

# SUICIDE IN OKLAHOMA

Suicide Prevention Council  
July 28, 2016

Injury Prevention Service  
Oklahoma State Department of Health

# BACKGROUND

- National Violent Death Reporting System
  - CDC Grant since 2003 – Oklahoma began in 2004
  - 32 States
    - 14 states added in 2014
    - 7-10 more will be added this year
  - Data sources
    - Required – Medical Examiner reports, death certificates, law enforcement reports
    - Optional
      - Supplementary homicide reports, newspapers, hospital, crime lab report, EMS report
    - Optional data collection modules
      - Child fatality review
      - Intimate Partner Violence
      - Overdose

# NVDRS DATA COLLECTION

- Document based
- Web-based Data Collection System
  - Death certificate data electronically imported
  - ME, PR, CFR data entered by hand
- NVDRS Coding Guidelines
  - Case definitions
  - Variables
  - Document specific

# DATA DISSEMINATION

- Annual Summary of Violent Deaths
- *Injury Updates* - very detailed special topic report
- *OKVDRS Brief Report* – more reader friendly than *Injury Update*
- Quarterly updates to data contributors
- Journal publications
- CDC Success Stories
- Special data requests
- News releases

# OKVDRS SUICIDE CASE DEFINITION

- Manner of death ruled as *suicide*
- ICD-10 Underlying cause of death
  - Intentional self harm, X60-X84, Y87.0 (more than one year after injury)
- “A death resulting from the intentional use of force against oneself. A preponderance of evidence should indicate that the use of force was intentional.”

# SUICIDE DATA

- Vital Records (death certificates)
  - OK2Share (Oklahoma Statistics on Health Available for Everyone)
  - WISQARS (Web-based Injury Statistics Query and Reporting System)
- Medical Examiner reports (ME)
- Hospital Discharge Data – OK2Share

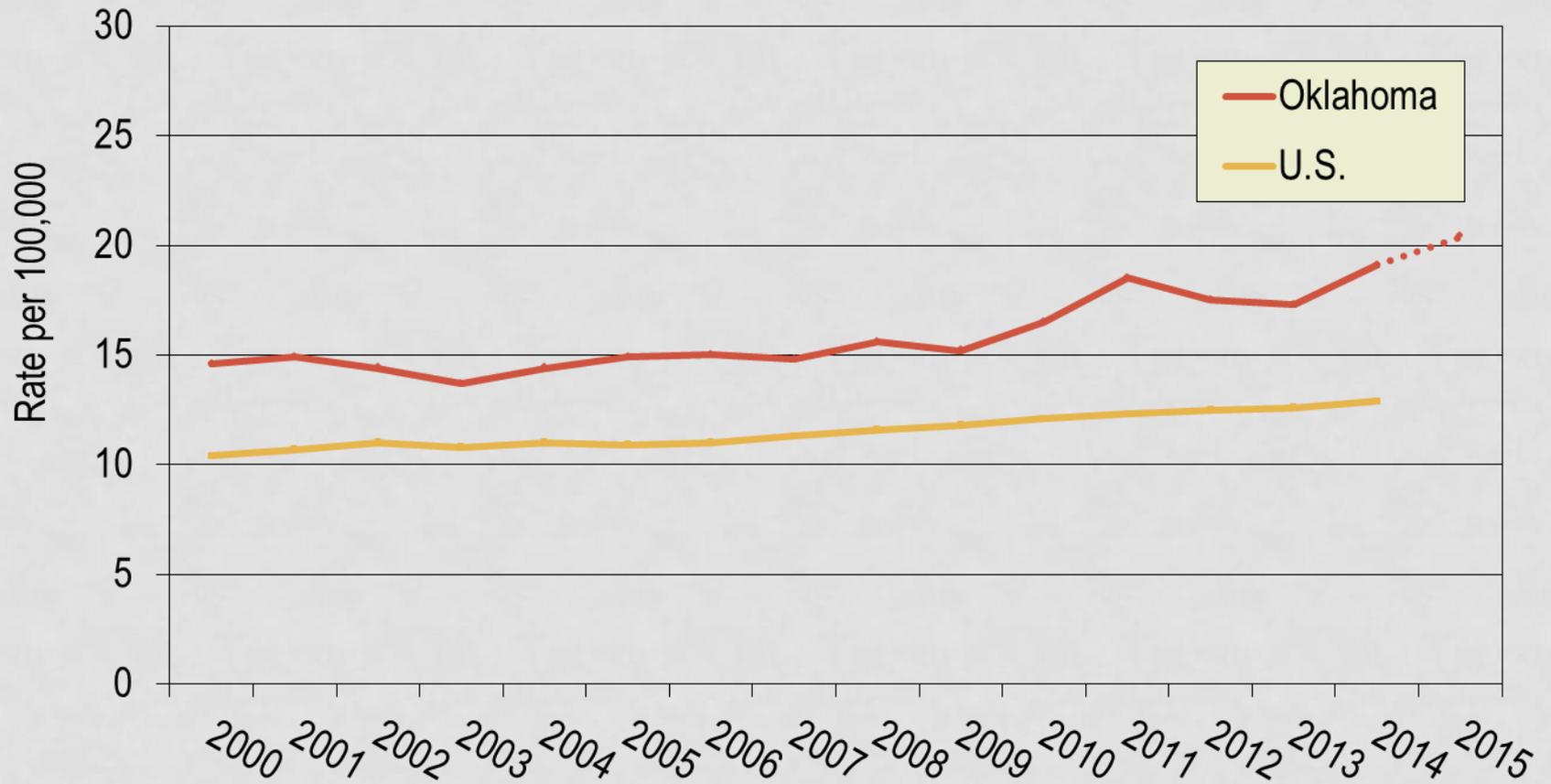
# SUICIDE DATA

- Oklahoma Violent Death Reporting System
  - Combines Vital Records, ME, and law enforcement reports into one comprehensive database
    - Demographics
    - Injury and death
    - Circumstances
    - Weapons
    - Suspects
    - Toxicology

# SUICIDE IN THE UNITED STATES

- In the U.S, suicide is the 10<sup>th</sup> leading overall cause of death with 42,773 deaths in 2014.
- In the U.S., an average suicide costs nearly \$1.2 million a year in medical and work lost (CDC, 2010 U.S. Prices)
  - This amounts to \$44.7 billion annually nationally
    - \$778 million in medical and work loss cost in Oklahoma
      - The average cost per incident of suicide in Oklahoma
        - Medical for hospitalized suicide attempt: \$11,116
        - Work loss for hospitalized suicide attempt: \$19,903
        - Medical for death: \$4,701
        - Work loss for death: \$1.25 million

# AGE-ADJUSTED SUICIDE DEATH RATES IN OKLAHOMA AND THE U.S., 2000-2014



\*WISQARS

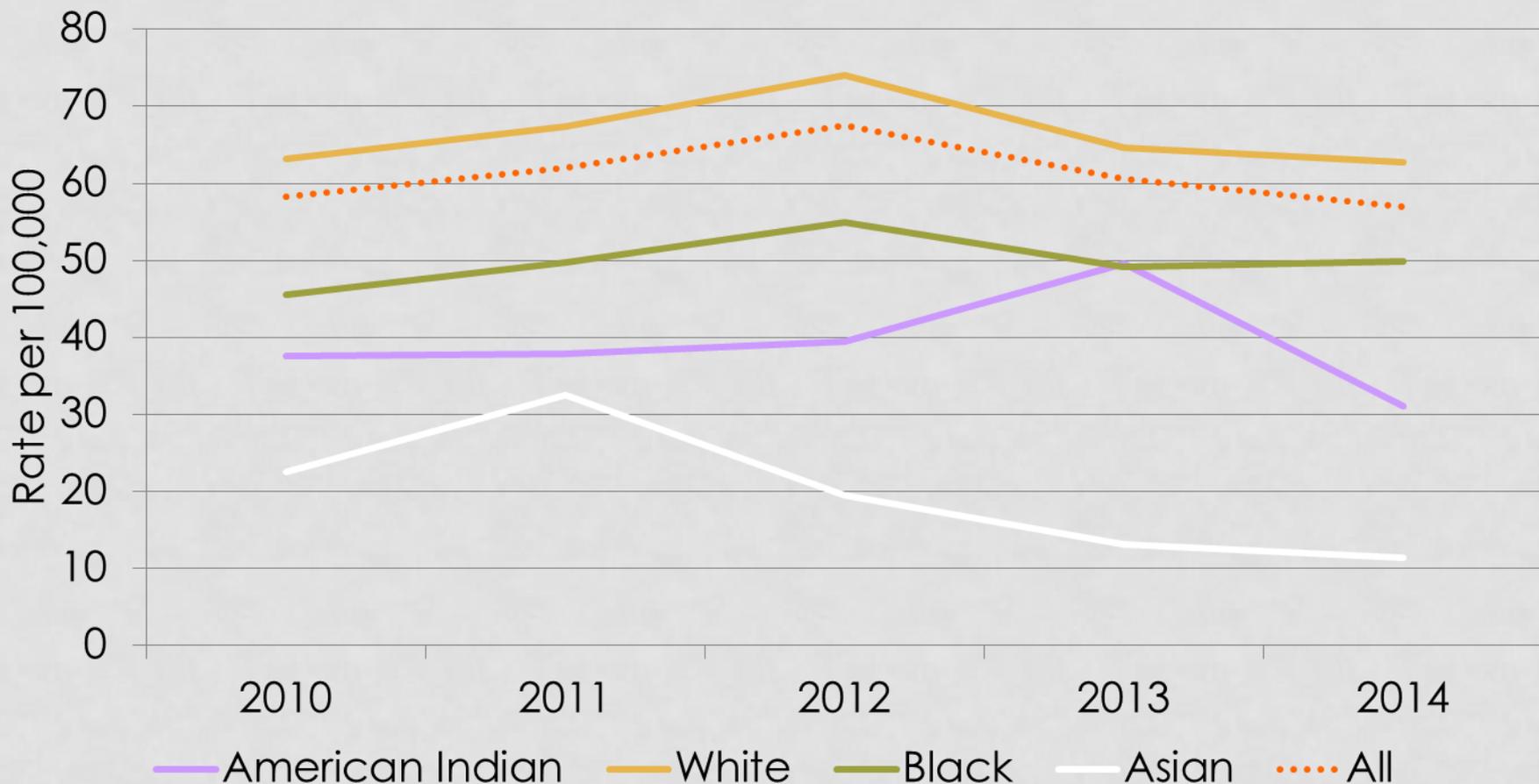
# 10 LEADING CAUSES OF DEATH BY AGE, OKLAHOMA, 2010-2014

