



# Mental Illness and Substance Use/Abuse in San Diego County Emergency Departments



August 13, 2009

# Emergency Department (ED) Discharge Data - Background

- Emergency Department (ED) data reported to OSHPD
  - Section 128736 of California Health and Safety Code
    - Billing Data
  - Includes all EDs providing standby, basic, or comprehensive services
  - Originally scheduled for January 2002
    - Postponed; Collection began January 2005
  - Quarterly reporting through MIRCal
    - 45 days after each reporting period

# Emergency Department (ED) Discharge Data - Background

- Public/private partnership
  - County of San Diego Public Health Services, Emergency Medical Services (EMS)
  - Hospital Association of San Diego and Imperial Counties (HASD&IC)
  - Community Health Improvement Partners (CHIP)
- Use of data
  - Used in aggregate form for public health surveillance
  - Hospitals receive individual reports describing own data

## Emergency Department (ED) Discharge Data - Background

- Voluntary reporting of data by civilian hospitals to EMS
  - 18 civilian EDs
    - 16 report data
    - >97% of all ED discharges included
  - Reported quarterly
  - Same timeline & format as required by the California Office of Statewide Health Planning & Development (OSHPD)

## Emergency Department (ED) Discharge Data - Background

- Includes patients **treated & discharged** from the ED
  - Patients who presented to the ED and were hospitalized are not included (~17%)
- Represents medical encounters for **less severe** non-fatal injury or illness
- More complete and timely than hospital discharge
- Caveat:
  - Cannot identify multiple visits by the same person

# Data Elements

- Facility ID Number
- Patient ZIP code
- Age
- Sex
- Race
- Ethnicity
- Service Date
- Patient Disposition
- Expected Source of Payment
- Principal Diagnosis
- Other Diagnoses
- Principal E-Code
- Other E-Codes
- Principal Procedure (CPT-4)
- Other Procedures
- *Language Spoken (Jan 2009)*

# Available ED Data

- Three full years of ED data
  - Total Number of ED Discharges:
    - 2006: 584,319
    - 2007: 597,490
    - 2008: 618,957
  - Rate of ED Discharge
    - 2006: 19,069.8 per 100,000
    - 2007: 19,299.2 per 100,000
    - 2008: 19,672.7 per 100,000

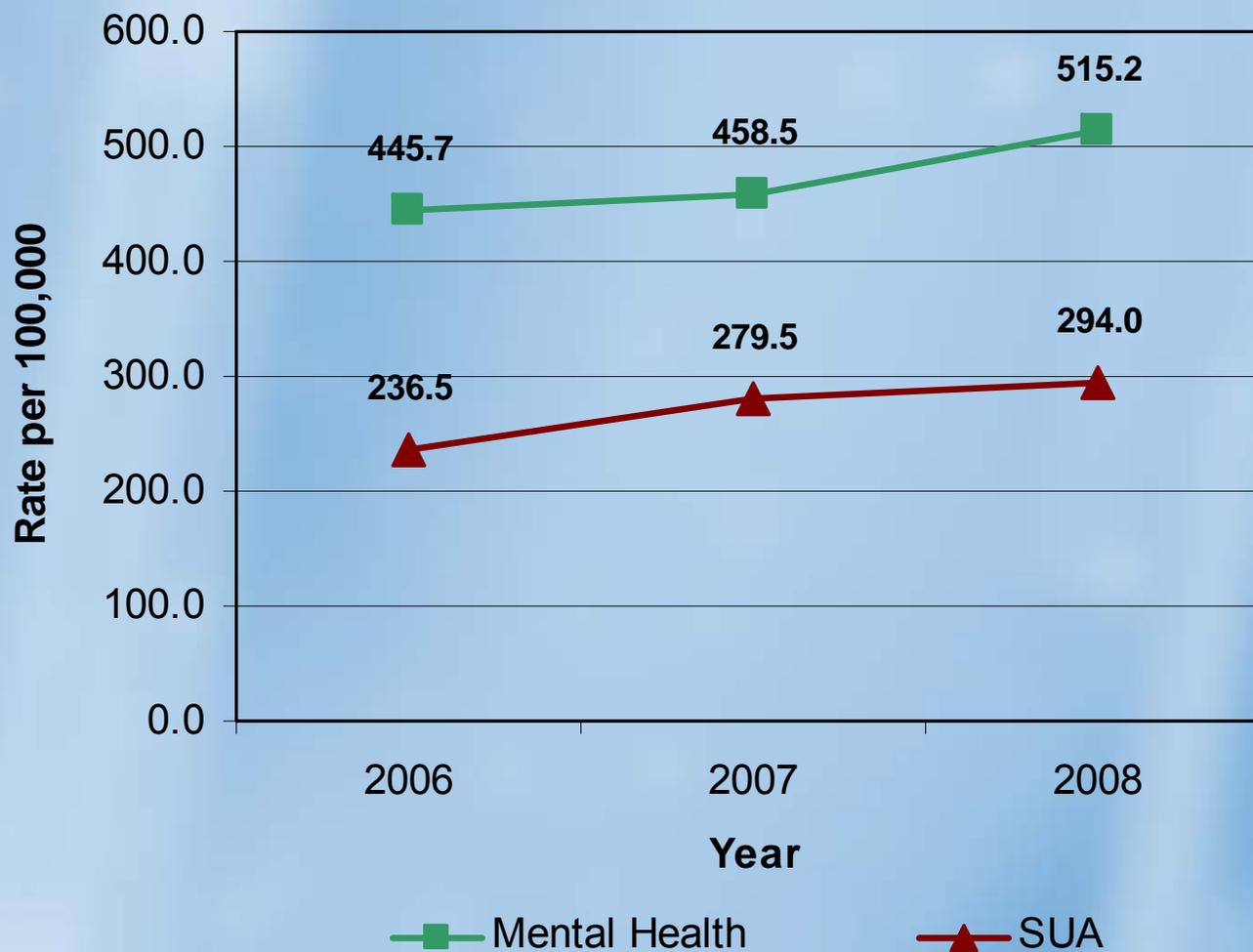
# Methods

- CY 2006, 2007 & 2008 records were examined
- All records with a “Mental Disorder” diagnosis code in any diagnosis field were extracted
  - ICD-9-CM 290–319
  - “Any diagnosis” refers to a mental disorder diagnosis in any one or more of the 25 diagnosis fields
  - “Principal diagnosis” refers to a mental disorder diagnosis in the principal diagnosis field

# Methods

- 263,116 total patients identified (14.6%)
  - Any mental illness: ICD-9-CM 290, 293-302, 306-319
    - 148,764 patients with any MI diagnoses
    - 44,074 patients with a principal diagnosis
  - Any substance use/abuse: ICD-9-CM 291-292, 303-305
    - 142,809 patients with any SUA diagnoses
    - 25,155 patients with a principal diagnosis

## Rate of ED Discharge with a Principal Diagnosis of Either Mental Illness or SUA by Year (N=69,229)

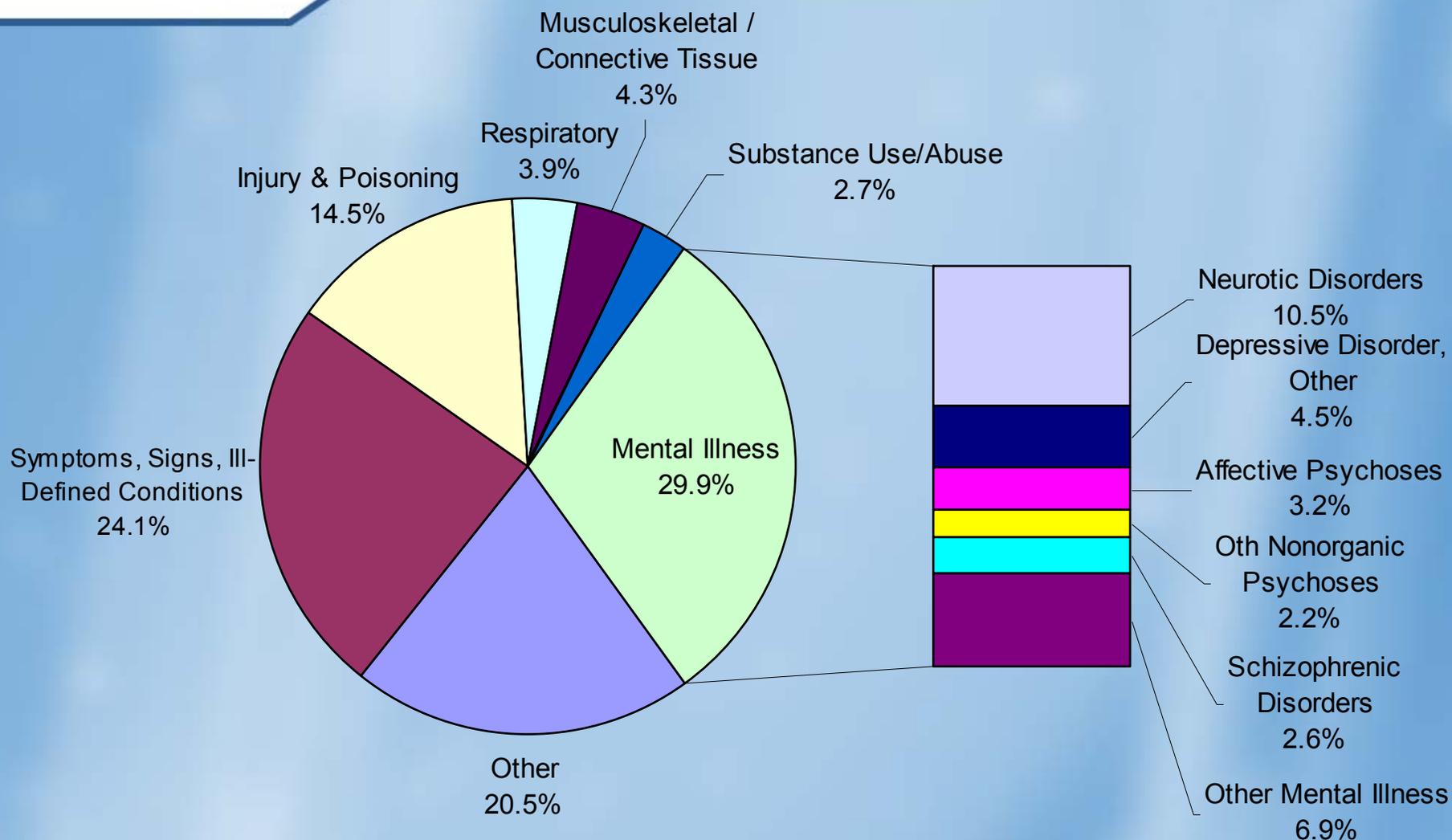


# Mental Illness in the Emergency Department

# Mental Illness (MI)

- 148,764 patients with any MI diagnosis (8.3%)
  - 44,074 patients with a principal diagnosis of MI (30%)
    - 10,521 with at least one additional MI diagnosis (24%)
    - 8,761 with at least one additional SUA diagnosis (20%)
  - 28,471 patients with any SUA diagnosis (19%)

