?

	More prepared	Less prepared	Preparation about the same	Don't know	Refused
7/11/06 Total	38	2	59	1	*

4. I'm going to read you a list of things some people have in their homes that could be used in case of a hurricane emergency. For each one, please tell me if that is something you currently have or do not have.

7/11/06 TOTAL	Yes	No	Don't know	Refused
a. Enough food for three days for each member of your family	86	13	*	*
b. Enough water for three days for each member of your family	70	29	1	--
c. A battery operated radio that you know works	80	19	1	--
d. A flashlight that you know works	95	4	*	--
e. A first aid kit	77	23	*	--
f. Extra batteries	81	19	*	--
g. A cell phone	83	17	--	--
h. At least \$300 in cash to take with you if you had to leave your home	58	40	1	*
i. Sterno for heating food	43	56	1	--

5. Do you or does anyone else in your household take prescription drugs on a regular or ongoing basis, or not?

	Yes, on a regular or ongoing basis	No, not on a regular or ongoing basis	Don't know	Refused
7/11/06 Total	59	41	*	*

(Asked of total who take Rx drugs regularly; n = 1429)

6. In the event of a major hurricane, do you and other household members have at least an extra three week supply of the prescription drugs you take regularly, or not?

	Yes	No	Don't know	Refused
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7/11/06 Total	60	37	3	--
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7. Are you, yourself now covered by any form of health insurance or health plan, or do you not have health insurance at this time?

	Yes, covered	No, not covered	Don't know	Refused
7/11/06 Total	77	23	*	*

8. Do you have homeowner's or renter's insurance or don't you have this insurance at this time?

	Yes, have homeowner's or renter's insurance	No, don't have at this time	Don't know	Refused
7/11/06 Total	74	24	2	*

9. Do you have or don't you have a social security number?

	Yes, have a SS #	No, don't have a SS#	Don't know	Refused
7/11/06 Total	95	5	*	*

10. If government officials said that you had to evacuate the area because there was going to be a major hurricane in the next few days, would you leave the area or would you stay?

	I would leave the area	I would stay	Depends	Don't know	Refused
7/11/06 Total	67	24	7	2	*

(Asked of total who would/might leave if there were an evacuation; n = 1502)

11. If you had to evacuate the area where you live because of a major hurricane, where would you go? Would you...?

	Stay with friends/family members in another area	Go to a hotel/motel	Go to an evacuation center run by the Red Cross/government	Sleep in a car or outdoors	Don't know where you would go	Refused
7/11/06 Total	56	18	12	1	11	1

(Asked of total who would/might leave if there were an evacuation and who would stay at an evacuation center; n = 110)

12. Do you know the location of the evacuation center where you would go?

	Yes	No	Don't know	Refused
7/11/06 Total	45	54	2	--

(Asked of total who would/might leave if there were an evacuation; n = 1502)

13. If you had to evacuate because of a major hurricane, how far away would you go?

	Less than 10 miles	10 to 50 miles	50 to 100 miles	100 to 200 miles	More than 200 miles	Don't know	Refused
7/11/06 Total	6	11	15	21	36	11	*

(Asked of total who would/might leave if there were an evacuation; n = 1502)

14. If you had to evacuate, how would you get to where you are going? Would you...?

	Go in your car	In a friend's car	Use public transportation	Walk or ride a bike	Don't know how you would evacuate	Refused
7/11/06 Total	91	3	4	1	2	*

15. I'm going to read a list of documents that people sometimes take with them when they evacuate. For each one, please tell me if you would be able to take this document with you if you only had 6 hours until you had to leave. How about (INSERT)?

(Asked of total who would/might leave if there were an evacuation and they are covered by health insurance; n = 1296)

- a. Proof of health insurance

	Yes, would be able to take with me	No, would not be able to take with me	Don't know	Refused
7/11/06 Total	98	1	1	--

(Asked of total who would/might leave if there were an evacuation and they or someone in their household take Rx drugs on a regular basis; n = 1055)

- b. Proof of prescriptions for the drugs you and your family are taking

	Yes, would be able to take with me	No, would not be able to take with me	Don't know	Refused
7/11/06 Total	91	8	1	--

(Asked of total who would/might leave if there were an evacuation and they have homeowner's or renter's insurance; n = 1222)

- c. Proof of homeowner's or renter's insurance

	Yes, would be able to take with me	No, would not be able to take with me	Don't know	Refused
7/11/06 Total	91	7	2	*