Rank	Age Groups										All Ages
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies 454	<b>Unintentional Injury</b> 166	<b>Unintentional Injury</b> 112	<b>Unintentional Injury</b> 79	<b>Unintentional Injury</b> 1,065	<b>Unintentional Injury</b> 1,425	<b>Unintentional Injury</b> 1,470	Malignant Neoplasms 3,383	Malignant Neoplasms 8,158	Heart Disease 36,045	Heart Disease 47,612
2	Short Gestation 362	Congenital Anomalies 52	Malignant Neoplasms 27	<b>Suicide</b> 36	<b>Suicide</b> 452	<b>Suicide</b> 603	Heart Disease 1,015	Heart Disease 3,382	Heart Disease 6,766	Malignant Neoplasms 27,084	Malignant Neoplasms ---
3	SIDS 208	<b>Homicide</b> 41	Congenital Anomalies 17	Malignant Neoplasms 33	<b>Homicide</b> 299	<b>Homicide</b> 302	Malignant Neoplasms 776	<b>Unintentional Injury</b> 2,011	Chronic Low. Respiratory Disease 1,831	Chronic Low. Respiratory Disease 10,884	Chronic Low. Respiratory Disease 13,394
4	Maternal Pregnancy Comp. 88	Malignant Neoplasms 23	<b>Homicide</b> 13	<b>Homicide</b> 17	Malignant Neoplasms 109	Heart Disease 293	<b>Suicide</b> 602	Liver Disease 747	<b>Unintentional Injury</b> 1,645	Cerebrovascular 7,822	<b>Unintentional Injury</b> 11,832
5	Placenta Cord Membranes 59	Influenza & Pneumonia ---	Chronic Low. Respiratory Disease ---	Congenital Anomalies 13	Heart Disease 65	Malignant Neoplasms 245	Liver Disease 253	<b>Suicide</b> 679	Diabetes Mellitus 1,102	Alzheimer's Disease 5,504	Cerebrovascular 9,464
6	<b>Unintentional Injury</b> 59	Heart Disease ---	Cerebrovascular ---	Heart Disease ---	Congenital Anomalies 24	Diabetes Mellitus 73	<b>Homicide</b> 196	Chronic Low. Respiratory Disease 531	Cerebrovascular 978	Diabetes Mellitus 4,147	Diabetes Mellitus 6,041
7	Circulatory System Disease 38	Benign Neoplasms ---	Heart Disease ---	Benign Neoplasms ---	Complicated Pregnancy 19	Liver Disease 56	Diabetes Mellitus 176	Diabetes Mellitus 530	Liver Disease 924	<b>Unintentional Injury</b> 3,800	Alzheimer's Disease 5,586
8	Respiratory Distress 36	Septicemia ---	Influenza & Pneumonia ---	Cerebrovascular ---	Chronic Low. Respiratory Disease 18	Cerebrovascular 50	Cerebrovascular 118	Cerebrovascular 463	<b>Suicide</b> 513	Influenza & Pneumonia 2,936	Influenza & Pneumonia 3,696
9	Bacterial Sepsis 35	Cerebrovascular ---	Meningococcal Infection ---	Influenza & Pneumonia ---	Influenza & Pneumonia 17	Influenza & Pneumonia 39	Chronic Low. Respiratory Disease 87	Viral Hepatitis 250	Septicemia 414	Nephritis 2,369	<b>Suicide</b> 3,382
10	Intrauterine Hypoxia 26	Meningitis ---	Septicemia ---	Chronic Low. Respiratory Disease ---	Cerebrovascular 14	Complicated Pregnancy 35	Influenza & Pneumonia 77	Septicemia 205	Influenza & Pneumonia 404	Hypertension 1,607	Nephritis 2,909

# SUICIDE IN OKLAHOMA

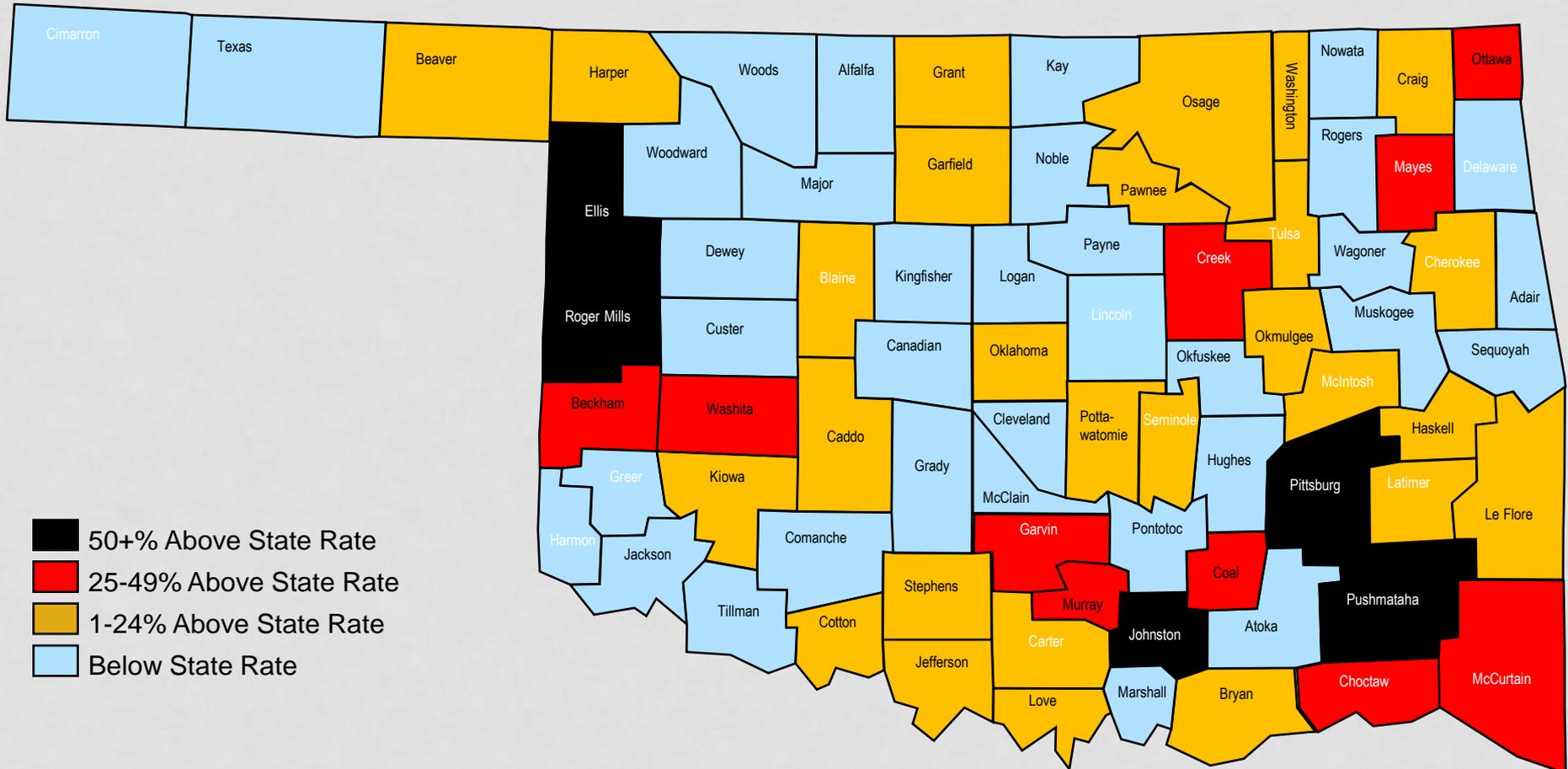
- From 2005-2014, 6,104 suicide deaths
  - Annual rate = 16.4 per 100,000 population
  - Estimated 610 deaths per year
  - Average age = 45.2 years
  - 78.5% male, 21.5% female