# Principal Diagnosis of ED Discharges With Any Mental Illness, 2006-2008 (N = 148,764)



Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

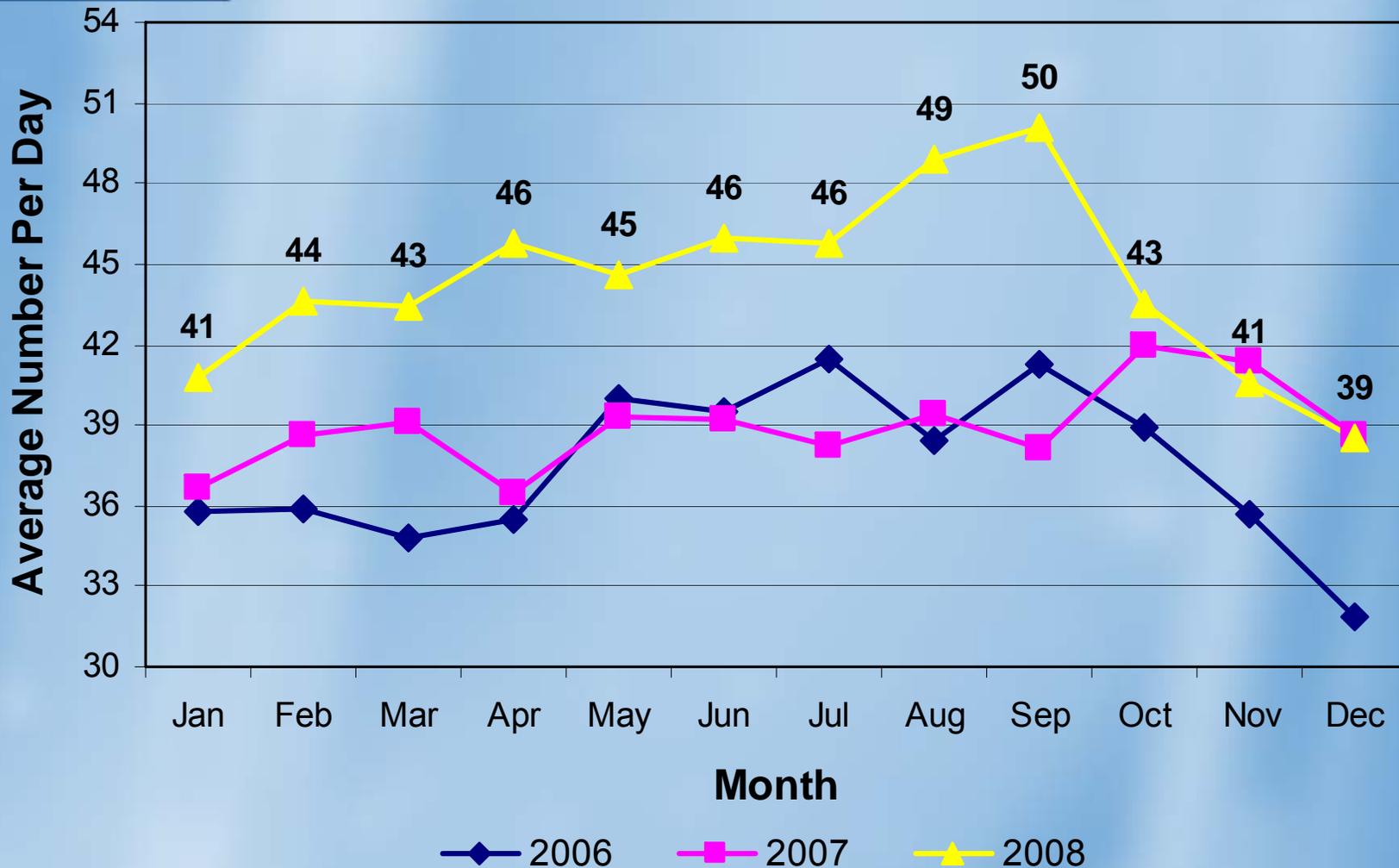
## Top Ten Mental Illness Principal Diagnoses, 2006-2008

Mental Illness Diagnosis	Frequency	Percent*
Anxiety States	13,470	30.6%
Other Depressive Disorder	6,761	15.3%
Unspecified Nonorganic Psychoses	3,058	6.9%
Unspecified Schizophrenia	1,506	3.4%
Manic-Depressive Psychosis, Other & Unspecified	1,403	3.2%
Postconcussion Syndrome	1,268	2.9%
Respiratory Malfunction Arising From Mental Factors	1,266	2.9%
Major Depressive Disorder, Single Episode	1,167	2.6%
Unspecified Neurotic Disorder	1,142	2.6%
Schizo-Affective Type Schizophrenia	1,064	2.4%

Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

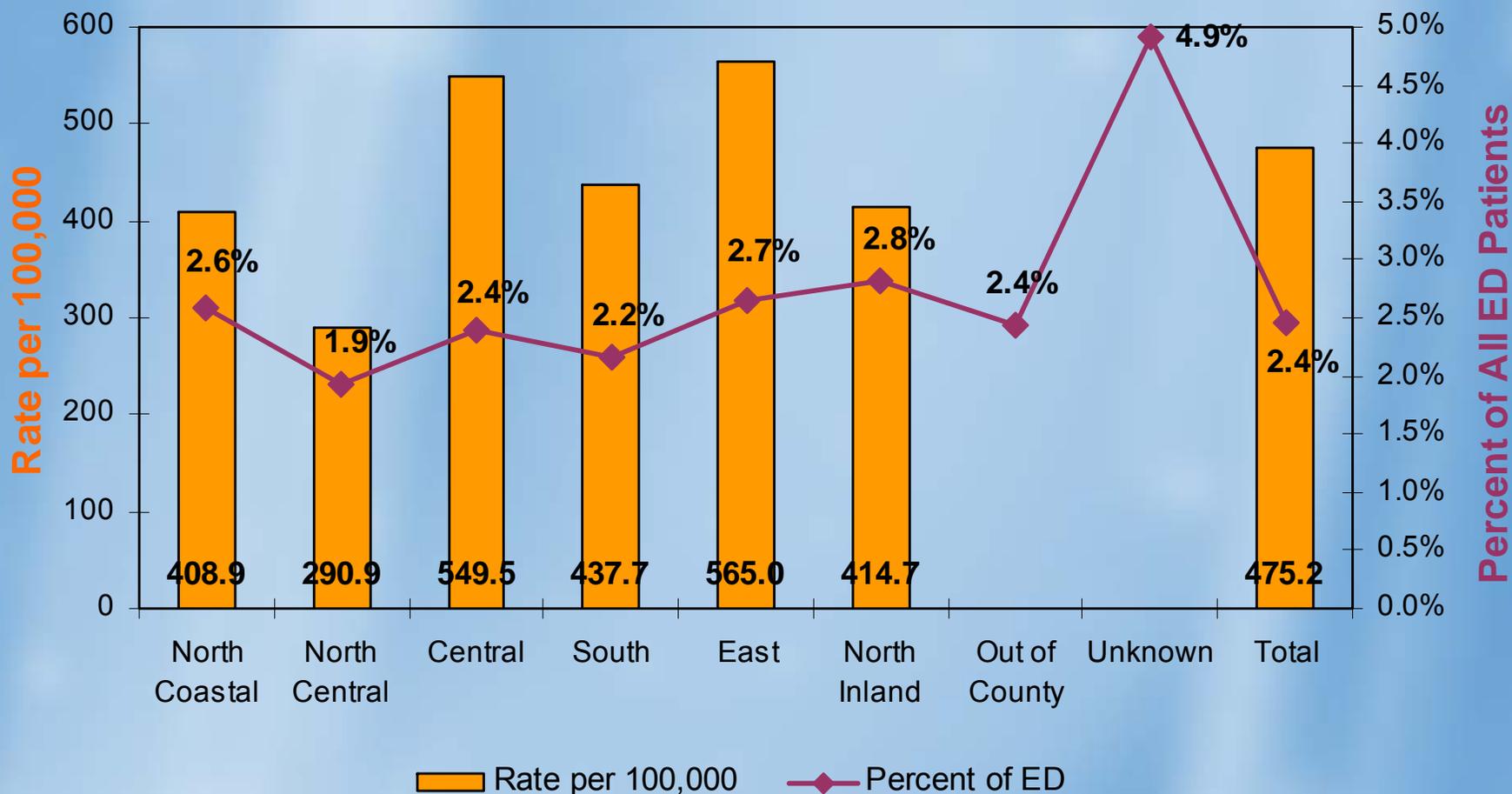
\*Percent represents percent of all MI principal diagnoses

# ED Discharges With a Principal Diagnosis of Mental Illness by Month and Year (N = 44,074)



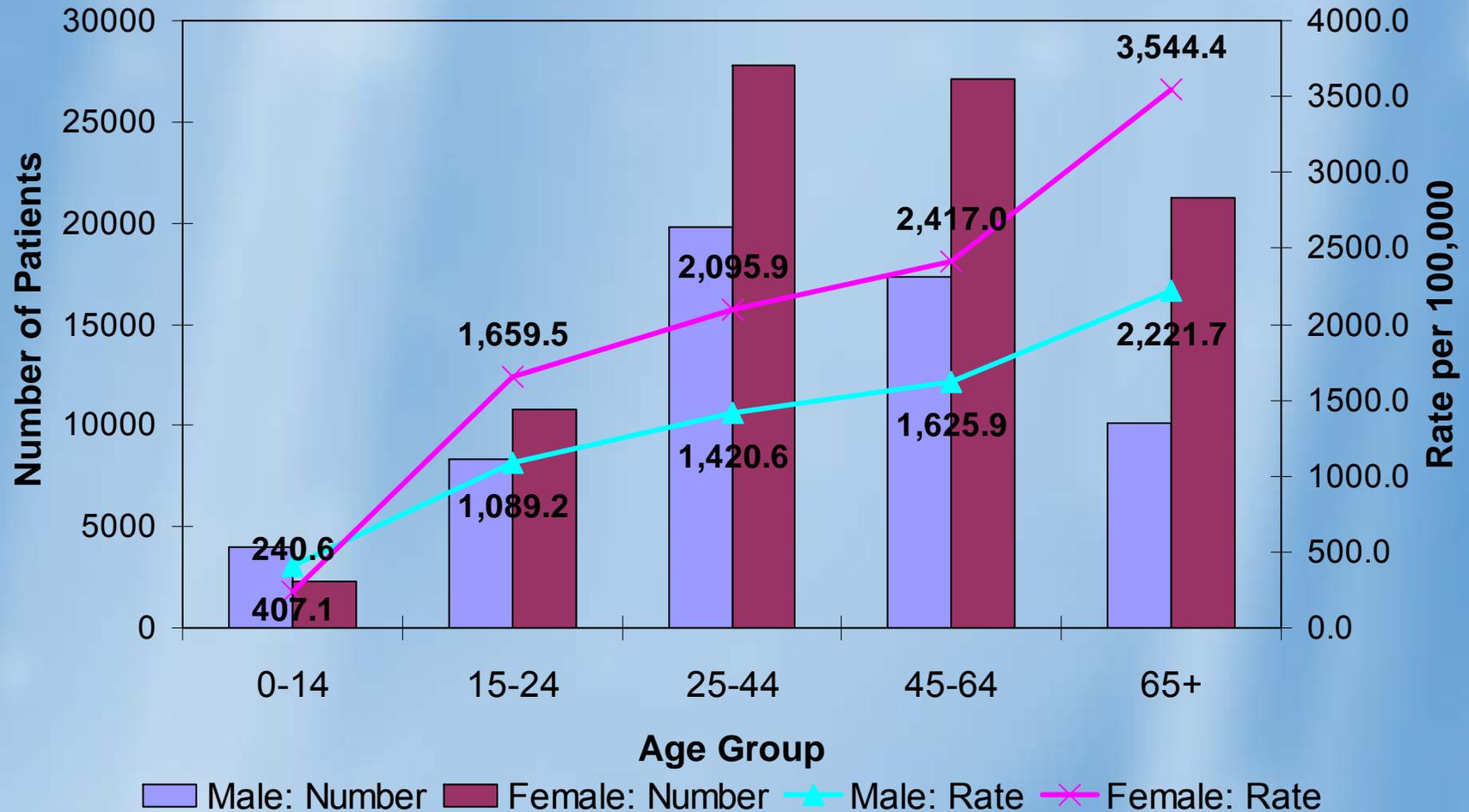
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