(Asked of total who would/might leave if there were an evacuation and they have a SS#; n = 1472)

d. Your social security card

	Yes, would be able to take with me	No, would not be able to take with me	Don't know	Refused
7/11/06 Total	96	4	*	--

(Asked of total who would/might leave if there were an evacuation; n = 1502)

16. If you had to evacuate because of a major hurricane, when would you return home? Would you...?

	Return to your home as soon as the hurricane is over	Wait until officials say it is safe to go back	Don't know	Refused
7/11/06 Total	20	79	2	*

(Asked of total who would/might stay in area if there were an evacuation; n = 669)

17. I'm going to read a list of reasons some people might have for not evacuating the area where they live if there were a major hurricane. For each one, please tell me if it is a reason why you (would not /might not) evacuate.

7/11/06 Total	Yes	No	Don't know	Refused
a. You don't know where to go	18	82	1	*
b. You don't have a car or know anyone who could give you a ride	12	88	*	*
c. You have medical or physical problems that would make it difficult to leave	12	87	1	--
d. You have to take care of someone who would be physically unable to leave	16	83	*	*
e. You would be worried your possessions would be stolen or damaged if you left	31	69	*	*
f. You would not want to leave your pet	18	79	3	*
g. You would not be able to afford to leave	17	82	1	--
h. You would not be able to leave your job	15	82	3	*
i. You think your home is well-built and you will be safe at home.	68	28	4	*
j. You think evacuating would be dangerous	36	61	3	*
k. You think the roads would be too crowded to leave	54	42	4	--

18. If a major hurricane were to hit your community and for whatever reason you did not leave your home, how confident are you that you would be rescued if you needed to be?

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	31	35	16	14	4	*

19. Do you or any other household members have any pets in your home, such as dogs, cats, birds and the like?

	Yes, have pets	No, do not have pets	Don't know	Refused
7/11/06 Total	49	51	*	*

(Asked of total who have pets; n = 1100)

20. If you had to evacuate because of a hurricane, do you have a place you can go where you can take your pet, or not?

	Yes, have place to go and take pet	No, do not have a place to go and take pets	Don't know	Refused
7/11/06 Total	77	19	4	*

21. Has your family agreed on a phone number outside the region that all members of your immediate family could call in the event of a hurricane if you are unable to communicate, or haven't you done that?

	Yes, family has agreed on a phone number outside the region	No, haven't done that	Don't know	Refused
7/11/06 Total	50	49	1	*

22. Has your family agreed on a place you could meet after a hurricane is over if you got separated and could not go back home, or haven't you done that?

	Yes, family has agreed on a place to meet	No, haven't done that	Don't know	Refused
7/11/06 Total	35	63	2	*

23. During the past year, have you attended any meetings, classes, or workshops that taught you how to be better prepared in case of a hurricane, or not?

	Yes, have attended	No, have not attended any	Don't know	Refused
7/11/06 Total	13	87	*	--

24. If you had to go to an evacuation shelter because of a hurricane, how worried would you be about the conditions and your safety?

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	35	32	16	14	2	1

25. I'm going to read a list of concerns people sometimes have about going to a hurricane evacuation center or shelter. If you had to go to a shelter because of a hurricane, please tell me how worried you would be about each one.

a. You wouldn't have enough clean water to drink

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	46	24	15	14	1	1

b. You wouldn't have enough food to eat

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	34	29	18	18	1	*

c. You wouldn't have the prescription drugs or medicines that you need

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	30	17	16	37	1	*

d. You would be threatened by violence

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	37	24	18	20	1	*

e. You would need medical care and wouldn't be able to get it

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	43	23	16	17	1	1

f. The conditions of the shelter would be unsanitary

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	53	26	10	10	1	*

g. You would be exposed to sick people and could catch their illness

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	42	29	14	14	1	*

h. The shelter would be too crowded and you would not have any privacy

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	43	24	17	15	*	*

i. You would have a hard time communicating with family outside of the shelter

	Very	Somewhat	Not too	Not at all	Don't know	Refused
7/11/06 Total	39	26	18	16	1	*

26. At any time in your life, did you leave your home because of a hurricane, or haven't you done this?

	Yes, did leave home	No, haven't done this	Don't know	Refused
7/11/06 Total	48	52	*	*

27. Thinking back over the past year was your community threatened or hit by a major hurricane, or not?

	Yes, community was threatened or hit by major hurricane	No, community was not threatened	Don't know	Refused
7/11/06 Total	62	37	1	--