# SUICIDE ATTEMPT\* INPATIENT HOSPITAL DISCHARGES BY YEAR OF DISCHARGE AND RACE, OKLAHOMA, 2010-2014



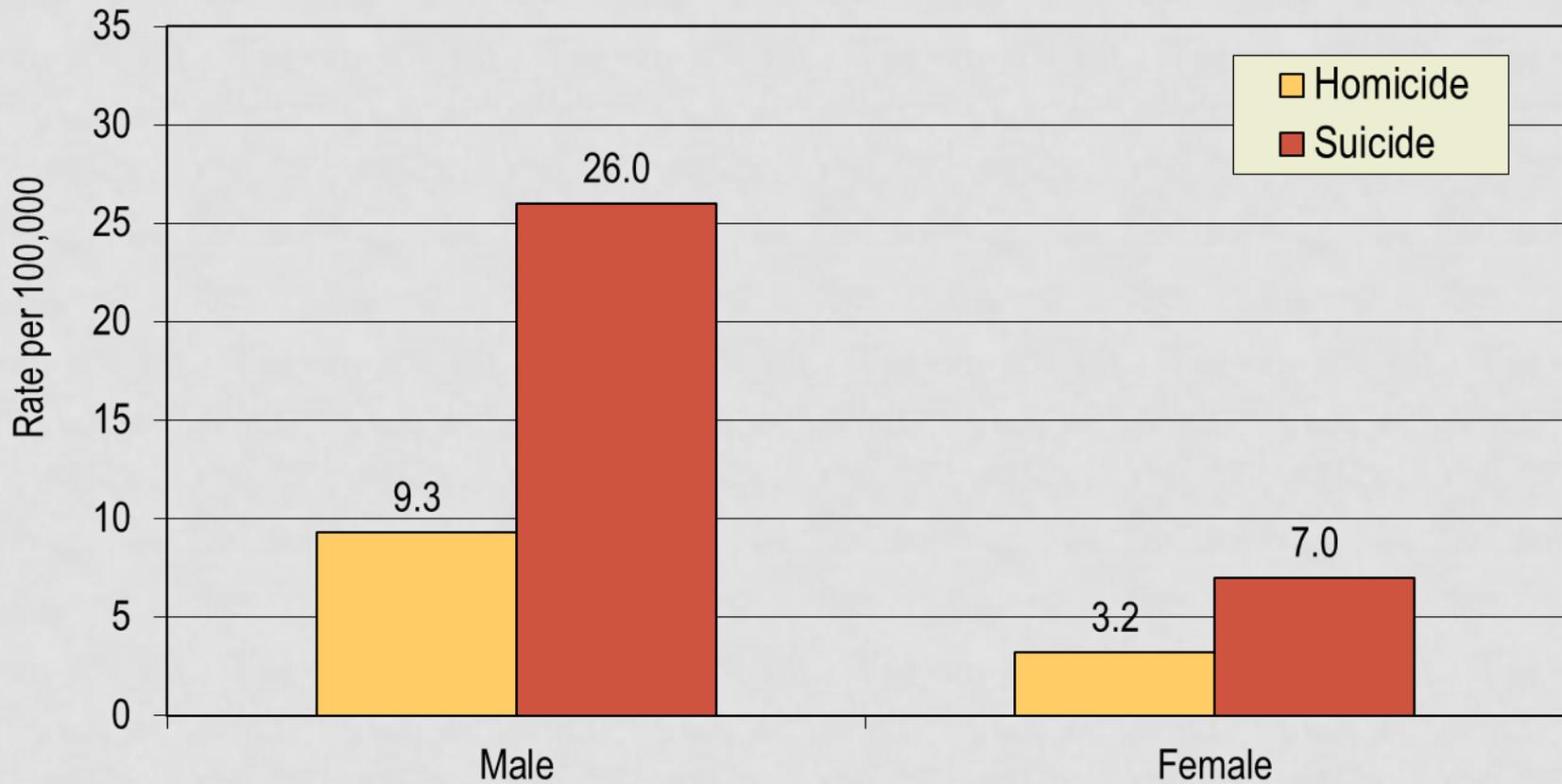
\*First-listed valid external cause of injury code in E950-E959