# ED Discharges With a Principal Diagnosis of Mental Illness by Region of Residence, 2006-2008, (N = 44,074)

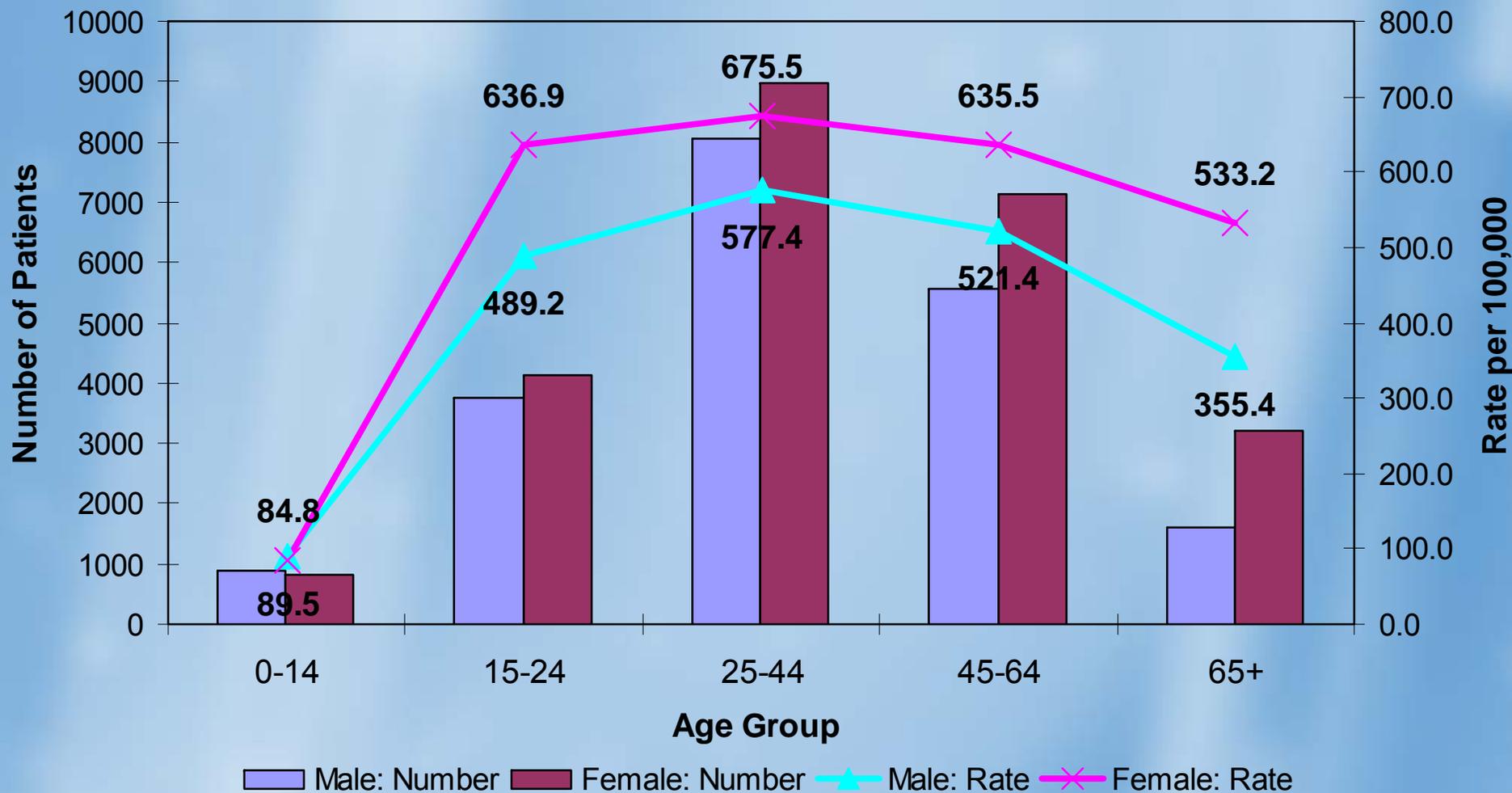


Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

# ED Discharges With Any Mental Illness Diagnoses by Age Group and Gender, 2006-2008, (N = 148,764)

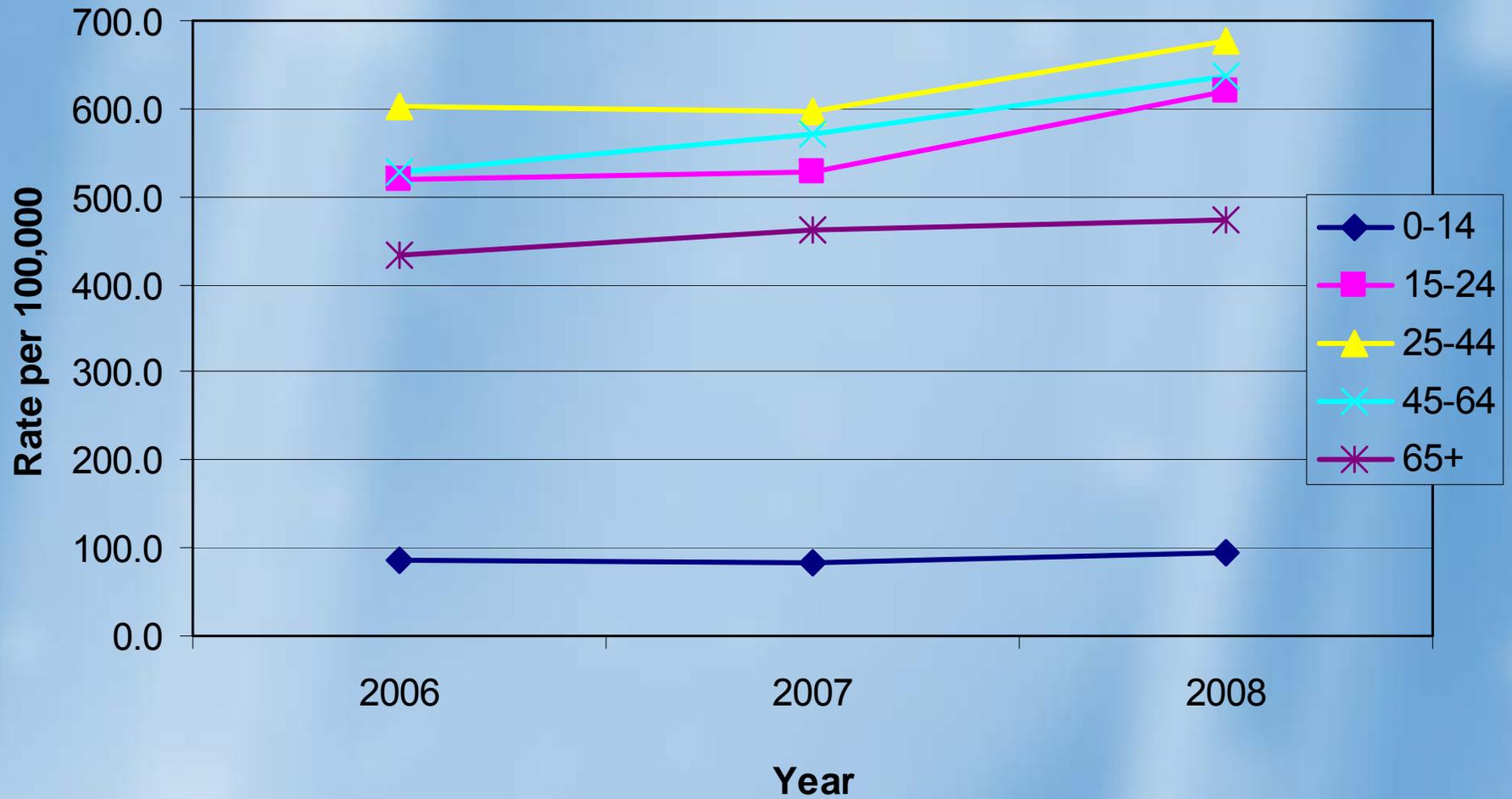


# ED Discharges With a Principal Diagnosis of Mental Illness by Age Group and Gender, 2006-2008, (N = 44,074)



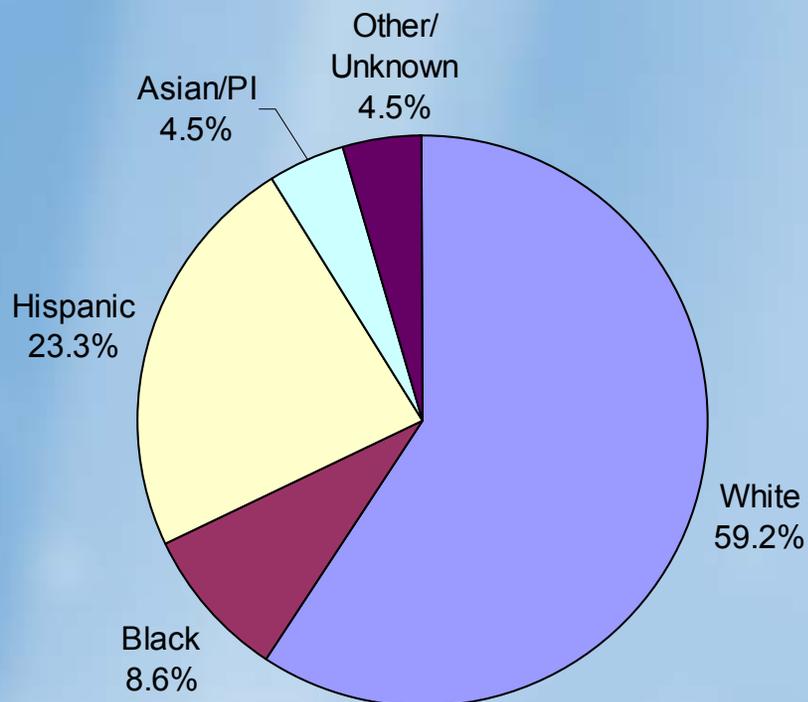
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

