

The NSDUH Report

January 31, 2008

Impact of Hurricanes Katrina and Rita on Substance Use and Mental Health

In Brief

- In the Gulf State areas affected by Hurricanes Katrina and Rita, the rate of past month marijuana use among adults aged 18 or older was lower in the year following the hurricanes than in the year before the hurricanes. There were no significant differences in the prevalence of illicit drug use, binge alcohol use, cigarette use, mental health problems, mental health treatment, or unmet need for mental health treatment in the same time period
- Adults aged 18 or older who were displaced from their homes for *2 or more weeks* following the hurricanes had higher past month rates of illicit drug use, marijuana use, and cigarette use and higher past year rates of serious psychological distress, major depressive episode, and unmet need for mental health treatment or counseling in 2006 than those who were not displaced in the affected areas

In August 2005, Hurricane Katrina caused extensive damage to the coastal regions of Louisiana, Mississippi, Alabama, and Florida, leading to a disaster area that covered 90,000 square miles and leading to more than 1,800 deaths.¹ In September 2005, Hurricane Rita devastated coastal regions in Southeast Texas and Louisiana. These hurricanes and their aftermath resulted in extremely high levels of trauma for many individuals living in the affected regions, including prolonged displacement from their homes.²

A number of studies have documented that individuals exposed to disasters such as hurricanes³ and terrorist attacks⁴⁻⁶ can experience substantial adverse substance use and mental health effects. However, this pattern has not been found in all studies. A study that used the National Survey on Drug Use and Health (NSDUH) to compare the prevalence of substance use and mental health problems among residents of the New York City area before and after the events of September 11, 2001,

found a significantly higher prevalence of marijuana use among males after the attacks, but found no other differences in substance use; moreover, it found no differences in indicators of mental disorders or in the utilization of mental health services.⁷

Although few data are available on the effects of Hurricanes Katrina and Rita on substance use among Gulf Coast residents, there is a growing literature that documents the effects of the hurricanes on mental health. The Centers for Disease Control and Prevention, surveying individuals in the New Orleans area in October 2005, reported that 50 percent of those surveyed showed a *possible* need and 33 percent showed a *probable* need for mental health counseling.⁸ In a 2006 survey of trailer or hotel residents displaced due to the hurricanes, 68 percent of female caregivers reported a mental health disability due to symptoms of depression, anxiety, or other psychiatric disorders, and those female caregivers reported that 44 percent of their children had symptoms of new psychiatric problems.⁹ Similarly, a survey of Louisiana residents living in Federal Emergency Management Agency (FEMA) trailer parks in March and April 2007 showed a markedly higher prevalence of symptoms of depression compared with residents of the State as a whole.¹⁰ A survey of individuals affected by Hurricane Katrina found that they had significantly higher rates of mental illness when compared with persons surveyed in 2001 from two U.S. census divisions in the affected area; however, those in the post-Katrina sample who had mental health problems reported significantly lower rates of thoughts of suicide or plans to commit suicide than were found in the 2001 sample.² A study of veterans in the Gulf Coast area indicated that destruction of facilities offering health services in the areas most affected by Hurricane Katrina led to significant disruptions in services for veterans, especially services related to mental health and substance abuse, following the hurricane.¹¹

This special issue of *The NSDUH Report* presents two analyses. The first analysis focuses on the overall prevalence of substance use and mental health problems, mental health treatment, and unmet treatment needs *before and after* Hurricanes Katrina and Rita among adults aged 18 or older who lived in the Gulf State Disaster Area and, for comparison, in the rest of the United States. Estimates of substance

use and mental health problems before Hurricanes Katrina and Rita were based on NSDUH data from July 2004 through June 2005. Estimates for the post-hurricane period were based on NSDUH data from January 2006 through December 2006.

