

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

Presented by

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Background

- **Hurricanes Katrina and Rita hit the Gulf Coast in August and September, 2005**
- **From Hurricane Katrina alone, an area of approximately 90,000 square miles was declared a disaster area**
- **Millions of people were displaced from their homes due to the hurricanes**
- **Studies on mental health problems following the hurricanes have shown mixed results**

Study Objectives

Use NSDUH data to:

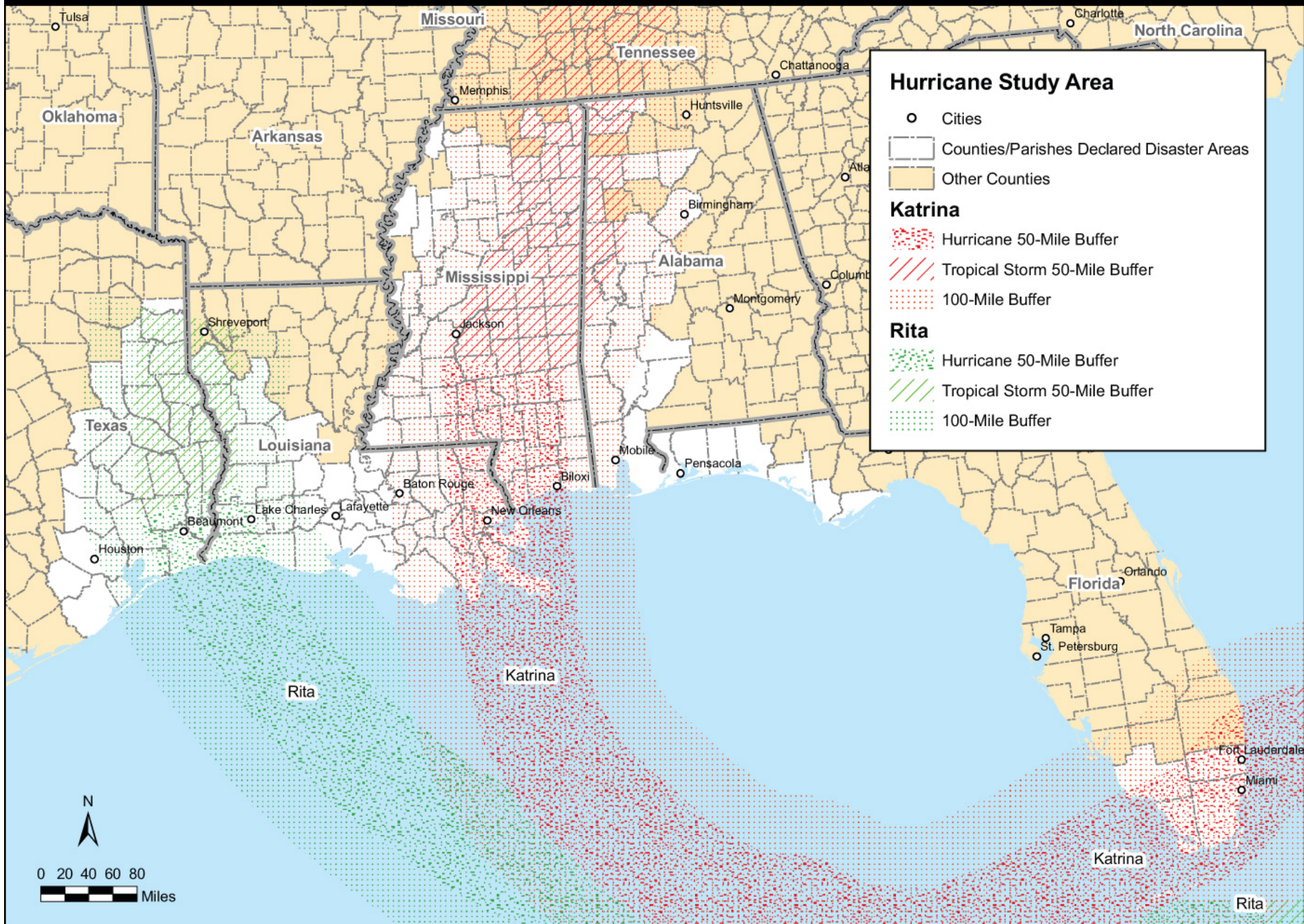
Determine Pre / Post prevalence of substance use and mental health problems, treatment and unmet treatment need in the gulf region before and after Hurricanes Katrina and Rita