# ED Discharges With a Principal Diagnosis of Mental Illness by Age Group and Year (N = 44,074)

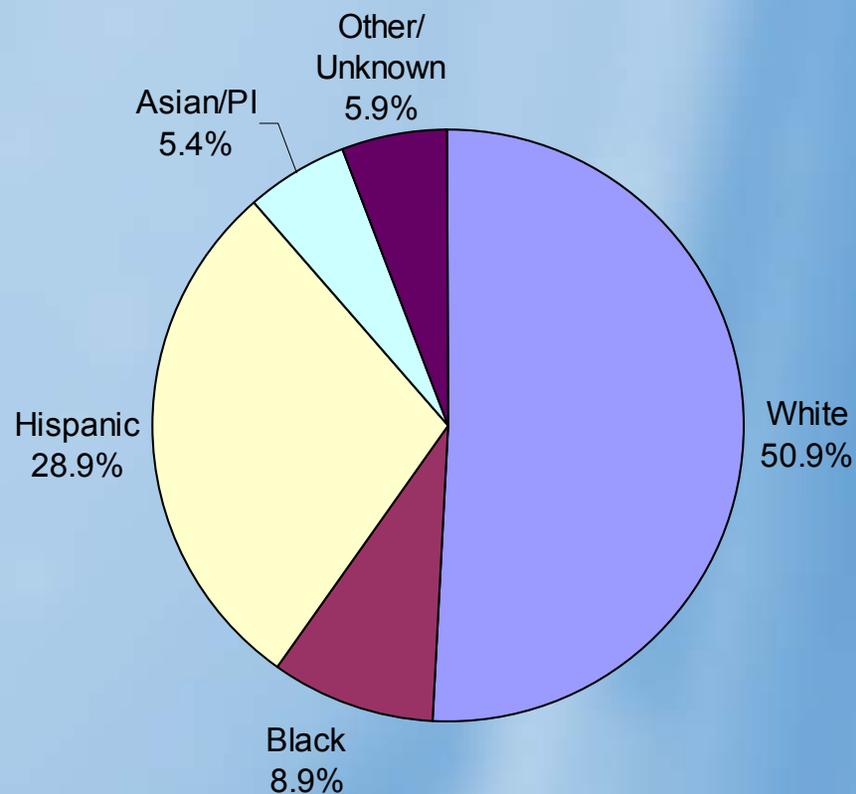


# ED Discharges by Race/Ethnicity, 2006-2008

ED Discharges With a  
Principal Diagnosis of MI  
(N = 44,074)



All ED Discharges  
(N = 1,800,766)

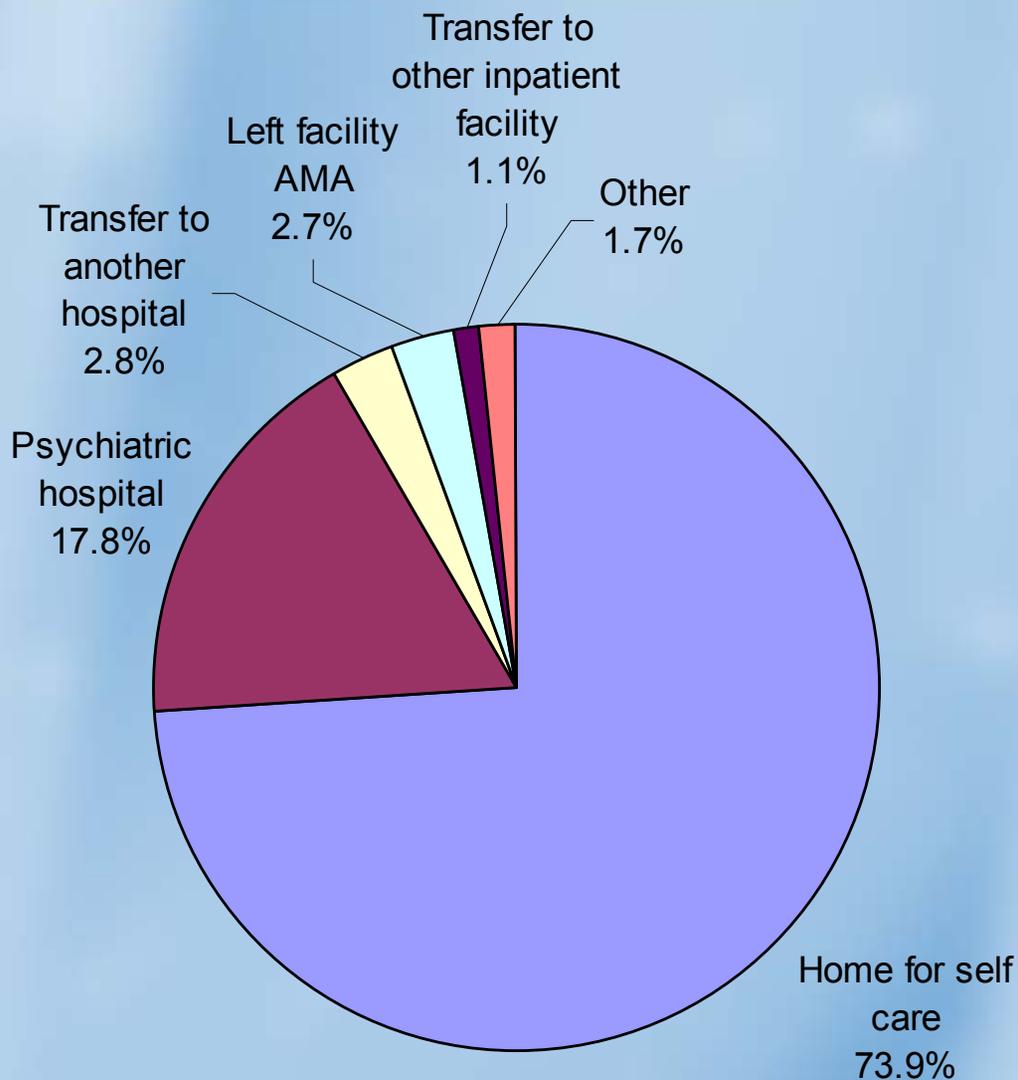


# ED Discharges With a Principal Diagnosis of Mental Illness by Race/Ethnicity, 2006-2008, (N = 44,074)



Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2007

## ED Discharges With a Principal Diagnosis of Mental Illness by Disposition, 2006-2008, (N = 44,074)

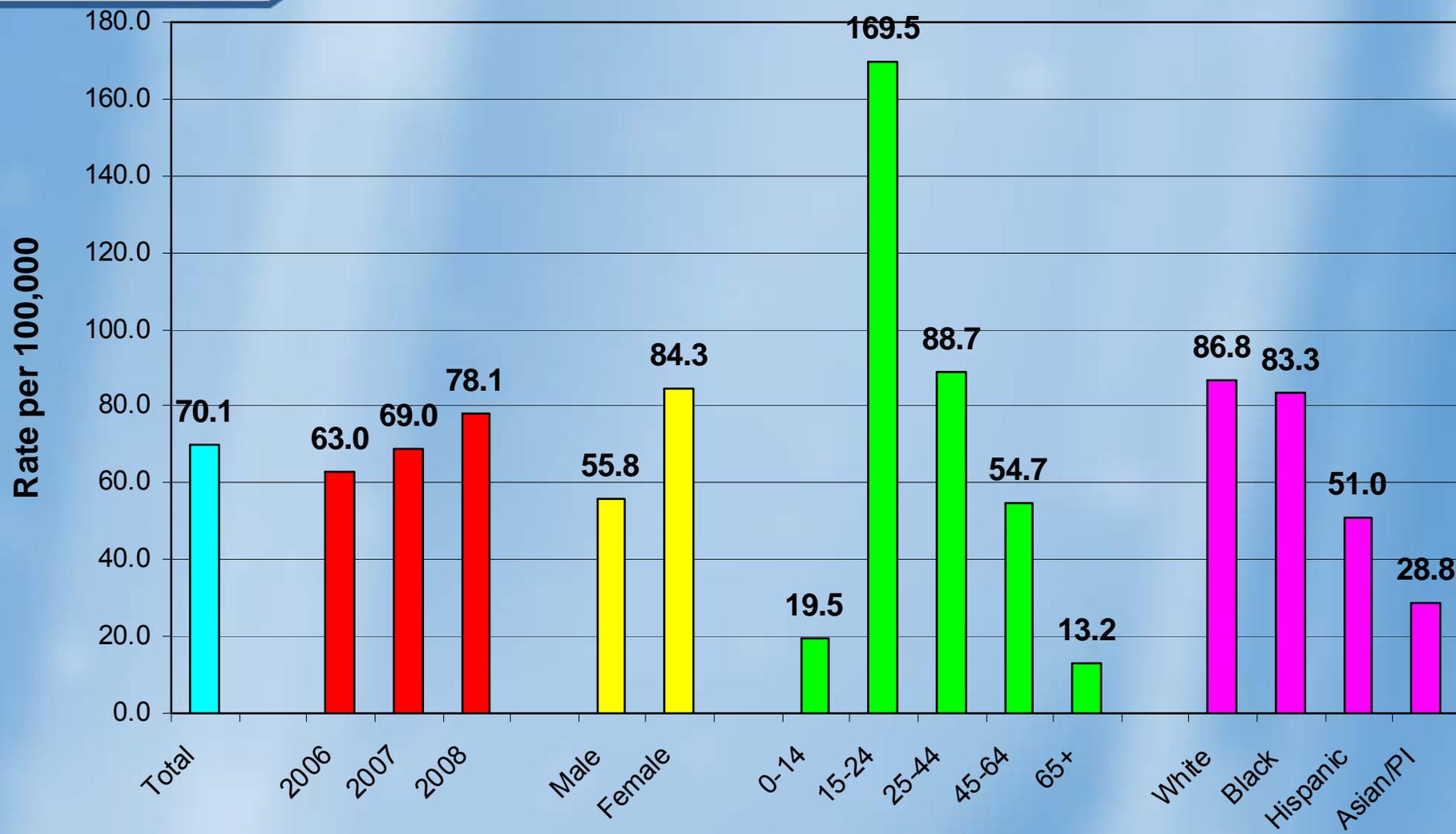


Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

## Mental Illness and Self-Inflicted Injury

- 4,233 ED discharge patients with any mental illness diagnosis (16.3%) were also reported to have a self-inflicted injury.
  - 3,214 (76%) had a principal diagnosis of injury and poisoning, 822 (19%) had a principal diagnosis of mental illness, and 71 had a principal diagnosis of substance use or abuse.
  - 1,343 (32%) were also diagnosed with substance use/abuse.
- 6,525 of all ED discharge patients (0.4%) were reported to have a self-inflicted injury.
  - 4,233 also had a mental illness diagnosis (65%).
  - 1,980 also had a substance use or abuse diagnosis (30%).