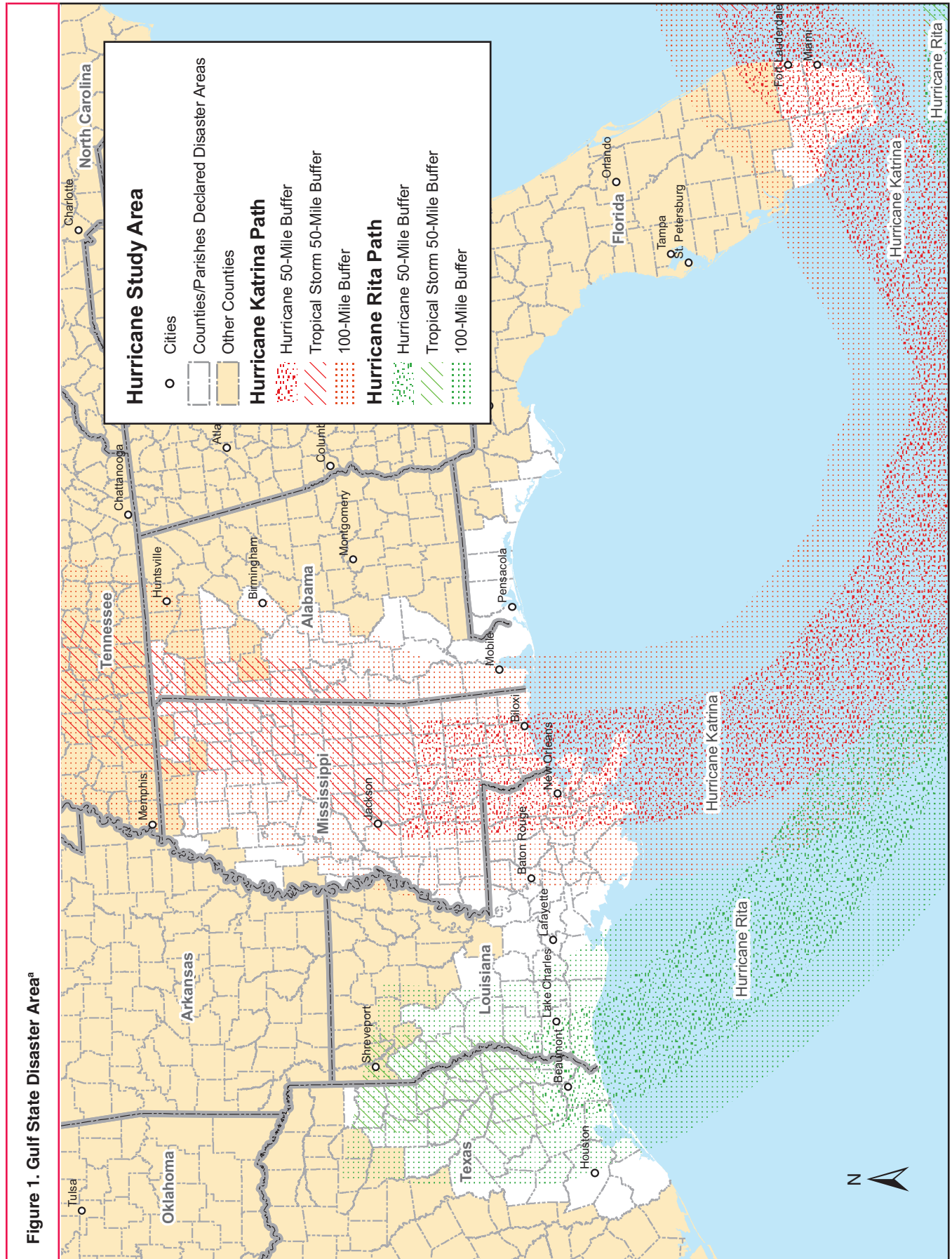
The second analysis examines post-hurricane prevalence rates of substance use and mental health problems among Gulf State adults who were displaced from their homes as a result of the hurricanes compared with those in the disaster area who were not displaced. These estimates were based on 2006 NSDUH data.

The Gulf State Disaster Area includes the counties and parishes in Alabama, Florida, Louisiana, Mississippi, and Texas that were declared by FEMA as eligible for Individual Assistance and/or Public Assistance following Hurricane Katrina and/or Hurricane Rita, with the exception of counties and parishes that were declared by FEMA as eligible only for Public Assistance (Categories A or B) (Figure 1).

Measures and Study Population

NSDUH provides data on the prevalence, correlates, and patterns of substance use and abuse, as well as data on mental health problems and treatment. An annual survey of the civilian, noninstitutionalized U.S. population aged 12 or older, with interviews from approximately 67,500 people, NSDUH yields a sample sufficient to generate national, State, and substate-level estimates. This report on the impact of Hurricanes Katrina and Rita focuses on adults aged 18 or older and their past month use of illicit drugs,¹² cigarettes, and binge use of alcohol,¹³ as well as past year serious psychological distress (SPD),¹⁴ major depressive episode (MDE),¹⁵ substance use disorder (SUD),¹⁶ receipt of mental health treatment or counseling,¹⁷ and unmet need for mental health treatment or counseling.¹⁸ In addition, NSDUH includes questions about age, gender, and race/ethnicity.¹⁹

Approximately 14.2 million adults were living in the Gulf State Disaster Area in the year before Hurricanes Katrina and Rita, and approximately 14.4 million adults were living there in 2006 (Table 1). There were some small changes from the pre- to post-hurricane periods in the demographic distributions in the Gulf State Disaster Area, but these changes were not statistically significant (Table 2).²⁰



Source: Adapted from National Hurricane Center data and Federal Emergency Management Agency data for SAMHSA, 2007.