Analyze the impact of displacement from home on individuals within the Gulf State Disaster Area

Study Sample Construction

- Limited to adults aged 18 or older
- Pre-hurricane period: July 2004 – June 2005
- Post-hurricane period: January 2006 – December 2006
- 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 or Hurricane Rita
- Sample weights for the disaster area and non-disaster areas in the five States were adjusted to the county- or parish-level population estimates obtained from U.S. Census

Gulf State Disaster Area



Study Sample

- **Pre-hurricane sample (July 2004 – June 2005):**

Of 44,803 NSDUH respondents aged 18 or older

– **2,663 respondents lived in the Gulf State Disaster Area**

- **Post-hurricane sample (Jan 2006 – Dec 2006)**

Of 44,931 NSDUH respondents aged 18 or older

– **2,699 respondents lived in the Gulf State Disaster Area**

Measures

- **Substance use**
 - **Illicit drug, marijuana, non-medical use of prescription drugs, binge alcohol, cigarettes (past 30 days)**
 - **Substance Use Disorder (past year)**
- **Mental health (past year)**
 - **Major depressive episode (MDE)**
 - **Serious psychological distress (SPD) (K-6 of 13+)**
 - **Receipt of mental health treatment or counseling**
 - **Unmet need for mental health treatment**

Population Estimates (Millions), by State

State	Gulf State Disaster Area		Total State	
	July 2004 to June 2005	2006	July 2004 to June 2005	2006
Total disaster area	14.2	14.4	37.9	38.8
Alabama	1.4	1.4	3.3	3.4
Florida	4.0	4.1	13.3	13.7
Louisiana	2.6	2.4	3.2	3.1
Mississippi	1.8	1.8	2.1	2.1
Texas	4.4	4.6	15.9	16.5

Population Estimates (Percentages), by Demographic Characteristics

Demographic Characteristic	Gulf State Disaster Area	
	July 2004 to June 2005	2006
Population (Millions)	14.2	14.4
AGE		
18 to 25	15.2%	14.9%
26 to 49	46.5%	45.7%
50 or older	38.3%	39.4%
GENDER		
Male	47.6%	47.7%
Female	52.4%	52.3%
RACE/ETHNICITY		
White	55.2%	54.3%
Black	21.9%	22.0%
Hispanic	19.2%	20.0%

Preliminary Results

**Pre –Post Comparisons of the Gulf State
Disaster Area population**

Past Month Substance Use among Adults: Pre- and Post-Hurricanes

Substance Use	Gulf State Disaster Area	
	July 2004 to June 2005	2006
Illicit Drug Use	7.8%	6.2%
Marijuana Use **	5.3%*	3.7%
Nonmedical Use of Prescription Type Drugs	3.3%	3.0%
Binge Alcohol Use	26.0%	22.7%
Cigarette Use	27.7%	26.0%

* Estimate is significantly different ($p < .05$) from 2006 estimate

Note: There were no significant changes in perceived availability of marijuana in this time period.