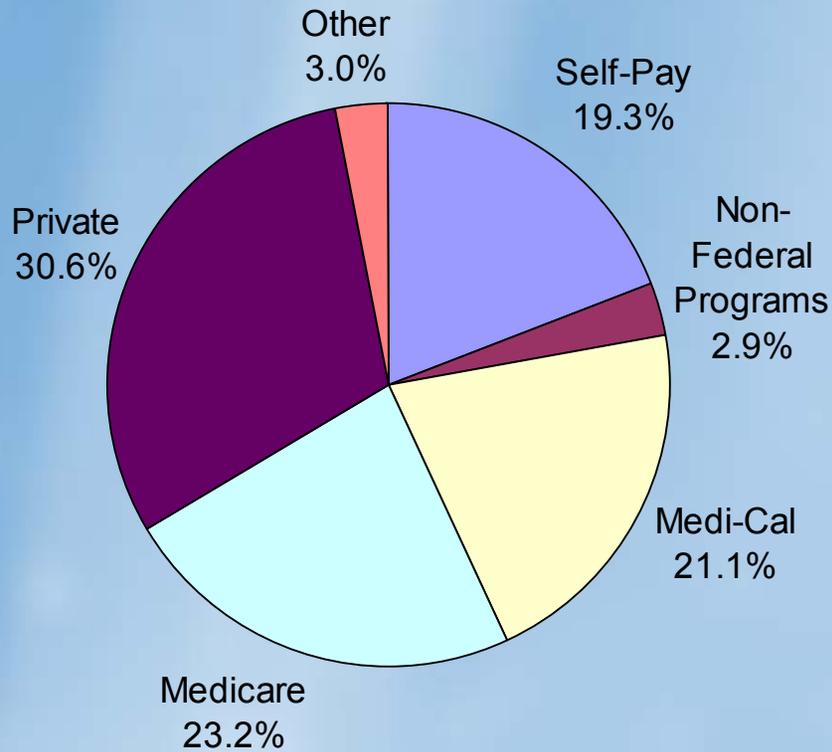
# Rate of ED Discharge for Self-Inflicted Injury by Year, Gender, Age, and Race/Ethnicity, 2006-2008, (N = 6,525)



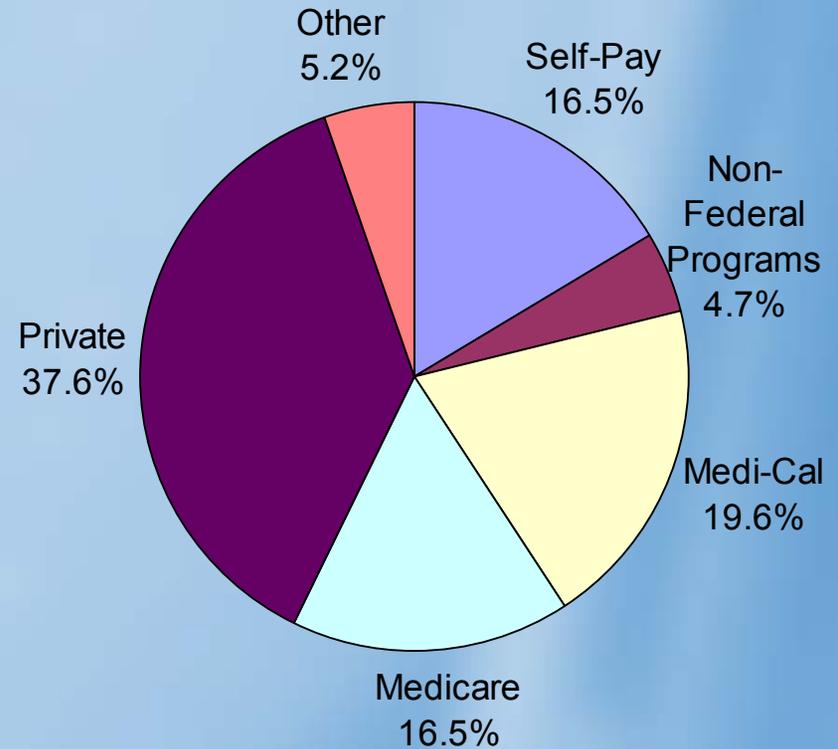
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008.

# ED Discharges by Expected Source of Payment, 2006-2008

ED Discharges With a  
Principal Diagnosis of MI  
(N = 44,074)



All ED Discharges  
(N = 1,800,766)

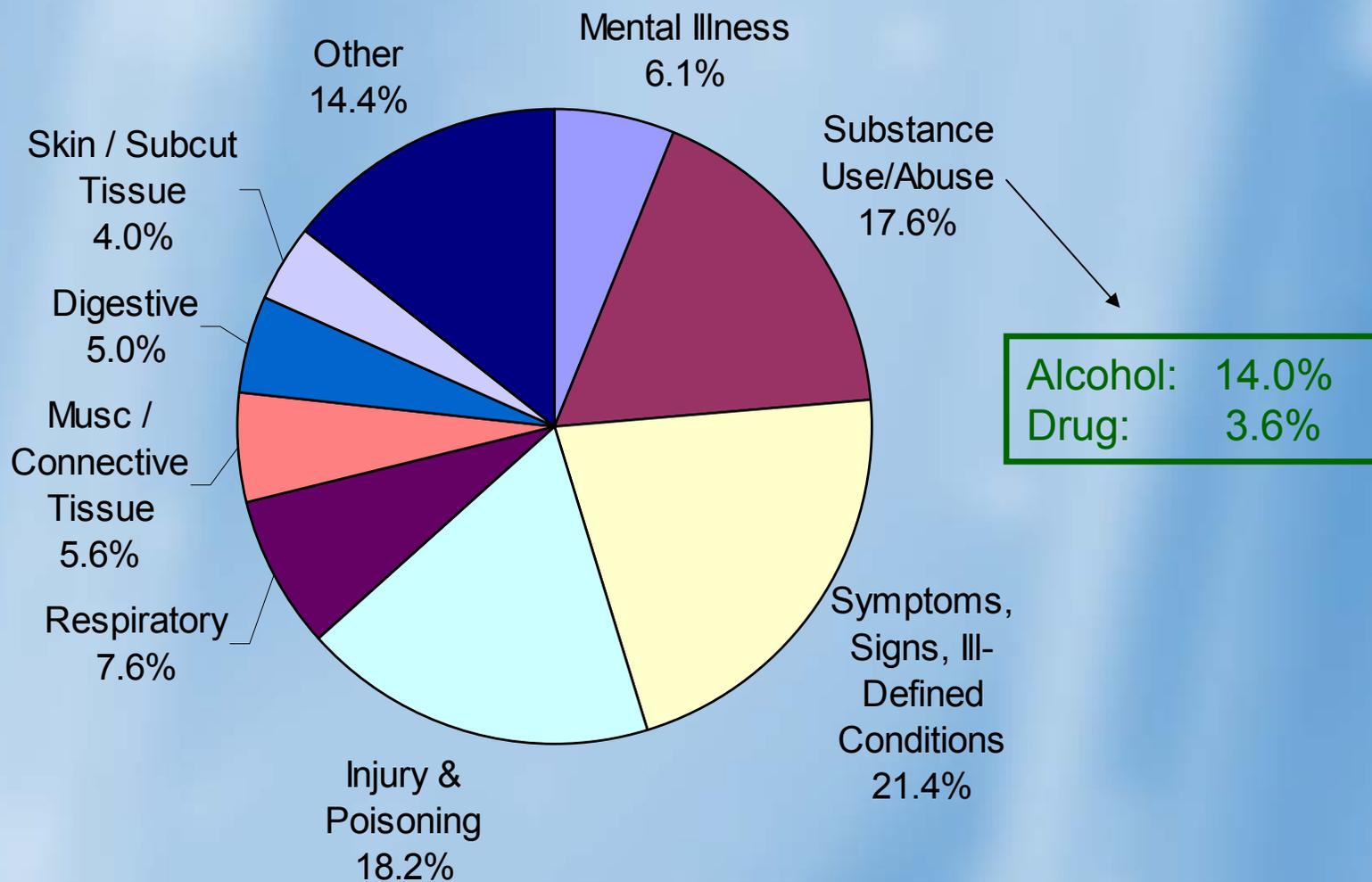


# Substance Use/Abuse in the Emergency Department

# Substance Use/Abuse

- 142,809 ED discharges identified with any substance use/abuse diagnoses (7.9%)
  - 25,155 with a principal diagnosis of substance use/abuse (18%)
    - 4,513 were also diagnosed with a mental illness (18%)
  - 28,471 were also diagnosed with a mental illness (20%)