Based on special questions added to NSDUH in 2006, respondents were classified as displaced in 2006 if they reported that they had lived in a State bordering the Gulf of Mexico before Hurricanes Katrina and Rita and that they left their home and stayed overnight in temporary housing (any place someone stays overnight or longer that is not thought of as his or her permanent home) as a result of either Hurricane Katrina or Rita.²¹ In 2006, 65.7 percent of adults aged 18 or older who lived in the Gulf State Disaster Area after the hurricanes indicated that they had not been displaced, 23.9 percent (3.4 million) were displaced for *less than 2 weeks*, and 10.4 percent (1.5 million) were displaced for *2 weeks or longer* (Table 3). Gulf State residents aged 50 or older were less likely than younger residents to have been displaced. More than half of the adult residents living in the affected areas of Louisiana and Texas before the hurricanes were displaced. Texas had the highest percentage of disaster area adult residents who were displaced for *less than 2 weeks* (46.3 percent). Louisiana had the highest percentage of adult residents displaced for *2 weeks or longer* (32.1 percent).

Of all adult Gulf State residents who were displaced for *less than 2 weeks*, more than half lived in Texas before the hurricanes (60.2 percent), while more than half of all adult residents who were displaced for *2 weeks or longer* lived in Louisiana before the storms (55.2 percent) (Table 4).

Table 1. Population Aged 18 or Older in the Gulf State Disaster Area^a and in the Total State before and after Hurricanes Katrina and Rita, by State of Residence: Numbers (in Thousands), July 2004 to June 2005 and January to December 2006

State	Gulf State Disaster Area		Total State	
	July 2004 to June 2005	2006	July 2004 to June 2005	2006
Total	14,237	14,361	37,869	38,791
Alabama	1,389	1,404	3,343	3,398
Florida	3,999	4,062	13,314	13,732
Louisiana	2,577	2,442	3,229	3,103
Mississippi	1,840	1,843	2,078	2,089
Texas	4,431	4,610	15,905	16,469

Source: SAMHSA, 2004 to 2006 NSDUHs.

Table 2. Residents Aged 18 or Older in the Gulf State Disaster Area^a and in the Remainder of the United States, by Demographic Characteristics: Numbers (in Thousands) and Percentages, July 2004 to June 2005 and January to December 2006

Demographic Characteristic	Gulf State Disaster Area		Remainder of United States	
	July 2004 to June 2005	2006	July 2004 to June 2005	2006
Population Estimate	14,237	14,361	202,056	206,159
	<i>Percent</i>			
Age				
18 to 25	15.2	14.9	15.0	14.8
26 to 49	46.5	45.7	46.5	45.5
50 or Older	38.3	39.4	38.5	39.7
Gender				
Male	47.6	47.7	47.8	48.2
Female	52.4	52.3	52.2	51.8
Hispanic Origin and Race				
Not Hispanic or Latino	80.8	80.0	88.0	87.4
White	55.2	54.3	71.5	70.5
Black or African American	21.9	22.0	10.3	10.7
Hispanic or Latino	19.2	20.0	12.0	12.6
Education^b				
< High School	19.2	21.7	16.1	16.2
High School Graduate	32.2	33.9	31.3	31.1
Some College	25.0	23.7	25.5	25.1
College Graduate	23.5	20.7	27.1	27.5
Current Employment^b				
Full-Time	53.2	56.2	55.9	55.0
Part-Time	11.3	9.8	13.2	13.3
Unemployed	3.7	3.6	3.5	3.2
Other ^c	31.8	30.4	27.5	28.5
Family Income^b				
Less Than \$20,000	27.7	25.3	19.1	18.8
\$20,000 to \$49,999	35.5	34.8	34.8	34.7
\$50,000 to \$74,999	16.1	15.5	18.3	17.6
\$75,000 or More	20.6	24.4	27.9	28.9

Source: SAMHSA, 2004 to 2006 NSDUHs.

Prevalence Rates Before and After the Hurricanes

Substance Use and SUD. The prevalence of past month marijuana use among adults aged 18 or older in the Gulf State Disaster Area was significantly lower in the post-hurricane than the pre-hurricane period (Table 5). The prevalences of past month illicit drug use, binge alcohol use, and cigarette use, as well as the prevalence of past year SUD (Table 6), were not significantly different in the post-hurricane and pre-hurricane period. In the remainder of the United States, there were no statistically significant differences in substance use or SUD except for a higher rate of nonmedical use of prescription-type drugs in the post-hurricane period (Table 5).

Mental Health Problems and Treatment. Although the prevalence estimates for past year SPD, receipt of mental health treatment or counseling, and unmet need for mental health treatment or counseling in the Gulf State Disaster Area among adults aged 18 or older were lower post-hurricane than they had been before the hurricanes, these differences were not statistically significant (Table 6). There also was no change in MDE prevalence between the pre- and post-hurricane periods. There were no pre- and post-hurricane differences in mental health problems and treatment for the remainder of the United States.