# VIOLENT DEATH RATES BY COUNTY OF INJURY, OKLAHOMA RESIDENTS, 2005-2014

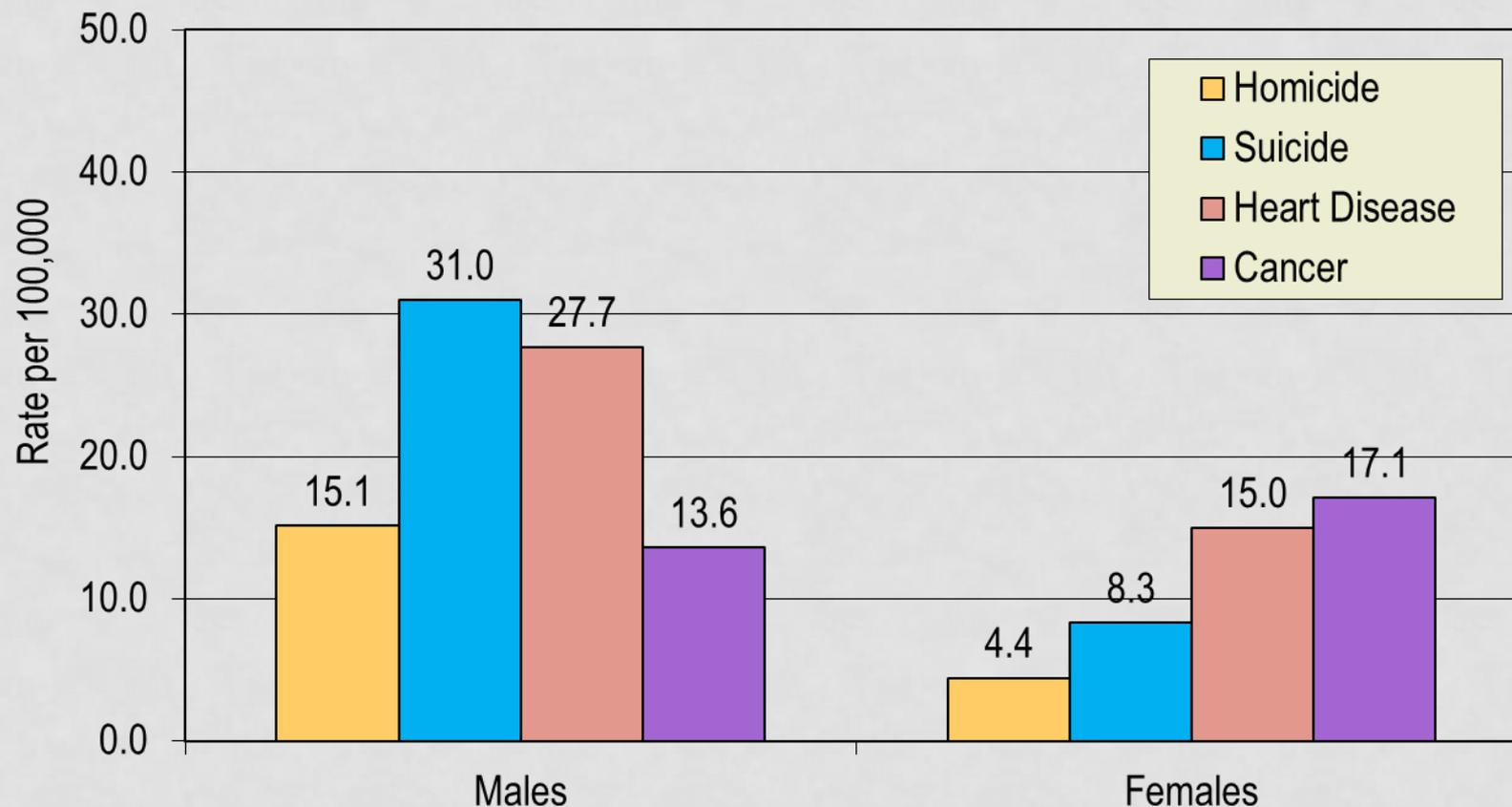


Oklahoma State Rate, 2005-2014, is 16.4 suicide deaths per 100,000 residents

# GENDER-SPECIFIC SUICIDE AND HOMICIDE RATES, OKLAHOMA, 2005-2014

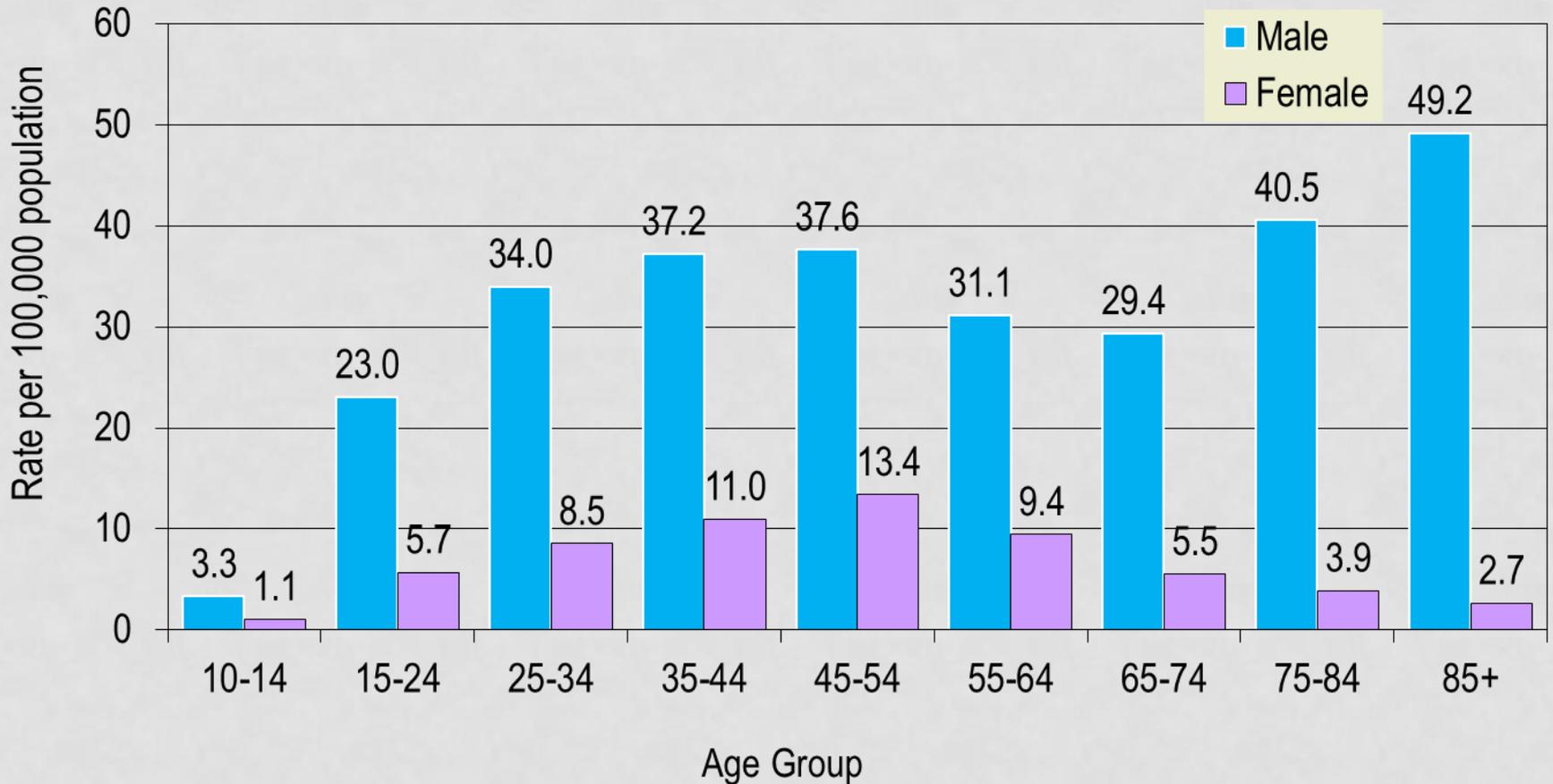


# GENDER-SPECIFIC DEATH RATES OF PERSONS 15-44 YEARS OF AGE, OKLAHOMA, 2005-2014 (SELECTED CAUSES)



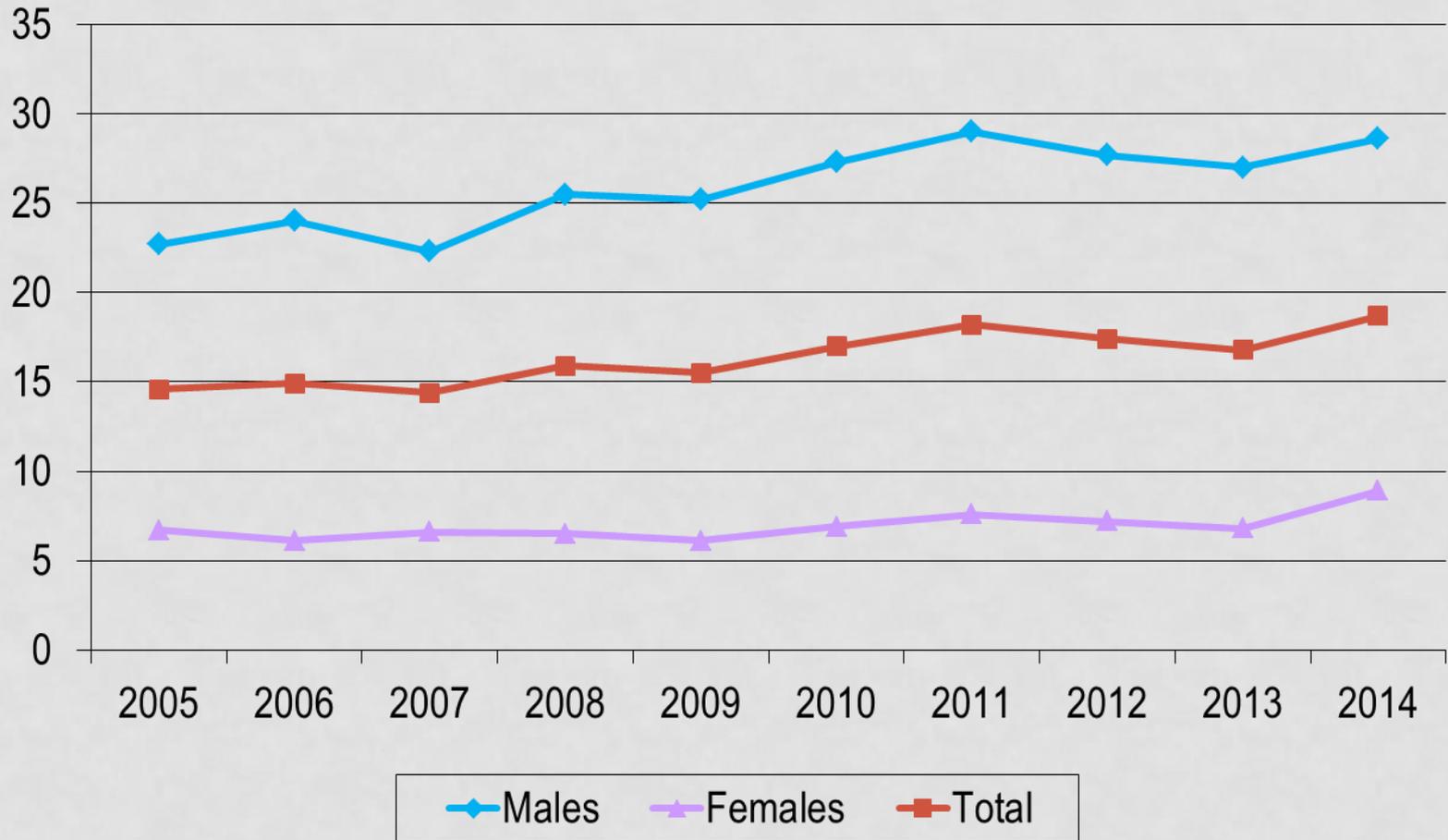
\*Oklahoma Violent Death Reporting System and OK2Share