(Asked of those whose community was threatened/hit by a major hurricane; n = 1208)

28. Was your community damaged by this hurricane, or not?

27/28. Combo Table

	Community threatened/hit by a major hurricane			Community has not been threatened/ hit by a major hurricane	Don't know	Refused
	NET	Yes, my community was damaged	No, my community was not damaged			
7/11/06 Total	62	45	17	37	1	--

(Asked of those whose community was threatened/hit by a major hurricane; n = 1208)

29. Because of this hurricane, did you leave your home where you lived, or did you stay in your home?

27/29. Combo Table

	Community threatened/hit by a major hurricane			Community has not been threatened/ hit by a major hurricane	Don't know	Refused
	NET	Left home	Stayed in home			
7/11/06 Total	62	27	34	37	1	--

(Asked of those whose community was threatened/hit by a major hurricane; n = 1208)

30. Most people say they get their information about various health issues and problems from TV, radio, or newspapers. Still thinking back to this hurricane that impacted your community last year, I am going to read you a list of OTHER places where you might have looked for information about the health problems that people may have had because of the hurricane. For each source, please tell me whether or not you contacted or looked at their website to try to get health information.

a. The CDC, or Centers for Disease Control and Prevention

	Contacted/looked at their website to try to get health information	Did not contact/look at website	Don't know	Refused
7/11/06 Total	6	94	*	*

b. The Red Cross

	Contacted/looked at their website to try to get health information	Did not contact/look at website	Don't know	Refused
7/11/06 Total	19	81	*	--

c. Other non-profit groups including church groups

	Contacted/looked at their website to try to get health information	Did not contact/look at website	Don't know	Refused
7/11/06 Total	18	82	*	*

d. Your state or local health department

	Contacted/looked at their website to try to get health information	Did not contact/look at website	Don't know	Refused
7/11/06 Total	10	89	*	*

e. Your doctor

	Contacted/looked at their website to try to get health information	Did not contact/look at website	Don't know	Refused
7/11/06 Total	10	89	1	*

f. Your local emergency services, like the fire department or police

	Contacted/looked at their website to try to get health information	Did not contact/look at website	Don't know	Refused
7/11/06 Total	15	85	*	*

31. Thinking about where your home is located, how likely is your home to be flooded or damaged due to wind in a major hurricane?

	Very likely	Somewhat likely	Not very likely	Not at all likely	Don't know	Refused
7/11/06 Total	23	37	25	14	2	*

32. Is your home located in an evacuation zone or not, or don't you know if it is in an evacuation zone?

	Yes, located in an evacuation zone	No, not located in an evacuation zone	Don't know	Refused
7/11/06 Total	37	37	26	*

33. Next I have a question about your IMMEDIATE NEIGHBORS. These are the 10 or 20 households that live closest to you. If a major hurricane were to strike your neighborhood and you needed help, how much would you be able to rely on your immediate neighbors?

	A lot	Some	Not much	Not at all	Don't know	Refused
7/11/06 Total	44	29	12	12	2	*

34. Now thinking about your own health status... In general, would you say your health is ...?

	Excellent	Very good	Good	Fair	Poor	Don't know	Refused
7/11/06 Total	26	33	23	12	5	*	*

35. Do you or does anyone in your household have a chronic illness or disability that would require you to get help if you had to evacuate because of a major hurricane, or not?

	Yes, someone in household has a chronic illness or disability	No, no one in household	Don't know	Refused
7/11/06 Total	14	85	1	*

(Asked of total who have or someone in HH has a chronic illness or disability; n = 349)

36. Do you have help lined up for this person with the chronic illness or disability if you need to evacuate because of a major hurricane or not?

	Yes, have help lined up	No, do not have help lined up	Don't know	Refused
7/11/06 Total	57	40	3	--

37. Do you live in a home you or your family own, are you renting a house or apartment, or do you live somewhere else?

	Live in family owned home	Renting a house or apartment	Live somewhere else	Don't know	Refused
7/11/06 Total	73	24	2	*	*

38. Do you live in a single family home, a duplex or multi-family home, an apartment building or condominium, or a mobile home?

	Live in a single family home	A duplex or multi-family home	An apartment building or condominium	A mobile home	Don't know	Refused
7/11/06 Total	73	6	13	8	*	*

39. How long have you lived in your community?

	Less than 1 year	1-5 years	6-10 years	11-20 years	More than 20 years	Your whole life	Don't know	Refused
7/11/06 Total	9	32	16	15	18	10	--	*