# Principal Diagnosis of ED Discharges With Any Substance Use/Abuse Diagnoses, 2006-2008, (N = 142,809)

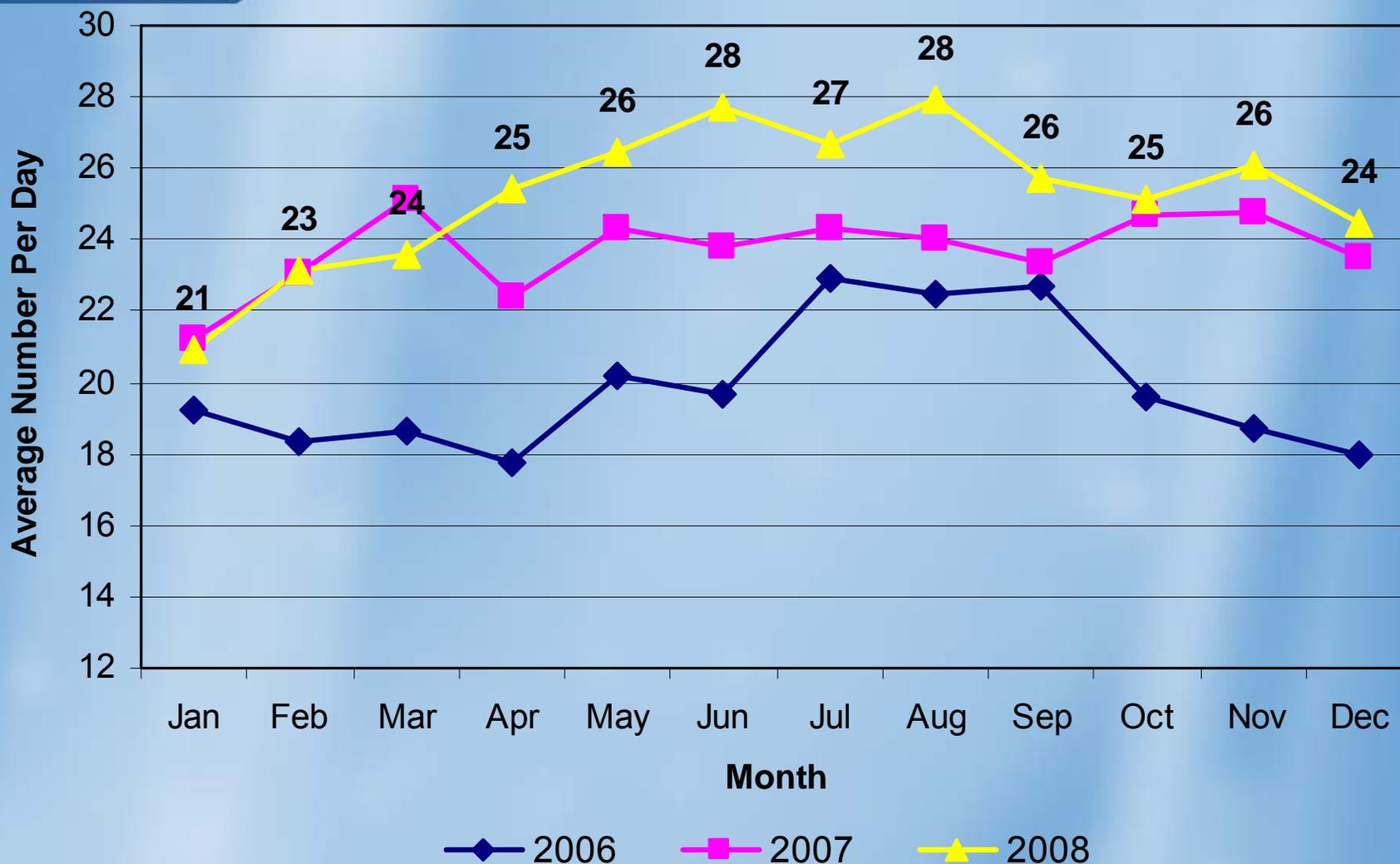


## Top Sixteen Substance Use/Abuse Principal Diagnoses, 2006-2008, (N = 25,155)

	Number	Percent
Alcohol Abuse	11189	44.5%
Acute Alcoholic Intoxication	3908	15.5%
Other Specified Alcoholic Psychosis	3596	14.3%
Drug Withdrawal Syndrome	1456	5.8%
Other & Unspecified Alcohol Dependence	1025	4.1%
Amphetamine or Related Acting Sympathomimetic Abuse	929	3.7%
Other, Mixed, or Unspecified Drug Abuse	670	2.7%
Cocaine Abuse	329	1.3%
Other Specified Drug-Induced Mental Disorders	266	1.1%
Cannabis Abuse	261	1.0%
Opioid Abuse	254	1.0%
Opioid Type Dependence	182	0.7%
Tobacco Use Disorder	166	0.7%
Paranoid and/or Hallucinatory States Induced by Drugs	150	0.6%
Other Alcoholic Dementia	123	0.5%
Amphetamine and Other Psychostimulant Dependence	106	0.4%

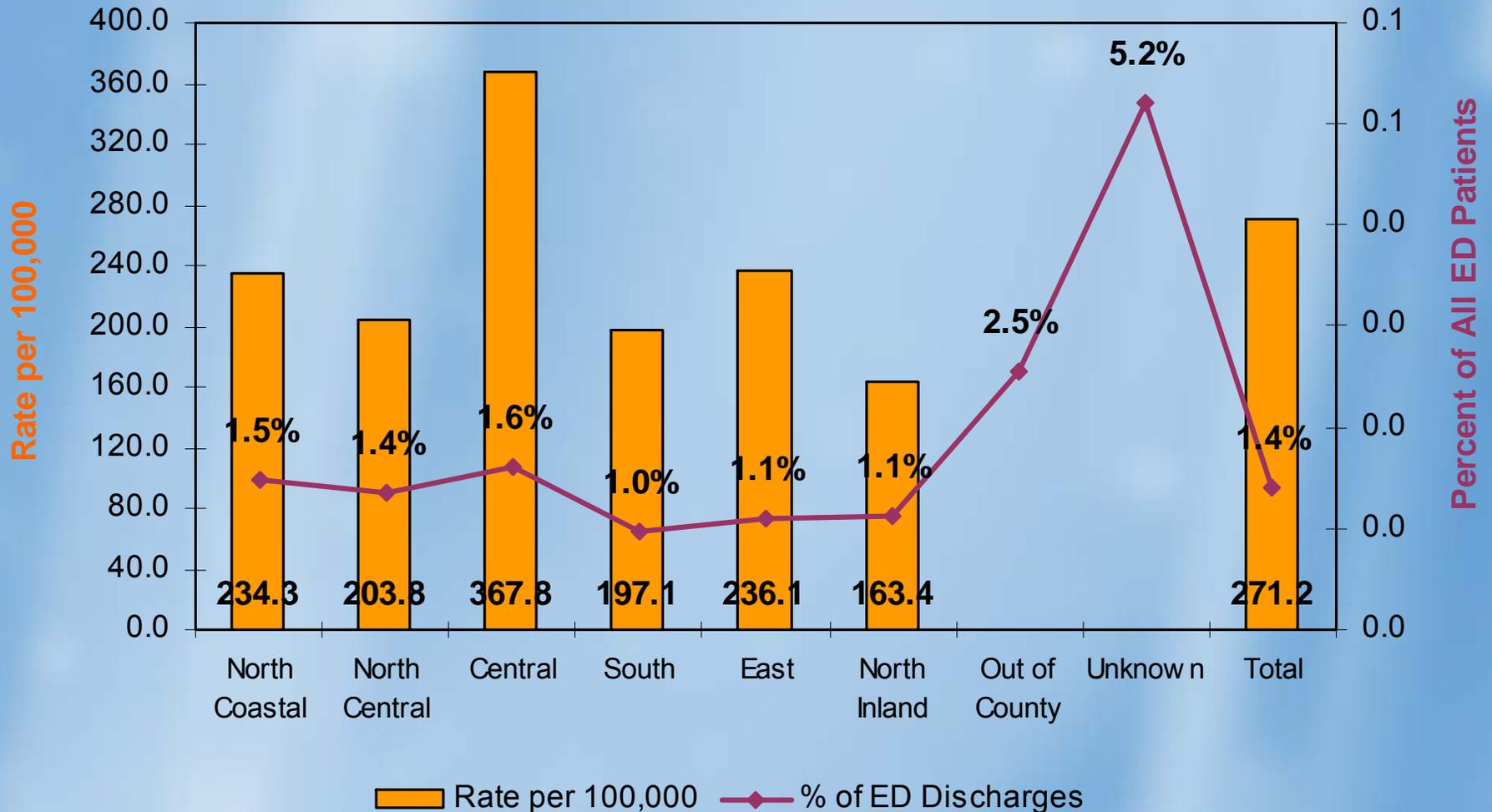
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

# ED Discharges With a Principal Diagnosis of Substance Use or Abuse by Month and Year, (N = 25,155)



Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

# ED Discharges With a Principal Diagnosis of Substance Use/Abuse by Region of Residence, 2006-2008, (N = 25,155)



Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

## ED Discharges With A Substance Use/Abuse Principal Diagnosis by Region of Residence, 2006-2008, (N=25,155)

	North Coastal		North Central		Central		South	
	No.	%	No.	%	No.	%	No.	%
Alcoholic Psychoses	628	17.5	577	16.1	954	17.4	242	8.9
Drug Psychoses	392	10.9	259	7.2	337	6.1	203	7.4
Alcohol Dependence Syndrome	701	19.6	851	23.8	1233	22.5	426	15.6
Drug Dependence	68	1.9	74	2.1	116	2.1	47	1.7
Nondependent Abuse of Alcohol	1465	40.9	1505	42.1	2309	42.1	1377	50.5
Nondependent Abuse of Drugs	326	9.1	310	8.7	536	9.8	433	15.9
<b>Total</b>	<b>3580</b>	<b>100.0</b>	<b>3576</b>	<b>100.0</b>	<b>5485</b>	<b>100.0</b>	<b>2728</b>	<b>100.0</b>

**Alcohol Related:** 78.0% 82.0% 82.0% 75.0%

**Drug Related:** 22.0% 18.0% 18.0% 25.0%

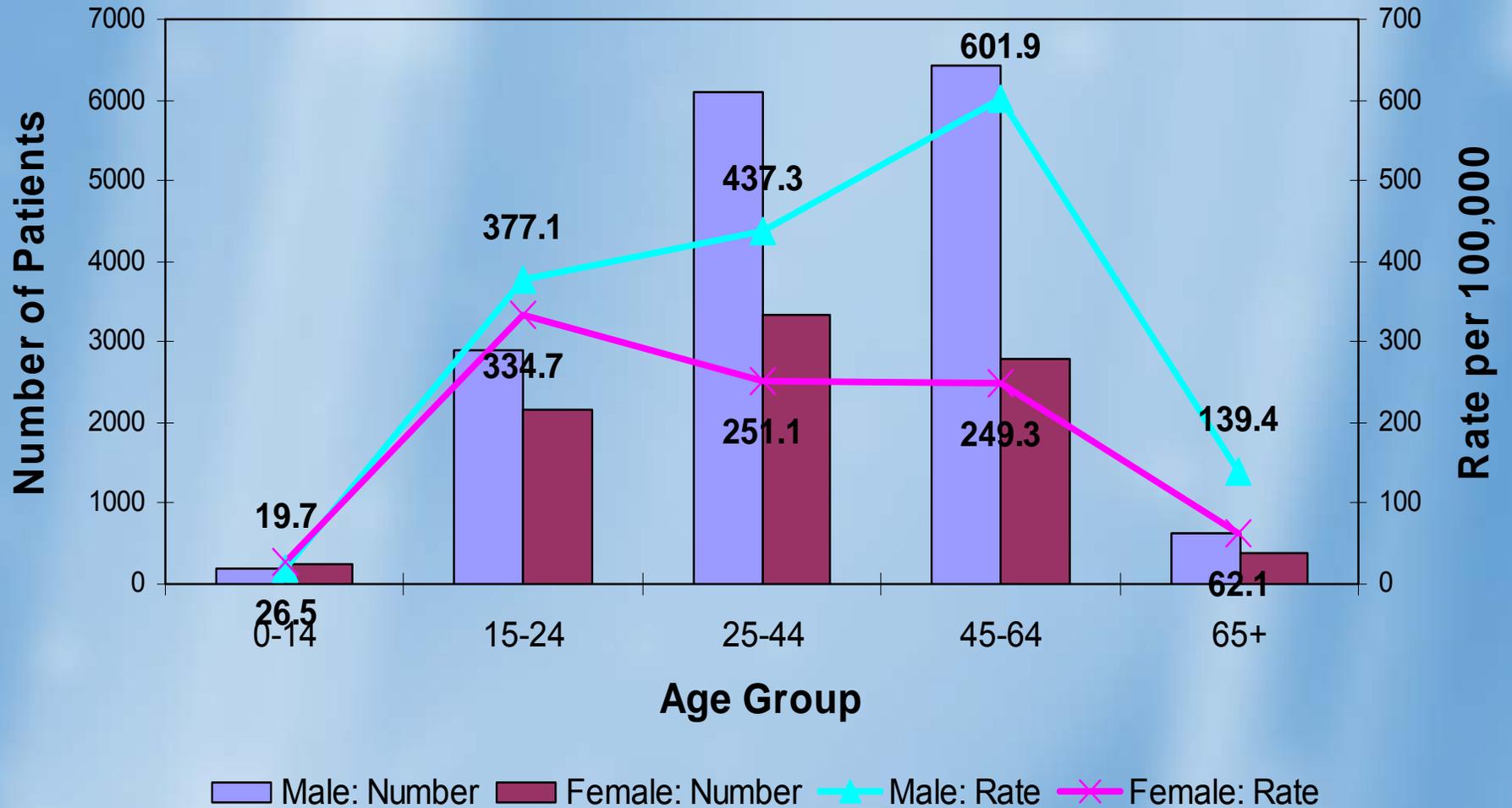
## ED Discharges With A Substance Use/Abuse Principal Diagnosis by Region of Residence, 2006-2008, (N=25,155)