# AGE AND GENDER SPECIFIC RATES OF SUICIDE, OKLAHOMA, 2005-2014

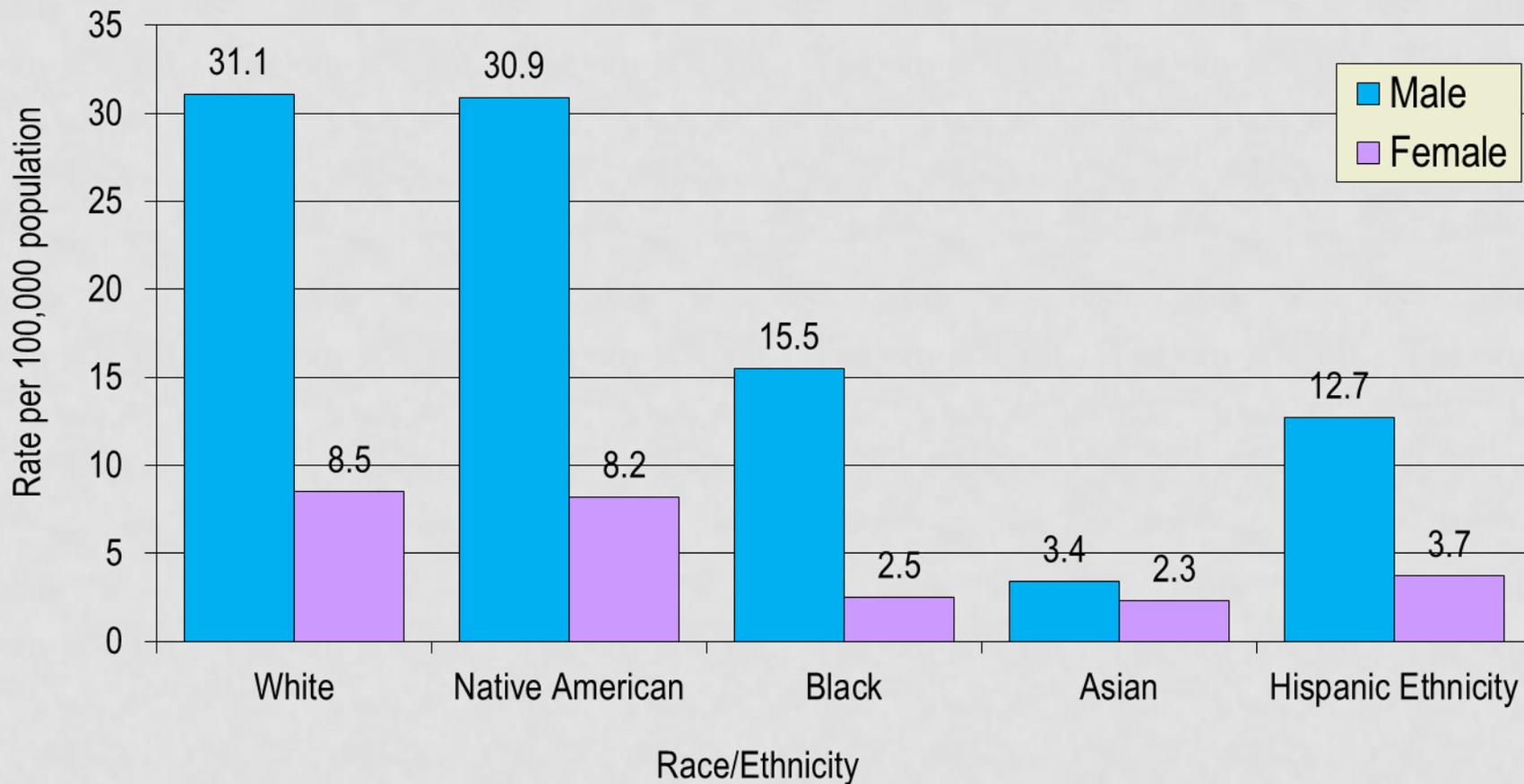


# SUICIDE RATES BY YEAR OF DEATH

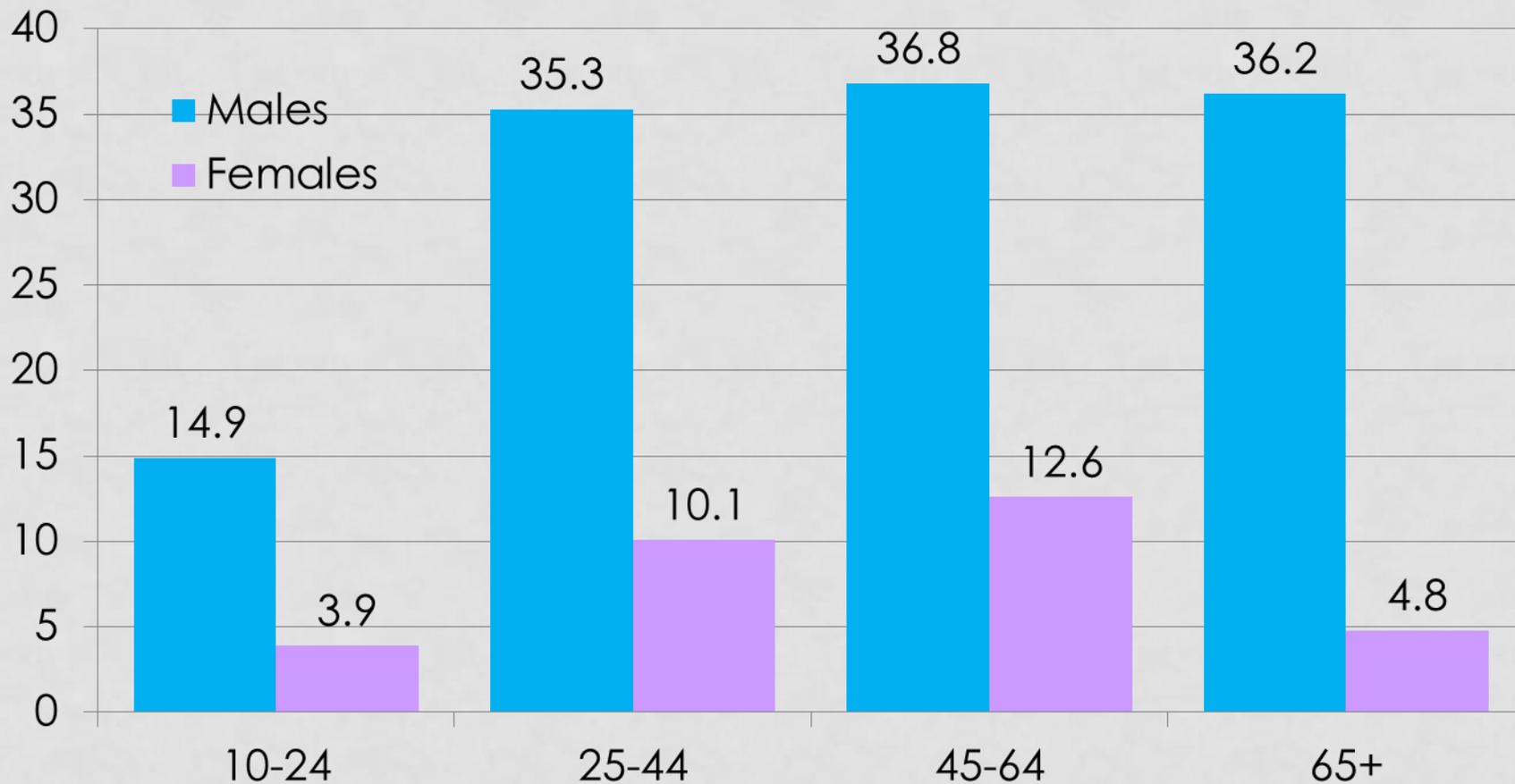
## OKLAHOMA, 2005-2014



# GENDER, RACE, AND ETHNICITY SPECIFIC RATES OF SUICIDE OF RESIDENTS 10+ YEARS OF AGE, OKLAHOMA, 2005-2014

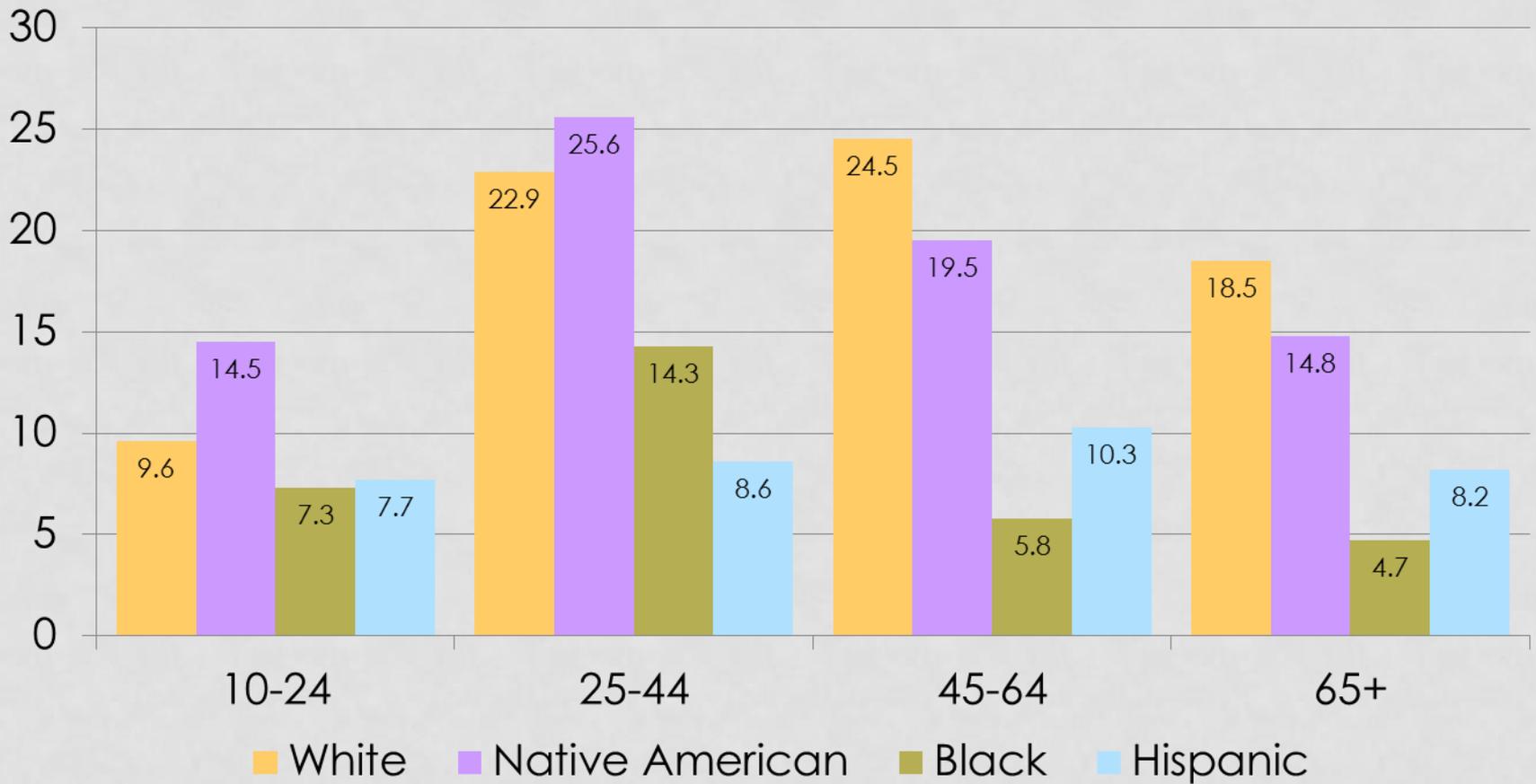


# AGE GROUP AND GENDER RATES OF SUICIDE, OKLAHOMA, 2005-2014



Oklahoma Violent Death Reporting System

# AGE GROUP AND RACE/ETHNICITY RATES OF SUICIDE, OKLAHOMA, 2005-2014



Oklahoma Violent Death Reporting System

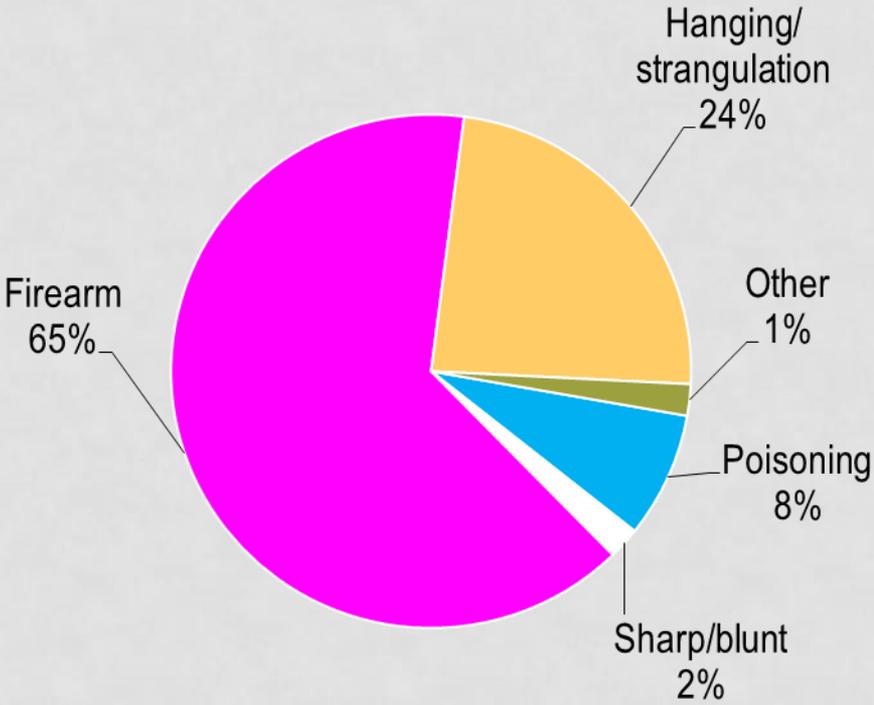
# LEADING SUICIDE METHODS/MEANS, OKLAHOMA RESIDENTS, 2010-2014

- Firearms (62% of suicides)
  - 75% handguns
  - 11% rifles
  - 13% shotguns
- Hanging/strangulation (23%)
- Poisoning (11%)

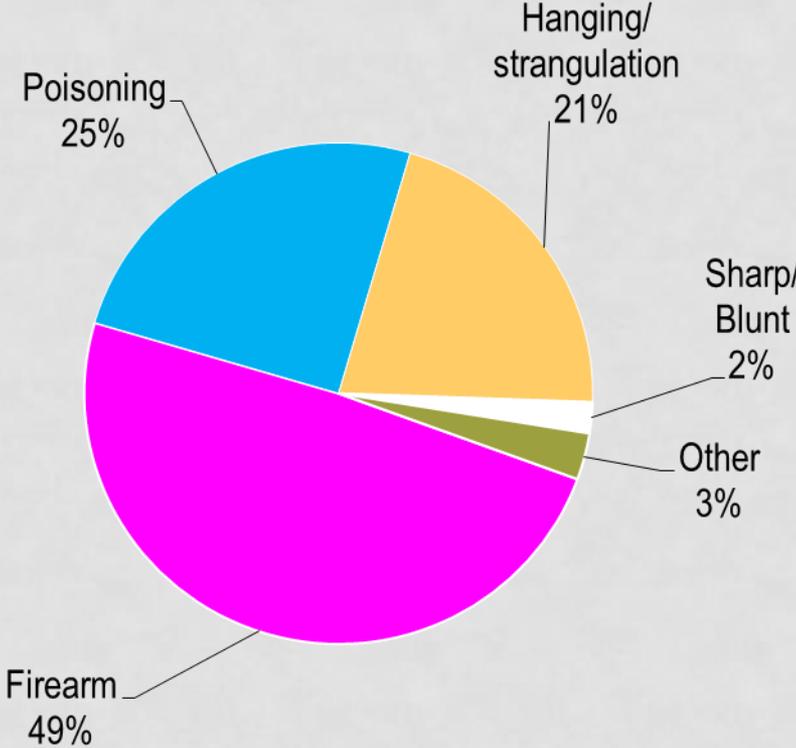
# OTHER SUICIDE METHODS/MEANS

- Sharp/blunt instruments
- Motor vehicles/transportation
- Drowning
- Fire
- Fall/jump

# METHODS OF SUICIDE BY GENDER OKLAHOMA, 2010-2014



**Males**



**Females**

# CIRCUMSTANCES

- Mental Health, Substance Abuse, and other Addictions
  - Current depressed mood
  - Current diagnosed mental health problem
  - Mental illness diagnosis
  - Current mental health treatment
  - Ever treated for mental health or substance abuse
  - Alcohol problem
  - Other substance abuse problem
  - Other addiction
- Relationship & Life Stressor