Table 3. Gulf State Disaster Area^a Residents Aged 18 or Older, by Length of Displacement from Their Homes Due to Hurricane Katrina and/or Hurricane Rita, by Age, Gender, and State of Residence: Row Percentages^b, 2006

Demographic Characteristic ^d /State	Not Displaced	Displaced	
		Less Than 2 Weeks	2 Weeks or Longer
Total	65.7	23.9	10.4
Age			
18 to 25	61.5	26.2	12.3
26 to 49	61.6	27.6	10.8
50 or Older	71.9	18.8	9.3
Gender			
Male	66.9	23.5	9.6
Female	64.6	24.3	11.2
State Lived in Before Hurricanes Katrina and/or Rita^e			
Alabama	89.9	5.9	4.2
Florida	91.7	6.8	1.5
Louisiana	42.7	25.3	32.1
Mississippi	65.2	20.8	13.9
Texas	47.4	46.3	6.3
State Lived in After Hurricanes Katrina and/or Rita			
Alabama	90.1	5.8	4.2
Florida	91.5	6.6	1.9
Louisiana	43.2	25.6	31.2
Mississippi	65.2	20.9	13.9
Texas	48.0	44.8	7.2

Source: SAMHSA, 2006 NSDUH.

Table 4. Gulf State Disaster Area^a Residents Aged 18 or Older, by Length of Displacement from Their Homes Due to Hurricane Katrina and/or Hurricane Rita: Numbers (in Thousands) and Column Percentages^b, 2006

Demographic Characteristic ^d /State	Total ^f	Not Displaced	Displaced	
			Less Than 2 Weeks	2 Weeks or Longer
Population Estimate	14,061	9,234	3,363	1,465
	<i>Percent</i>			
Age				
18 to 25	14.5	13.6	15.9	17.1
26 to 49	45.8	42.9	52.8	47.3
50 or Older	39.7	43.5	31.2	35.6
Gender				
Male	47.5	48.3	46.7	43.7
Female	52.5	51.7	53.3	56.3
State Lived in Before Hurricanes Katrina and/or Rita^e				
Alabama	9.9	13.6	2.4	4.1
Florida	28.2	39.4	7.9	*
Louisiana	17.7	11.5	18.5	55.2
Mississippi	12.7	12.7	11.0	17.3
Texas	31.5	22.8	60.2	19.3
State Lived in After Hurricanes Katrina and/or Rita				
Alabama	9.8	13.5	2.4	3.9
Florida	27.9	38.8	7.6	5.2
Louisiana	17.1	11.3	18.4	51.4
Mississippi	12.9	12.8	11.3	17.3
Texas	32.2	23.6	60.3	22.2

Source: SAMHSA, 2006 NSDUH.

^aData suppressed due to low precision.

Effect of Displacement on Substance Use and Mental Health

Gulf State Disaster Area residents aged 18 or older who were displaced from their homes for *2 weeks or longer* had significantly higher rates of past month use of illicit drugs, marijuana, and cigarettes than those who were not displaced (Figure 2).²² Rates of marijuana use and cigarette use were significantly higher among those displaced *2 weeks or longer* than those displaced *less than 2 weeks*. Adult residents of the area who were displaced from their homes for *less than 2 weeks* had significantly higher rates of past month binge alcohol use compared with residents who were not displaced.

Gulf State Disaster Area residents aged 18 or older who were displaced from their homes for *2 weeks or longer* had significantly higher rates of SPD, MDE, and unmet need for mental health treatment or counseling in the past year compared with residents who were not displaced or who were displaced for *less than 2 weeks* (Figure 3). Approximately one in four residents who were displaced for *2 weeks or longer* reported SPD; rates of MDE were more than 3 times higher among those who had been displaced for *2 weeks or longer* compared with those who were not displaced. Adult residents of the Gulf State Disaster Area who were displaced for *2 weeks or longer* were more likely to have received mental health treatment or counseling compared with

Table 5. Past Month Substance Use among Persons Aged 18 or Older: Percentages, July 2004 to June 2005 and January to December 2006

Substance Use	Gulf State Disaster Area ^a		Remainder of United States	
	July 2004 to June 2005	2006	July 2004 to June 2005	2006
Illicit Drug Use ^g	7.5	6.2	7.7	8.2
Marijuana Use	5.1 ^h	3.7	6.0	6.1
Nonmedical Use of Prescription-Type Drugs	3.1	3.0	2.4 ^h	2.8
Binge Alcohol Use ⁱ	25.1	22.7	24.6	24.6
Cigarette Use	26.9	26.0	26.4	26.7

Source: SAMHSA, 2004 to 2006 NSDUHs.