Past Year Substance Use Disorder / Mental Health Problems Among Adults: Pre- and Post-Hurricanes

SUD /Mental Health	Gulf State Disaster Area	
	July 2004 to June 2005	2006
Substance Use Disorder	10.7%	9.1%
Serious Psychological Distress	12.2%	10.7%
Major Depressive Episode	7.4%	7.4%

Past Year Mental Health Treatment among Adults: Pre- and Post-Hurricanes

Mental Health Treatment	Gulf State Disaster Area	
	July 2004 to June 2005	2006
Receipt of Mental Health Treatment or Counseling	13.1%	11.0%
Unmet Need for Mental Health Treatment or Counseling	4.8%	3.8%

Findings: Pre-Post Hurricane analysis

- **Significant difference in rates (lower) of:**

- **past month marijuana use**

- **No significant difference in rates of:**

- **illicit drug use, binge alcohol use, substance use disorder**

- **Serious Psychological Distress, Major Depressive Episode, mental health treatment or unmet need for mental health treatment**

.... among adults 18 years or older in the Gulf State Disaster Area at these two time periods

Impact of Displacement on Gulf State Disaster Area Residents

- **Displacement questions in 2006 NSDUH**
 - **In what state did you live in August of 2005, just before Hurricane Katrina hit the Gulf coast?**
 - **Did you leave your home and stay in temporary housing overnight or longer because of the Hurricane (Katrina and/or Rita)? ***
 - **How long did you stay in temporary housing because of a hurricane?**

***asked of those living in Alabama, Florida, Mississippi, Texas or Louisiana in 2005**

Gulf State Disaster Area Residents, by Displacement Status (2006)

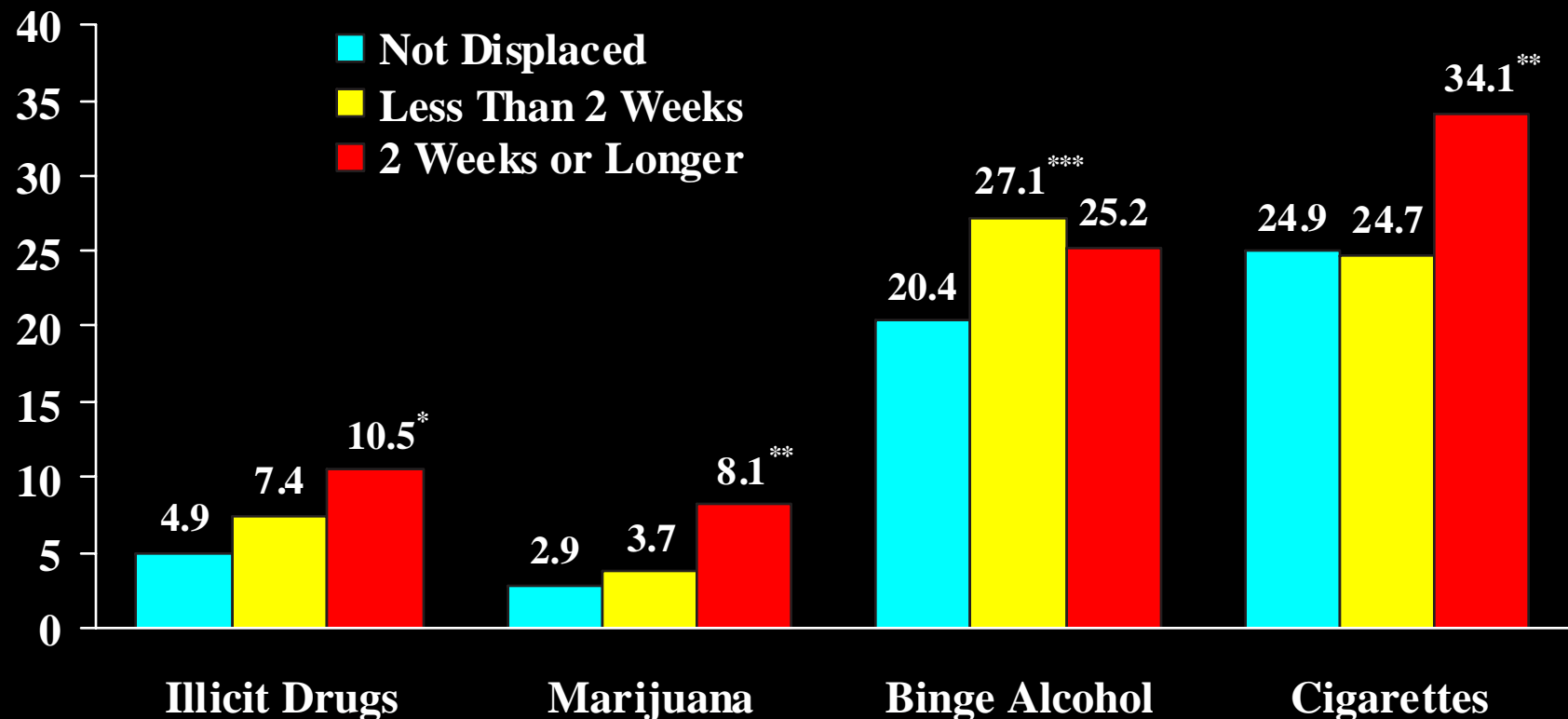
Population Estimate	Total	Displacement Status		
		Not Displaced	Less than 2 Weeks	2 Weeks or Longer
Millions	14.1	9.2	3.4	1.5
Percent	100%	65.7%	23.9%	10.4%