  - Intimate partner problem
  - Family relationship problem
  - Other relationship problem
  - Abuse or neglect led to death
  - History of abuse or neglect as a child
  - Previous perpetrator of violence in the past month
  - Previous victim of violence in the past month
  - Physical fight (2people)
  - Argument
    - Timing of argument

# CIRCUMSTANCES

- Crime & Criminal Activity
  - Precipitated by another crime
  - First crime in progress
  - Terrorist attack
- Suicide Specific Circumstances
  - History of suicide attempts
  - Recently disclosed suicidal thoughts/plan to suicide
    - To whom
  - Left a suicide note
  - History of expressed suicidal thoughts or plans
- Crisis in past 2 weeks or upcoming 2 weeks
- Life Stressors
  - Contributing criminal legal problem
  - Civil legal problems
  - Physical health problem
  - Job problem
  - Financial problem
  - School problem
  - Eviction/loss of home
  - Suicide of friend or family
  - Non-suicide death of friend or family
  - Anniversary of traumatic event
  - Disaster exposure

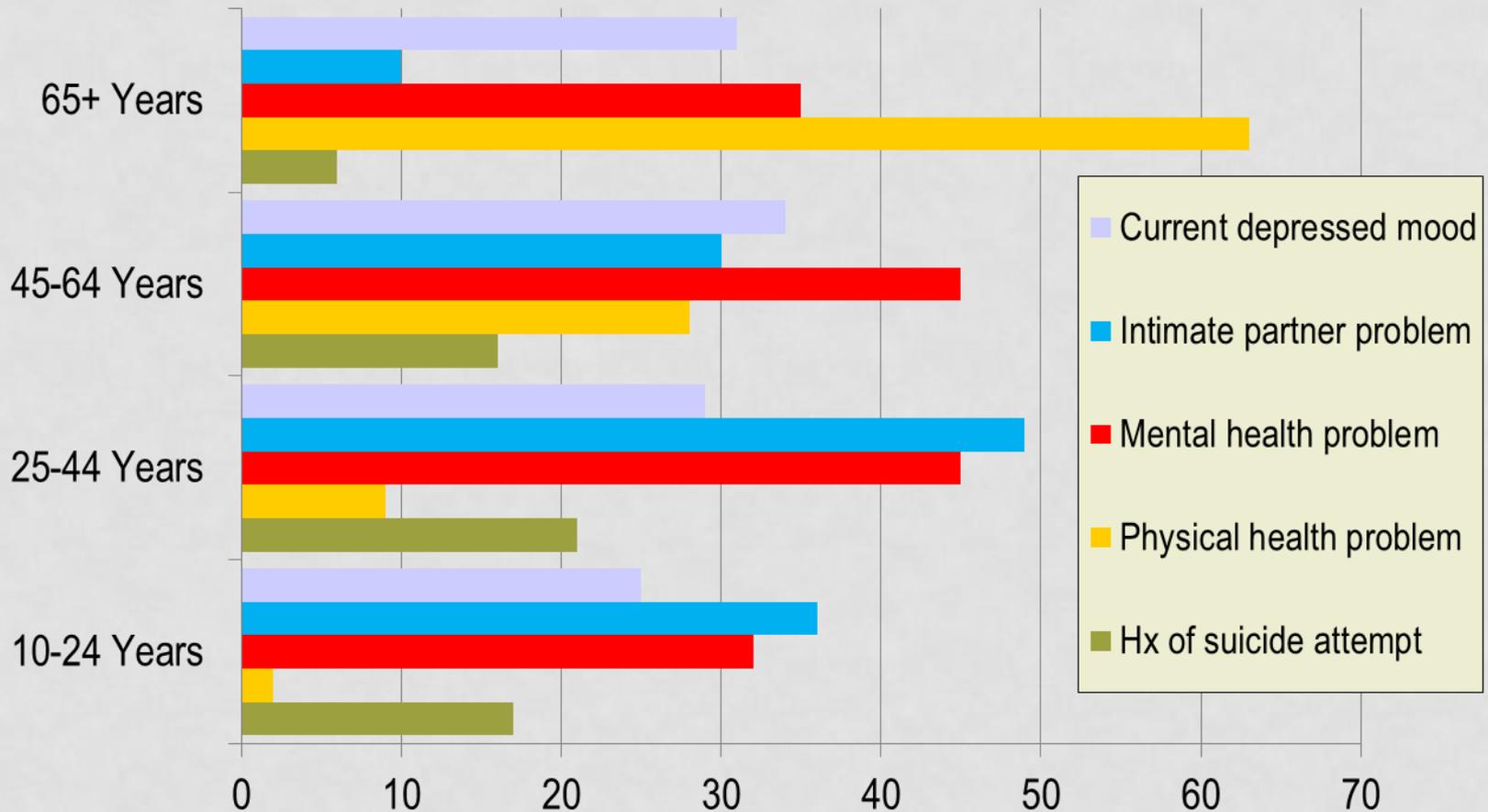
# LEADING CIRCUMSTANCES ASSOCIATED WITH SUICIDE OKLAHOMA RESIDENTS, 2010-2014

- 42% one or more diagnosed or treated mental health problems
  - Depression (72%)
  - bipolar illness (15%)
  - anxiety disorder (10%)
  - schizophrenia (6%)
  - PTSD (5%)
- 35% intimate partner problem
- 30% current depressed mood