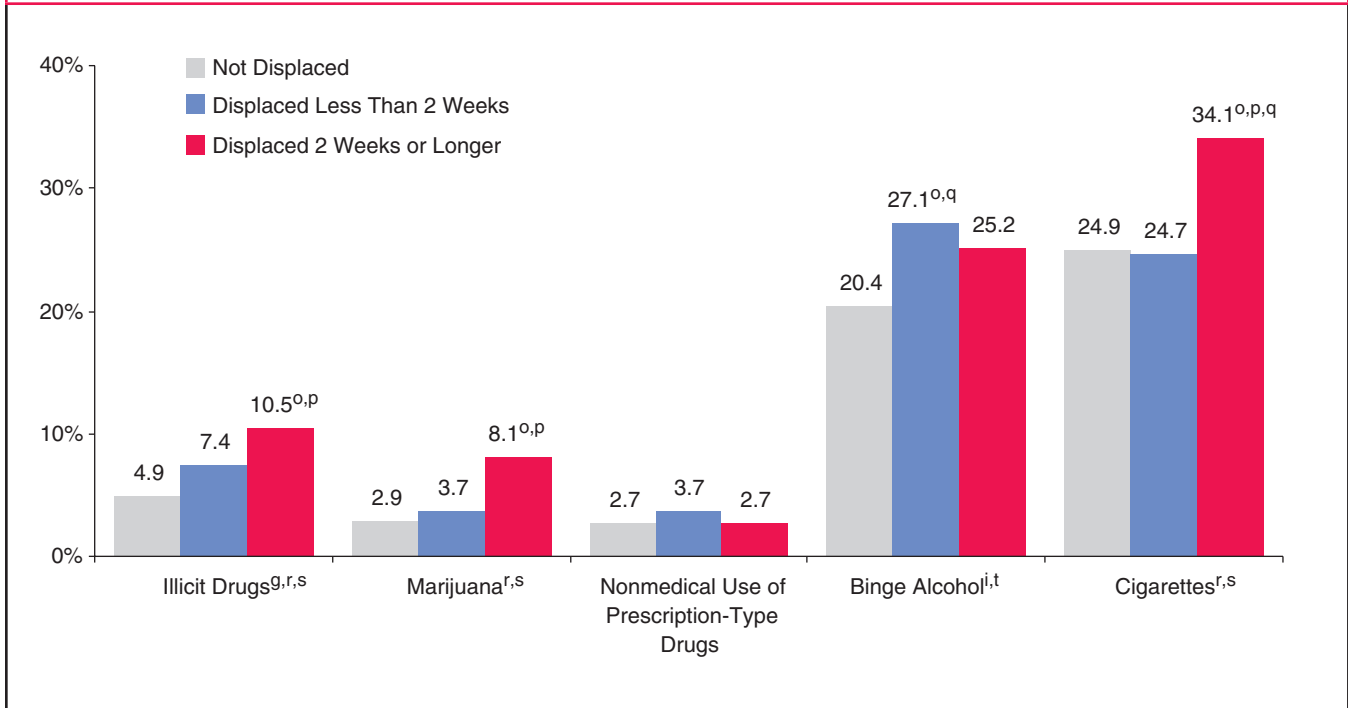
Table 6. Past Year Substance Use Disorder, Mental Health Problems, and Mental Health Treatment among Gulf State Disaster Area^a Residents Aged 18 or Older: Percentages, July 2004 to June 2005 and January to December 2006

Mental Health Problem or Treatment	Gulf State Disaster Area ^a		Remainder of United States	
	July 2004 to June 2005	2006	July 2004 to June 2005	2006
Serious Psychological Distress ^j	12.2	10.7	11.5	11.3
Major Depressive Episode ^k	7.4	7.4	7.5	7.2
Substance Use Disorder ^l	10.7	9.1	9.1	9.3
Receipt of Mental Health Treatment or Counseling ^m	13.1	11.0	13.0	13.0
Unmet Need for Mental Health Treatment or Counseling ⁿ	4.8	3.8	5.0	4.8

Source: SAMHSA, 2004 to 2006 NSDUHs.

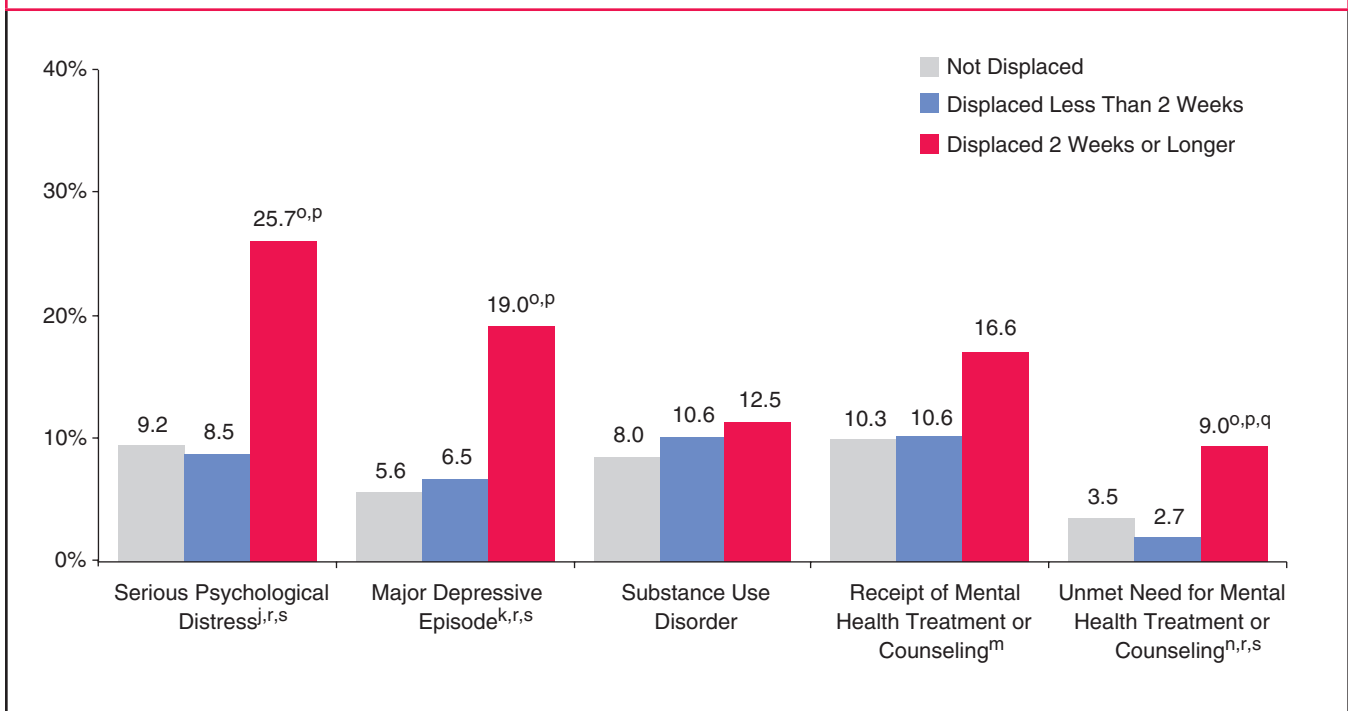
residents who were not displaced, although this difference was not statistically significant.