Gulf State Disaster Area Residents, by Displacement Status and State (2006)

State	Total	Displacement Status		
		Not Displaced	Less than 2 Weeks	2 Weeks or Longer
Total	100%	100%	100%	100%
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

Past Month Substance Use among Gulf Coast Disaster Area Residents, by Displacement Status (2006)

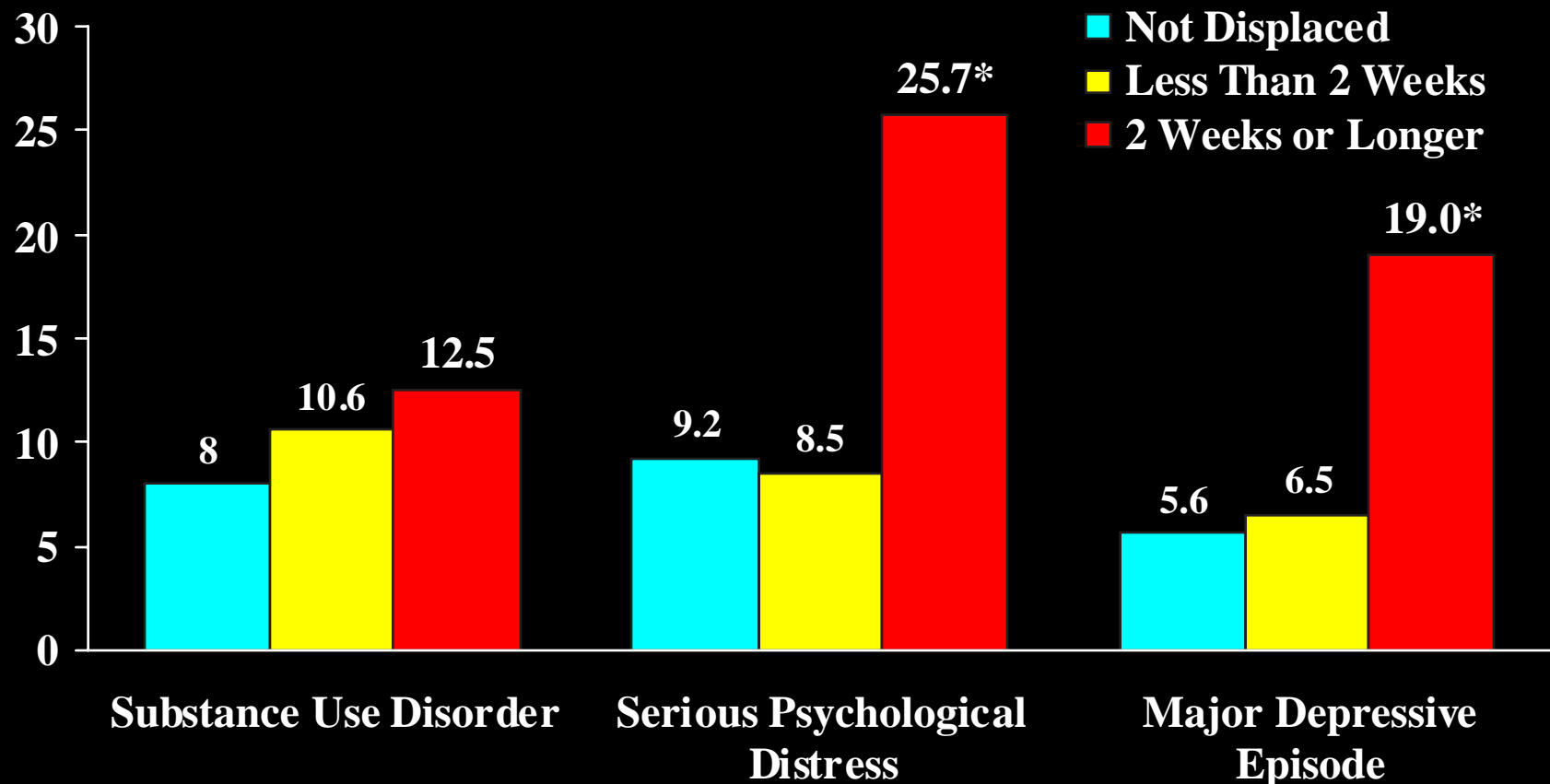
Percent Using in Past Month



* 2 weeks or longer significantly higher ($p < .05$) than Not Displaced
** 2 weeks or longer significantly higher ($p < .05$) than other categories
*** Less than 2 weeks significantly higher ($p < .05$) than Not Displaced

Past Year Substance Use Disorder and Mental Health Problems among Gulf Coast Disaster Area Residents, by Displacement Status (2006)