# SUICIDE CIRCUMSTANCES OKLAHOMA RESIDENTS, 2010-2014

- 23% physical health problem
- 16% substance abuse problem
- 15% alcohol problem
- 14% argument preceded event
- 11% recent criminal legal problem
- 11% job problem
- 10% crisis in past two weeks
- 9% financial problem

# SUICIDE CIRCUMSTANCES BY LIFE STAGE, OKLAHOMA RESIDENTS, 2010-2014



Oklahoma Violent Death Reporting System

# SUICIDE CIRCUMSTANCES OKLAHOMA RESIDENTS, 2010-2014

- 32% left a suicide note
- 25% previously stated intent to kill themselves or suicidal feelings to another person
- 18% history of suicidal thoughts
- 17% history of suicide attempt
- 33% of persons tested were positive for alcohol
- 34% of persons tested were positive for drugs

# TOP CIRCUMSTANCES BY GENDER, OKLAHOMA RESIDENTS, 2010-2014

Rank	Males	Females
1	Current Mental Health Problems 38%	Current Mental Health Problems 56%
2	Intimate Partner Problems 36%	Intimate Partner Problems 32%
3	Current Depressed Mood 30%	Current Depressed Mood 32%
4	Physical Health Problems 23%	History of Suicide Attempts 29%
5	Alcohol Problem 16%	Physical Health Problems 23%
6	Substance Abuse Problem 15%	Substance Abuse 18%
7	Argument 14%	Argument 15%
8	History of Suicide Attempts 13%	Alcohol Problem 12%

# SUICIDE AMONG VETERANS, OKLAHOMA RESIDENTS, 2010-2014

- 21% of suicide deaths involved veterans
  - 97% male, 3% female
- 84% of all violent deaths among veterans
- Mean age was 57 (range 18-95)
  - 38% of veteran suicide deaths were among veterans 65+
- 73% firearm deaths

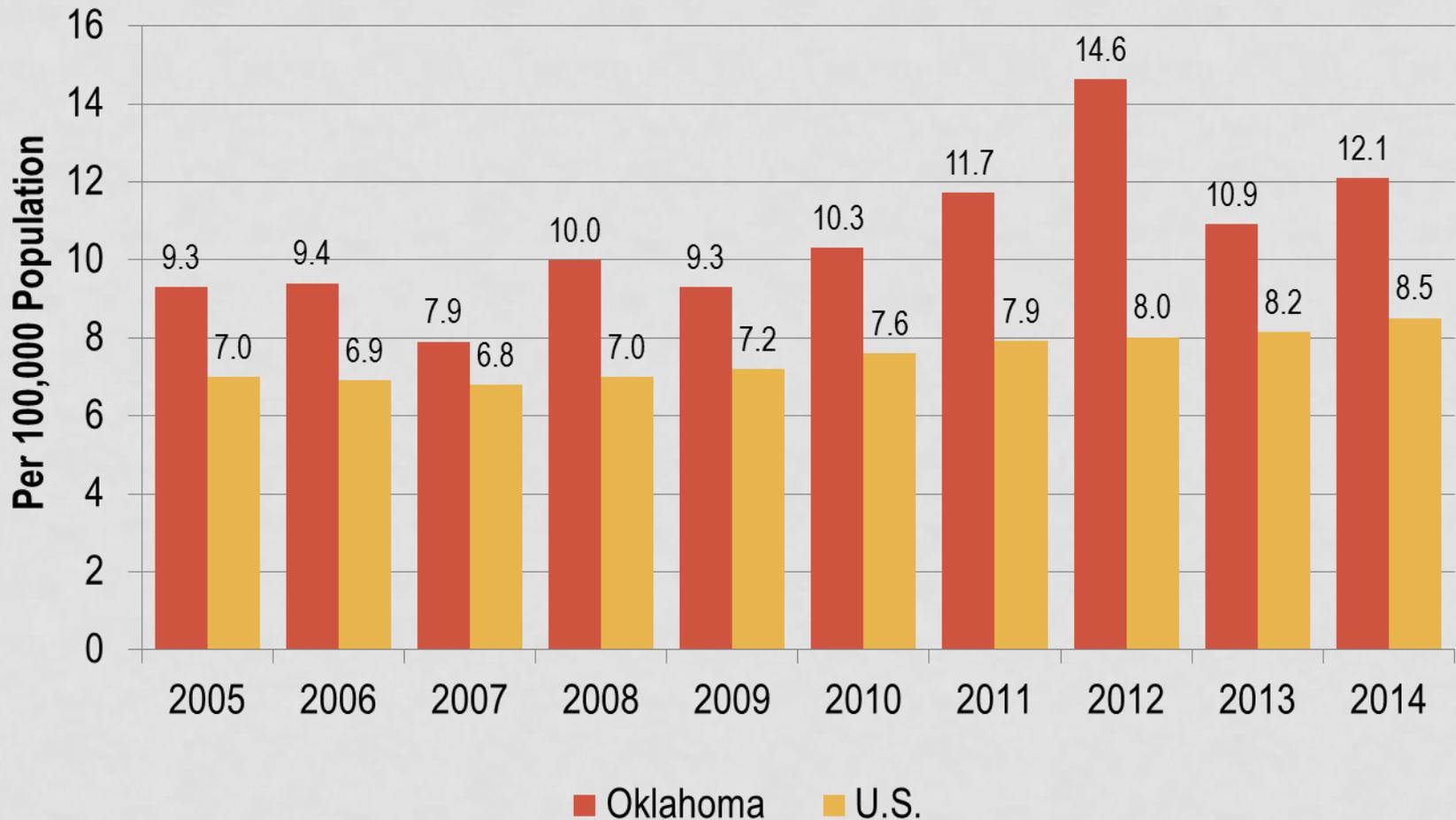
# SUICIDE AMONG VETERANS, OKLAHOMA RESIDENTS, 2010-2014

- Circumstances most often associated with veteran suicide deaths
  - 40% current mental health problem
    - Depression (75%)
    - PTSD (18%)
  - 39% physical health problem
  - 30% current depressed mood
  - 29% intimate partner problem

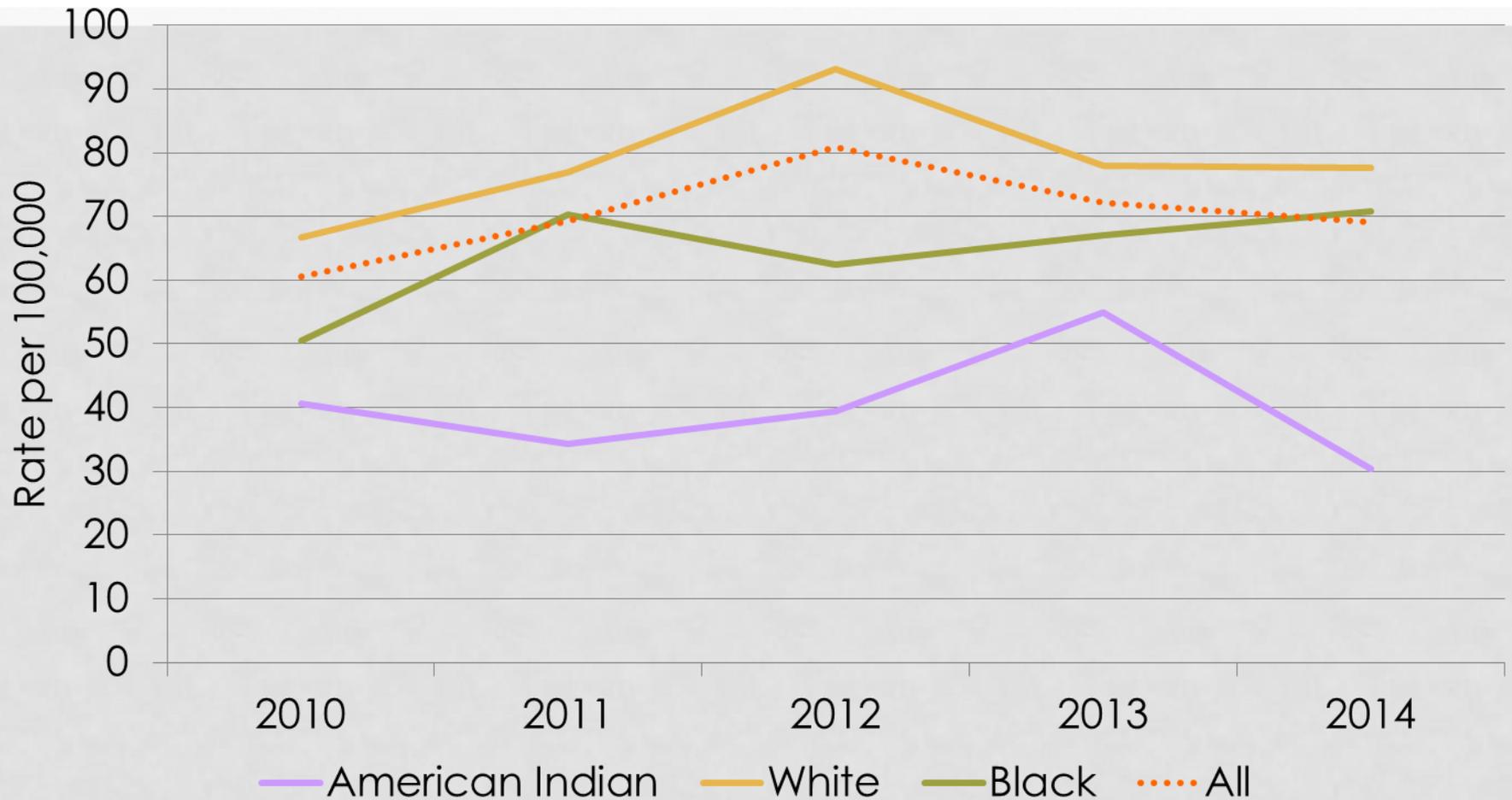
## SUICIDE AMONG VETERANS, OKLAHOMA RESIDENTS, 2010-2014