Figure 2. Prevalence of Past Month Substance Use among Gulf State Disaster Area^a Residents Aged 18 or Older, by Length of Displacement from Their Homes Due to Hurricane Katrina and/or Hurricane Rita: Percentages, 2006



Source: SAMHSA, 2006 NSDUH.

Figure 3. Prevalence of Past Year Substance Use Disorder, Mental Health Problems, and Mental Health Treatment among Gulf State Disaster Area^a Residents Aged 18 or Older, by Length of Displacement from Their Homes Due to Hurricane Katrina and/or Hurricane Rita: Percentages, 2006



Source: SAMHSA, 2006 NSDUH.

End Notes

- 1 Knabb, R. D., Rhome, J. R., & Brown, D. P. (2005, December 20; updated 2006, August 10). *Tropical cyclone report: Hurricane Katrina 23-30 August 2005*. Retrieved September 21, 2007, from http://www.nhc.noaa.gov/pdf/TCR-AL122005_Katrina.pdf
- 2 Kessler, R. C., Galea, S., Jones, R. T., & Parker, H. A. (2006). Mental illness and suicidality after Hurricane Katrina. *Bulletin of the World Health Organization*, *84*, 930-939.
- 3 David, D., Mellman, T. A., Mendoza, L. M., Kulick-Bell, R., Ironson, G., & Schneiderman, N. (1996). Psychiatric morbidity following Hurricane Andrew. *Journal of Traumatic Stress*, *9*, 607-612.
- 4 North, C. S., Nixon, S. J., Shariat, S., Mallonee, S., McMillen, J. C., Spitznagel, E. L., & Smith, E. M. (1999). Psychiatric disorders among survivors of the Oklahoma City bombing. *Journal of the American Medical Association*, *282*, 755-762.
- 5 Galea, S., Ahern, J., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J., & Vlahov, D. (2002). Psychological sequelae of the September 11 terrorist attacks in New York City. *New England Journal of Medicine*, *346*, 982-987.
- 6 Vlahov, D., Galea, S., Resnick, H., Ahern, J., Boscarino, J. A., Bucuvalas, M., Gold, J., & Kilpatrick, D. (2002). Increased use of cigarettes, alcohol, and marijuana among Manhattan, New York, residents after the September 11th terrorist attacks. *American Journal of Epidemiology*, *155*, 988-996.
- 7 Office of Applied Studies. (2002). *Impact of September 11, 2001 events on substance use and mental health* (DHHS Publication No. SMA 02-3729, Analytic Series A-18). Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/katrina/toc.cfm>]
- 8 Centers for Disease Control and Prevention. (2006, January 20). Assessment of health-related needs after Hurricanes Katrina and Rita—Orleans and Jefferson Parishes, New Orleans area, Louisiana, October 17-22, 2005. *Morbidity and Mortality Weekly Report*, *55*(2), 38-41. [Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5502a5.htm>]
- 9 Abramason, D., & Garfield, R. (2006, April 17). *On the edge: Children and families displaced by Hurricanes Katrina and Rita face a looming medical and mental health crisis*. New York: Mailman School of Public Health, Columbia University, National Center for Disaster Preparedness. [Available at http://www.ncdp.mailman.columbia.edu/program_special.htm]
- 10 Schafer, M. J., & Singelmann, J. (2007, April). *Louisiana FEMA Park Survey*. Retrieved September 21, 2007, from http://lra.louisiana.gov/assets/migration/LouisianaFEMAParkSurvey_web.pdf
- 11 Druss, B. G., Henderson, K. L., & Rosenheck, R. A. (2007). Swept away: Use of general medical and mental health services among veterans displaced by Hurricane Katrina. *American Journal of Psychiatry*, *164*, 154-156.
- 12 NSDUH defines illicit drugs as marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type drugs (including pain relievers, tranquilizers, stimulants, and sedatives) used nonmedically.
- 13 Binge alcohol use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days.
- 14 Serious psychological distress (SPD) is an overall indicator of past year nonspecific psychological distress derived from the K6 scale administered in NSDUH to adults aged 18 or older. The K6 questions measure symptoms of psychological distress during the 1 month in the past 12 months when respondents were at their worst emotionally. For a discussion of the methodology used to generate SPD estimates, see Section B.4.4 of Appendix B in both the 2004 and the 2005 national NSDUH results reports at <http://oas.samhsa.gov/p0000016.htm#Standard>. For details on the K6 scale, see the following paper: Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., Howes, M. J., Normand, S. L., Manderscheid, R. W., Walters, E. E., & Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry*, *60*, 184-189.
- 15 NSDUH includes questions to assess past year major depressive episode (MDE). MDE is defined using the diagnostic criteria set forth in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) (Washington, DC: American Psychiatric Association, 1994), which specifies a period of 2 weeks or longer during which there is either depressed mood or loss of interest or pleasure and at least four other symptoms that reflect a change in functioning, such as problems with sleep, eating, energy, concentration, and self-image.