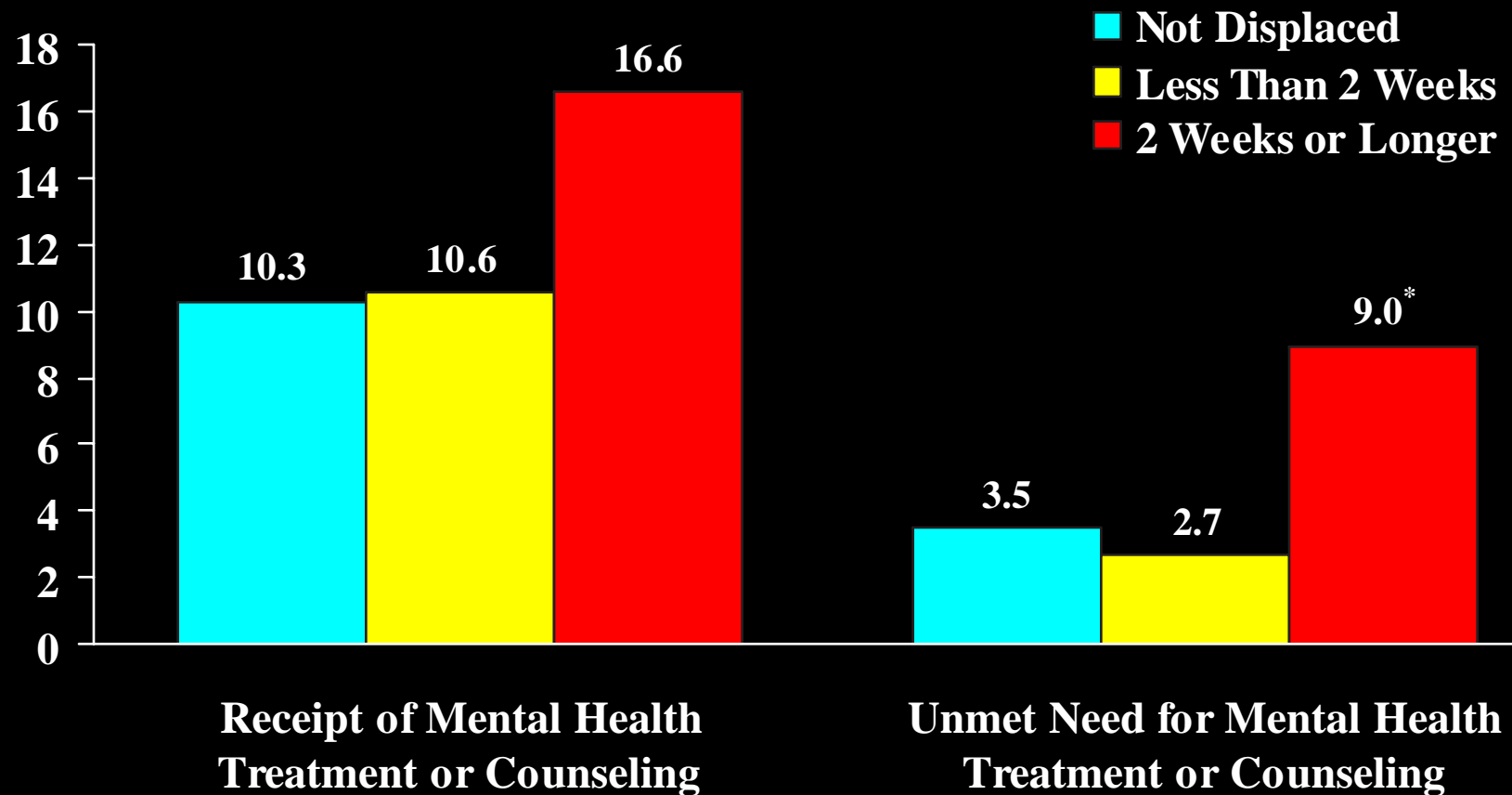
Percent



* 2 weeks or longer significantly higher ($p < .05$) than other categories

Past Year Mental Health Service Use and Unmet Need among Gulf State Disaster Area Residents, by Displacement Status

Percent



* 2 weeks or longer significantly higher ($p < .05$) than other categories

Findings: Displacement analysis

- **Significantly higher rates of:**

- **Illicit drug use**

- **Marijuana use**

- **Cigarette use**

- **Serious psychological distress**

- **Major depressive episode**

- **Unmet need for mental health treatment or counseling**

... among adults displaced 2 weeks or longer compared to adults who were not displaced

Findings: Displacement analysis (con't)

- **No significant difference in rates of :**
 - **past month non-medical use of prescription-type drugs**
 - **past year Substance Use Disorder**
 - **past year receipt of mental health treatment**

**...among adults displaced 2 weeks or longer
compared to adults who were not displaced**

Logistic Regression Models

- Recognizing increased prevalence rates in the displaced group may be confounded by other factors...

Significant differences between the Not Displaced and Displaced 2 weeks or Longer groups were further tested in logistic regression models controlling for:

- Age
- Gender
- Education
- Race/ethnicity
- Family income
- State

Adjusted Odds Ratios from the Logistic Regressions

	<u>Odds Ratio</u>	<u>(CI)</u>
– Past month illicit drug use	1.96	(1.2 – 3.2)*
– Past month Marijuana use	2.70	(1.5 - 4.9)*
– Serious Psychological Distress	2.76	(1.6 – 4.6)*
– Major Depressive Episode	2.77	(1.6 – 4.9)*
– Past month cigarette use	1.47	(.97 – 2.2)
– Unmet need treatment/counseling	1.82	(.68 – 4.8)

*significant

Note: OR's for Displaced 2 weeks or longer relative to Not Displaced

Closing

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Sample Size: 67,500 respondents per year

Coverage: Obtains county level data within all states

Periodicity: Representative sample each Quarter

**NSDUH has a unique capacity for post-disaster
substance use and mental health surveillance and
impact analysis**