	East		North Inland		Out of County		Unknown	
	No.	%	No.	%	No.	%	No.	%
Alcoholic Psychoses	410	12.3	564	20.6	385	14.0	89	9.2
Drug Psychoses	316	9.5	297	10.9	152	5.5	22	2.3
Alcohol Dependence Syndrome	591	17.7	387	14.2	519	18.9	225	23.2
Drug Dependence	86	2.6	56	2.0	39	1.4	14	1.4
Nondependent Abuse of Alcohol	1470	44.0	1127	41.2	1438	52.4	498	51.4
Nondependent Abuse of Drugs	468	14.0	303	11.1	209	7.6	121	12.5
<b>Total</b>	<b>3341</b>	<b>100.0</b>	<b>2734</b>	<b>100.0</b>	<b>2742</b>	<b>100.0</b>	<b>969</b>	<b>100.0</b>

**Alcohol Related:** 74.0% 76.0% 85.4% 83.8%

**Drug Related:** 26.0% 24.0% 14.6% 16.2%

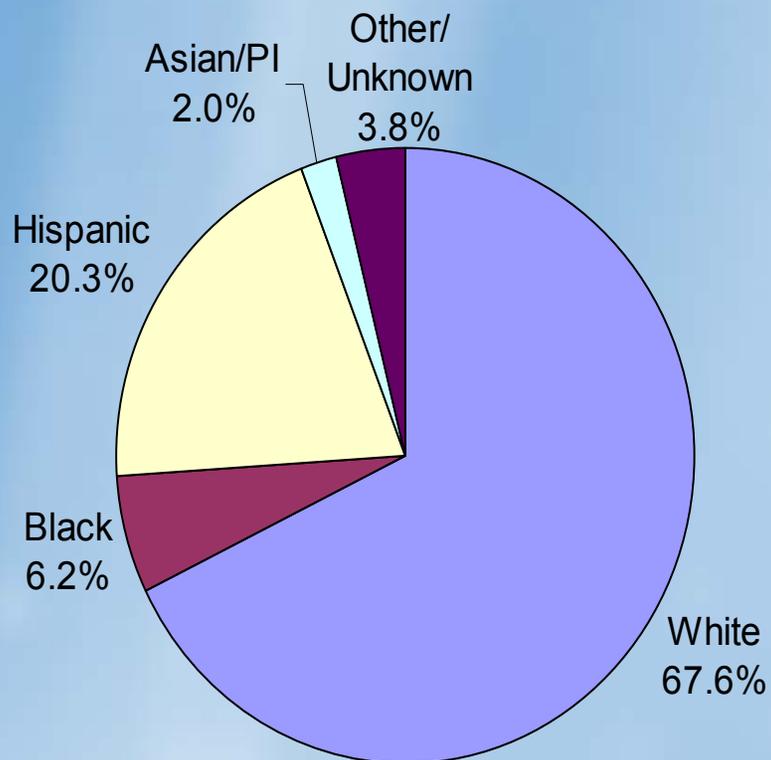
# ED Discharges With a Principal Diagnosis of Substance Use/Abuse by Age Group and Gender, 2006-2008, (N = 25,155)



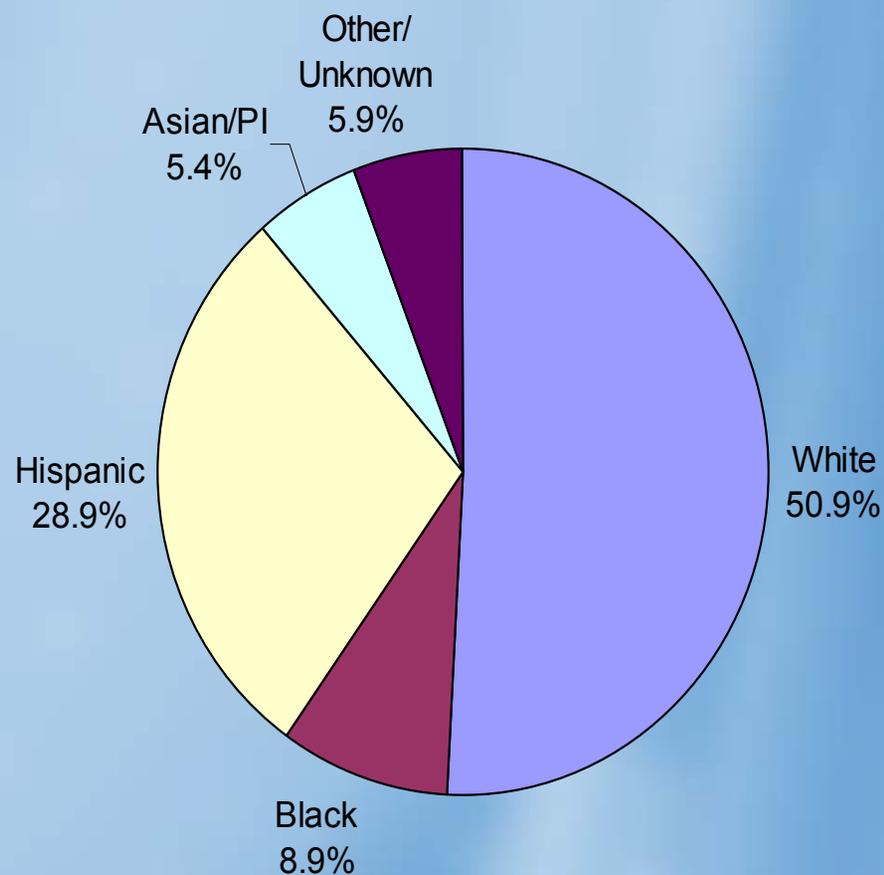
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

## ED Discharges by Race/Ethnicity, 2006-2008

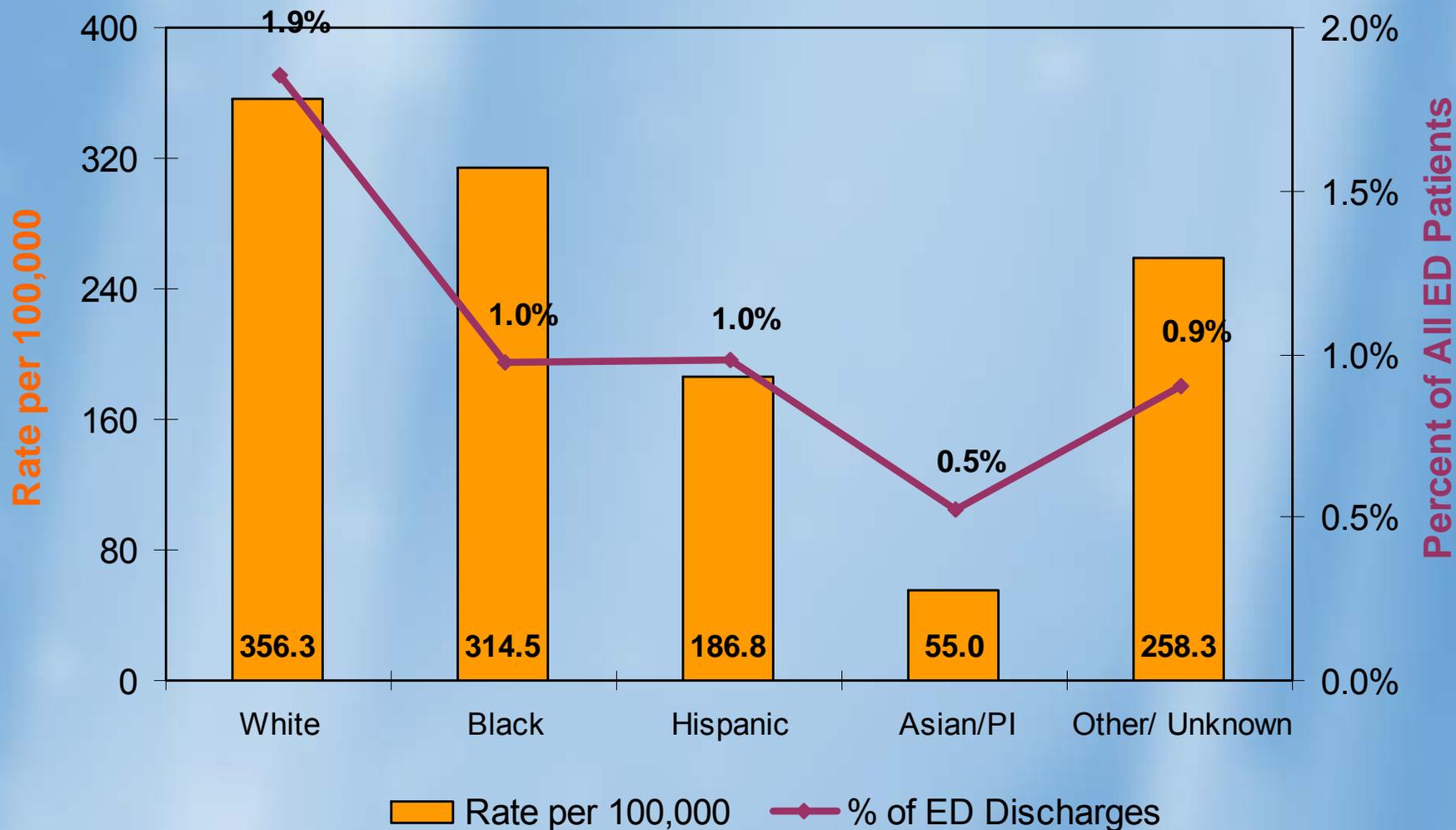
ED Discharges With a  
Principal Diagnosis of SUA  
(N = 25,155)