- 16 Substance use disorder (SUD) is defined as dependence on or abuse of illicit drugs or alcohol in the past 12 months. Dependence or abuse is based on definitions found in the DSM-IV.
- 17 "Mental health treatment or counseling" is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health in the past 12 months. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the adult mental health service utilization module.
- 18 "Unmet need for mental health treatment or counseling" is defined as a perceived need for treatment for mental health problems in the past 12 months that was not received. This measure also includes persons who received some treatment for mental health problems in the past 12 months but also reported that they perceived a need for treatment that they did not receive. Unmet need among those who received treatment may be interpreted as delayed or insufficient treatment in the past 12 months.
- 19 Race/ethnicity categories are determined by combining the responses from two separate questions. For this report, respondents identifying themselves as "Hispanic" were assigned to the Hispanic group regardless of their racial identification. Respondents identifying themselves as non-Hispanic were grouped according to their racial identification. Thus, "white" refers to those identifying themselves as non-Hispanic and white.
- 20 To reflect population changes in the Gulf State Disaster Area following the hurricanes, the analysis weights for the 2006 NSDUH were adjusted to the county- or parish-level population estimates derived from the 2006 U.S. census. For each of the five States that border the Gulf of Mexico, counties or parishes were aggregated to affected and unaffected areas. Within the affected and unaffected areas, two strata were defined depending on population gain or loss from July 2005 to July 2006. The poststratification of the weights was done in such a way that for each stratum within the affected or unaffected area, the adjusted weights for age group (18 to 25, 26 to 34, 35 to 49, 50 to 64, 65 or older), race (white, black, others), gender, and Hispanic origin within a State could be summed up to the corresponding population estimates from the U.S. census.

The analysis weights for the pre-hurricane period also were adjusted to the county- or parish-level population estimates derived from the 2004 and 2005 U.S. census. The poststratification for the pre-hurricane data was similar to the poststratification of the post-hurricane data, except that there were no strata defined within affected and unaffected areas within the five States.

²¹ Depending on their State of residence before the hurricanes, respondents were asked whether they had to leave their homes and stay in temporary housing because of the hurricanes. Respondents residing in Alabama, Florida, or Mississippi were asked about staying in temporary housing due to Hurricane Katrina; respondents residing in Texas were asked about staying in temporary housing due to Hurricane Rita; and respondents residing in Louisiana were asked about staying in temporary housing due to either hurricane. Standard NSDUH data collection procedures were used to identify displaced persons and temporary housing units. Specifically, if the person met the standard eligibility requirement of living in the selected dwelling unit at least half of the quarter, survey field staff were reminded to survey displaced persons wherever they currently were residing (e.g., at a friend's or relative's home). In addition, temporary housing units (e.g., hotel rooms, trailer homes on the grounds of selected dwellings, or groups of trailer homes that had not been present when the sample frame was initially built) that were observed by field staff were included as part of the sample if the unit fell in the geographic interval between a sampled dwelling unit and the next dwelling unit on the sample frame. If a large number of temporary units were encountered, these units were sampled at the same rate as the original sample. In addition to these standard procedures, some special procedures were employed. In the fourth quarter of 2005, NSDUH field staff were instructed to assign a pending status code to housing units that were vacant or damaged and to return midway through the quarter to see whether the dwelling unit had become re-occupied. In 2006, the first quarter sample was supplemented in the areas most affected by the hurricanes. For more information on the methods used to include displaced individuals, see the 2005 and the 2006 NSDUH sample design reports at <http://oas.samhsa.gov/nsduh/methods.cfm>.