All ED Discharges  
(N = 1,800,766)

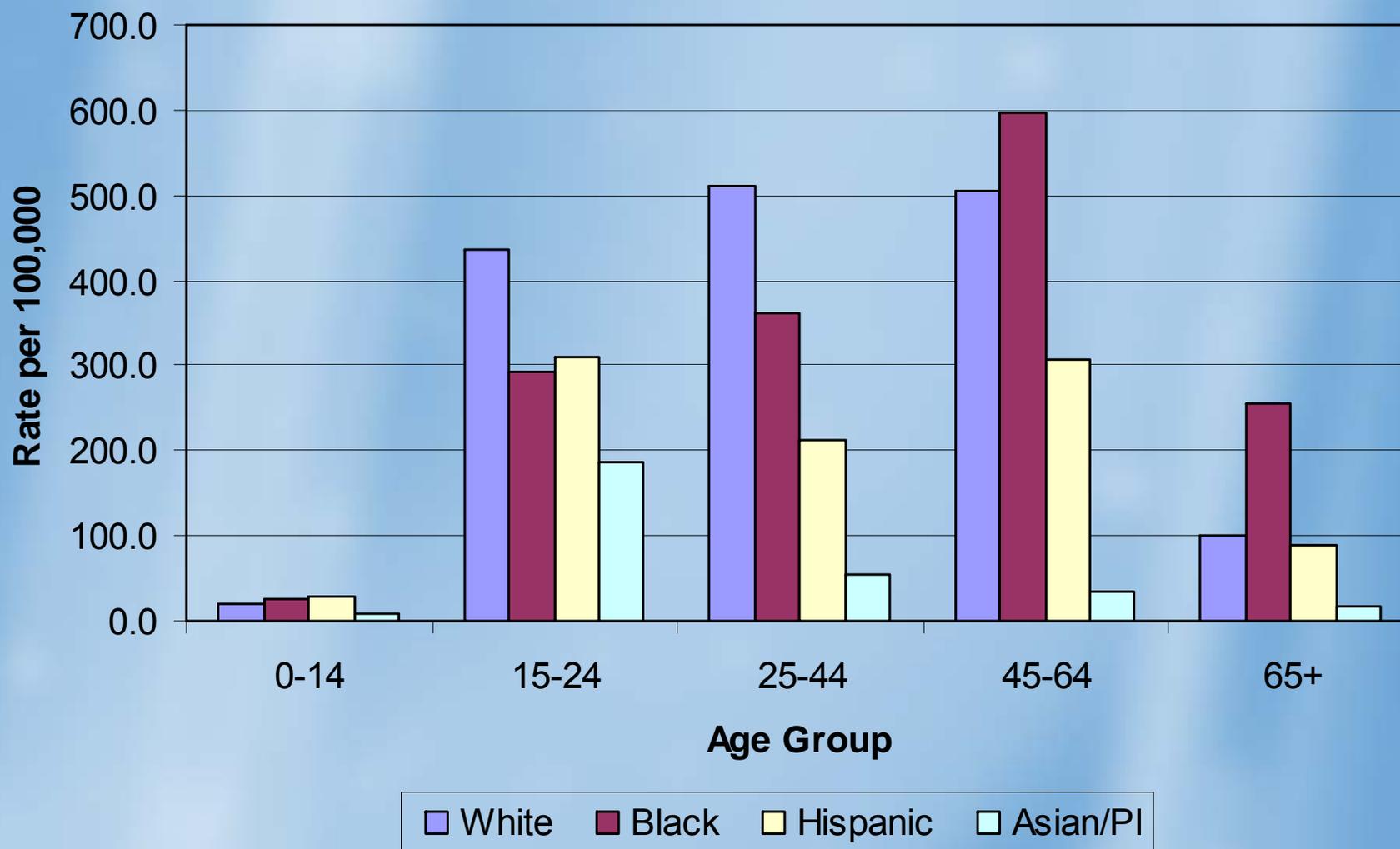


## ED Discharges With a Principal Diagnosis of Substance Use/Abuse by Race/Ethnicity, 2006-2008, (N = 25,155)



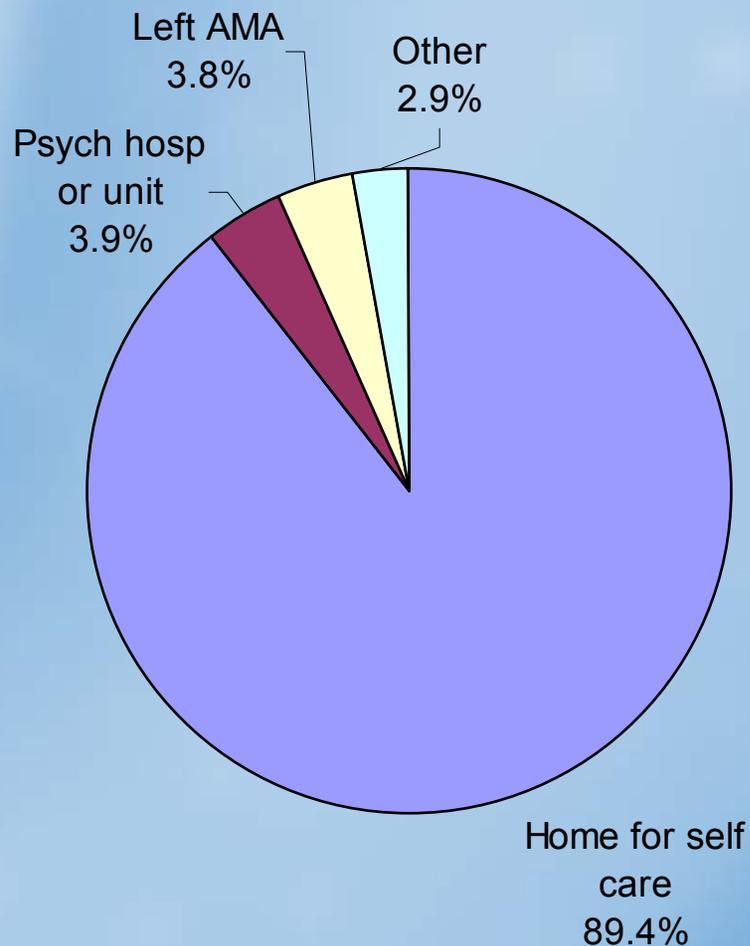
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2007

## ED Discharges With a Principal Diagnosis of Substance Use/Abuse by Race/Ethnicity and Age Group, 2006-2008, (N = 25,155)



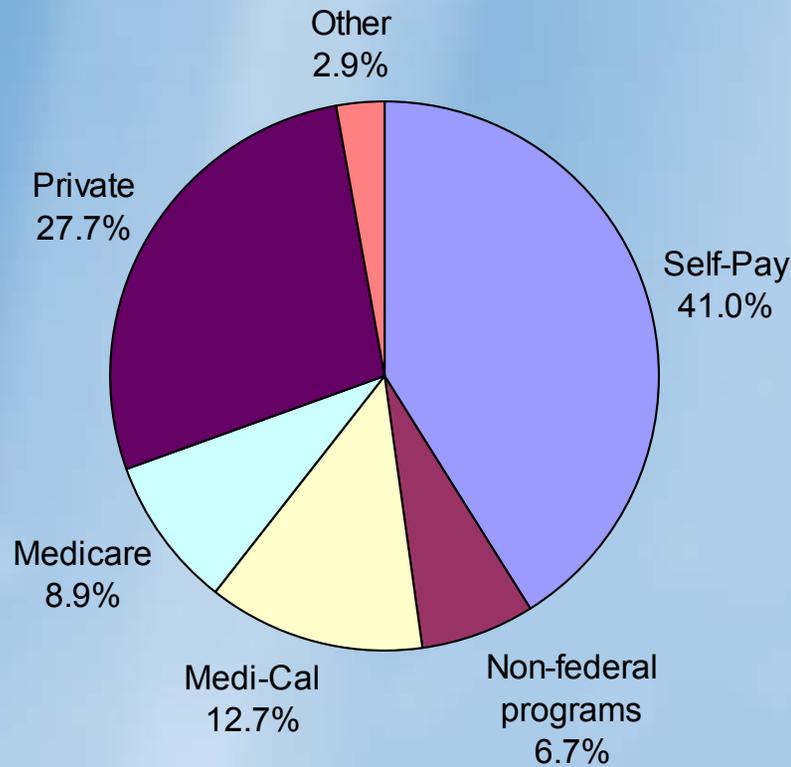
Source: HASD&IC, CHIP, CoSD EMS, Emergency Department Database, 2006-2008

## ED Discharges With a Principal Diagnosis of Substance Use/Abuse by Disposition, 2006-2008, (N=25,155)

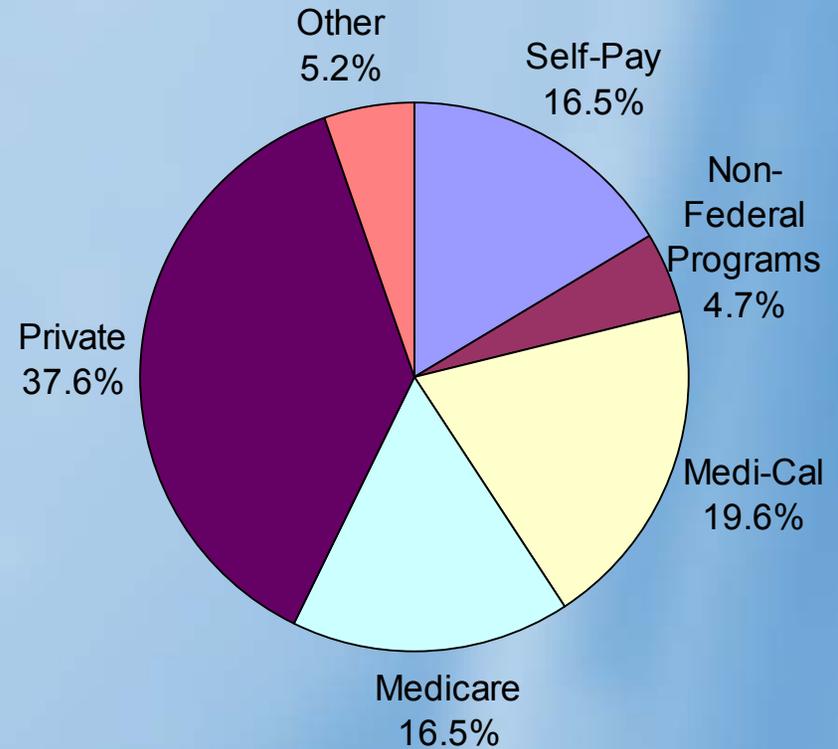


# ED Discharges by Expected Source of Payment, 2006-2008

ED Discharges With a  
Principal Diagnosis of SUA  
(N = 25,155)



All ED Discharges  
(N = 1,800,766)





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