²² All significant differences between displacement categories reported in this section were further tested in logistic regression models that controlled for

age, gender, education, race/ethnicity, family income, and State. Only three of the significant differences became nonsignificant with these statistical controls. These were comparisons of "displaced 2 weeks or longer" and "not displaced" for past month cigarette use (OR = 1.47; $p = .067$) and unmet need for mental health treatment or counseling (OR = 1.82; $p = .230$), as well as the comparison of "displaced less than 2 weeks" and "not displaced" for binge alcohol use (OR = 1.33; $p = .114$).

Figure and Table Notes

- ^a The Gulf State Disaster Area includes the counties and parishes in Alabama, Florida, Louisiana, Mississippi, and Texas that were declared by FEMA as eligible for Individual Assistance and/or Public Assistance following Hurricane Katrina and/or Hurricane Rita, with the exception of counties or parishes declared as eligible only for Public Assistance (Categories A or B).
- ^b Percentages may not add to 100 percent because of rounding.
- ^c The "other" employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.
- ^d Data are not presented for other demographic characteristics due to lack of precision.
- ^e In 2006, respondents provided the State, but not the county or parish, where they lived in 2005 before Hurricane Katrina or Rita. For this reason, these estimates may include individuals who lived in the State before Hurricane Katrina or Rita but did not live in a county or parish declared a disaster area.
- ^f Respondents with unknown displacement information were not included.
- ^g See End Note 12.
- ^h Difference between this estimate and 2006 estimate is statistically significant at the 0.05 level.
- ⁱ See End Note 13.
- ^j See End Note 14.
- ^k See End Note 15.
- ^l See End Note 16.
- ^m See End Note 17.
- ⁿ See End Note 18.
- ^o Difference between estimate and not displaced estimate is statistically significant at the 0.05 level.

- ^p Difference between estimate and displaced less than 2 weeks estimate is statistically significant at the 0.05 level.
- ^q Difference between estimate and not displaced estimate was not significantly different when further tested in a logistic regression model that controlled for age, gender, education, race/ethnicity, family income, and State (see End Note 22).
- ^r Displaced 2 weeks or longer significantly higher than not displaced ($p < .05$).
- ^s Displaced 2 weeks or longer significantly higher than displaced less than 2 weeks ($p < .05$).
- ^t Displaced less than 2 weeks significantly higher than not displaced ($p < .05$).

Suggested Citation

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (January 31, 2008). *The NSDUH Report: Impact of Hurricanes Katrina and Rita on Substance Use and Mental Health*. Rockville, MD.

Note

Additional data tables from this analysis are available online: <http://oas.samhsa.gov/katrina/toc.cfm>.

For change of address, corrections, or to be removed from this list, please e-mail: shortreports@samhsa.hhs.gov.

Research findings from the SAMHSA 2004, 2005, and 2006 National Surveys on Drug Use and Health (NSDUHs)

Impact of Hurricanes Katrina and Rita on Substance Use and Mental Health

- In the Gulf State areas affected by Hurricanes Katrina and Rita, the rate of past month marijuana use among adults aged 18 or older was lower in the year following the hurricanes than in the year before the hurricanes. There were no significant differences in the prevalence of illicit drug use, binge alcohol use, cigarette use, mental health problems, mental health treatment, or unmet need for mental health treatment in the same time period
- Adults aged 18 or older who were displaced from their homes for 2 or more weeks following the hurricanes had higher past month rates of illicit drug use, marijuana use, and cigarette use and higher past year rates of serious psychological distress, major depressive episode, and unmet need for mental health treatment or counseling in 2006 than those who were not displaced in the affected areas

The National Survey on Drug Use and Health (NSDUH) is an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The data in this report from July 2004 to June 2005 are based on information obtained from 44,803 persons aged 18 or older, including 2,663 persons who lived in the Gulf State Disaster Area. The data in this report from 2006 are based on information obtained from 44,931 persons aged 18 or older, including 2,699 persons who lived in the Gulf State Disaster Area. The survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence.

The NSDUH Report is prepared by the Office of Applied Studies (OAS), SAMHSA, and by RTI International in Research Triangle Park, North Carolina. (RTI International is a trade name of Research Triangle Institute.)

Information on NSDUH used in compiling data for this issue is available in the following publications:

Office of Applied Studies. (2007). *Results from the 2006 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 07-4293, NSDUH Series H-32). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Office of Applied Studies. (2006). *Results from the 2005 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 06-4194, NSDUH Series H-30). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Office of Applied Studies. (2005). *Results from the 2004 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 05-4062, NSDUH Series H-28). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Also available online: <http://oas.samhsa.gov>.

Because of improvements and modifications to the 2002 NSDUH, estimates from the 2002 through 2006 surveys should not be compared with estimates from the 2001 or earlier versions of the survey to examine changes over time.



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Substance Abuse & Mental Health Services Administration
Office of Applied Studies
www.samhsa.gov