- 28% disclosed intent
- 17% history of suicidal thought
- 11% history of suicide attempt

# SUICIDE RATES AMONG PERSONS 10-24 YEARS OF AGE, OKLAHOMA AND U.S.

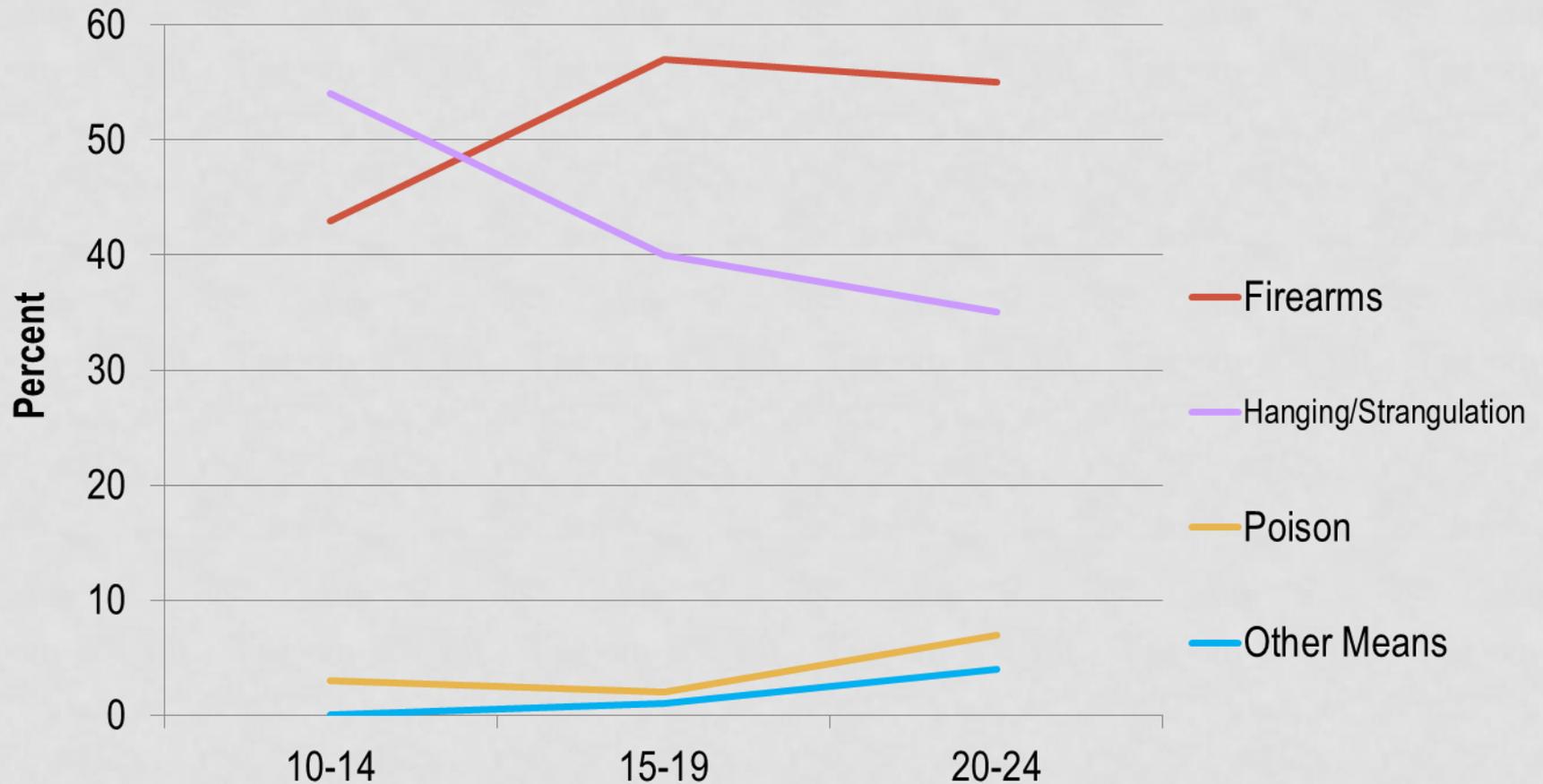


# SUICIDE ATTEMPT\* INPATIENT HOSPITAL DISCHARGES FOR YOUTH AGED 10-24 YEARS BY YEAR OF DISCHARGE AND RACE, OKLAHOMA, 2010-2014



\*First-listed valid external cause of injury code in E950-E959

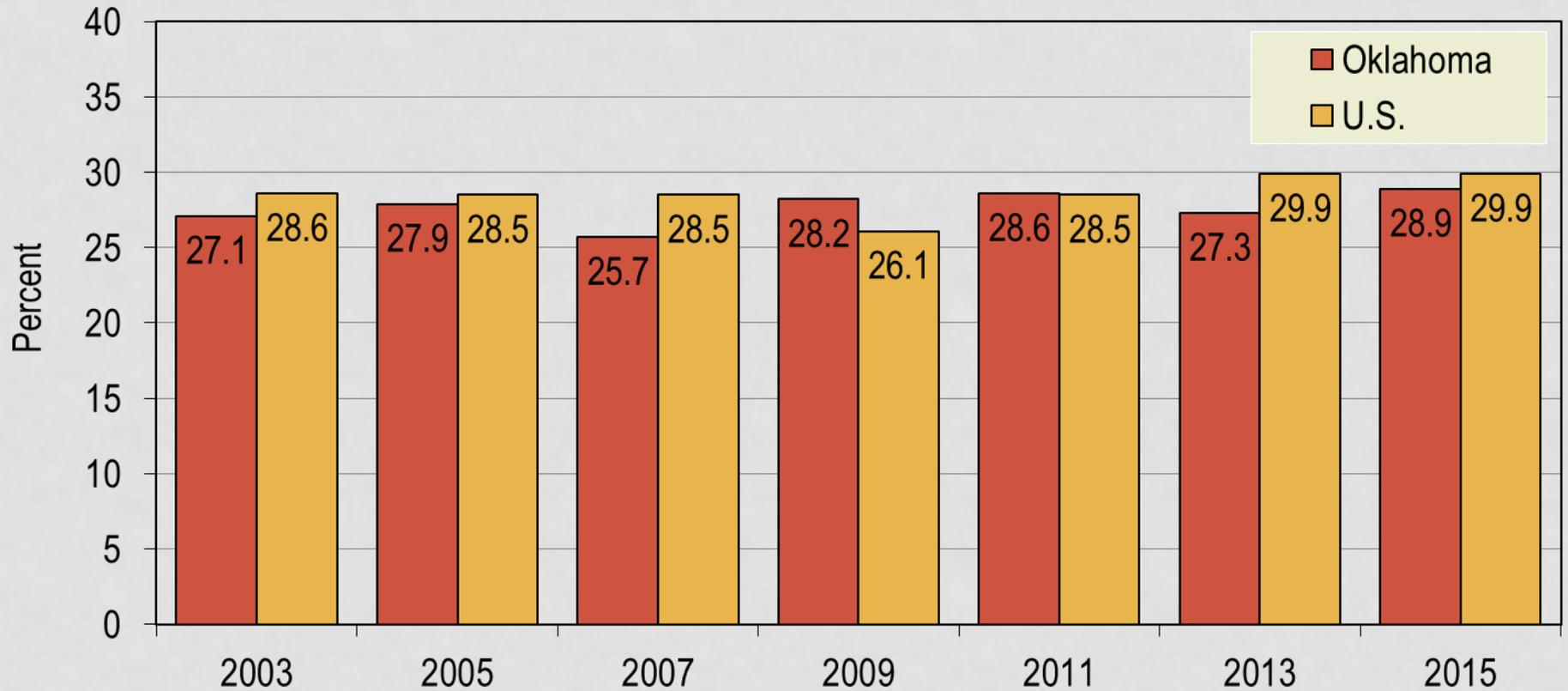
# METHOD OF SUICIDE AMONG PERSONS 10-24 YEARS OF AGE, OKLAHOMA RESIDENTS, 2010-2014



Oklahoma Violent Death Reporting System

# U.S. AND OKLAHOMA YRBS STUDENTS IN GRADES 9 - 12

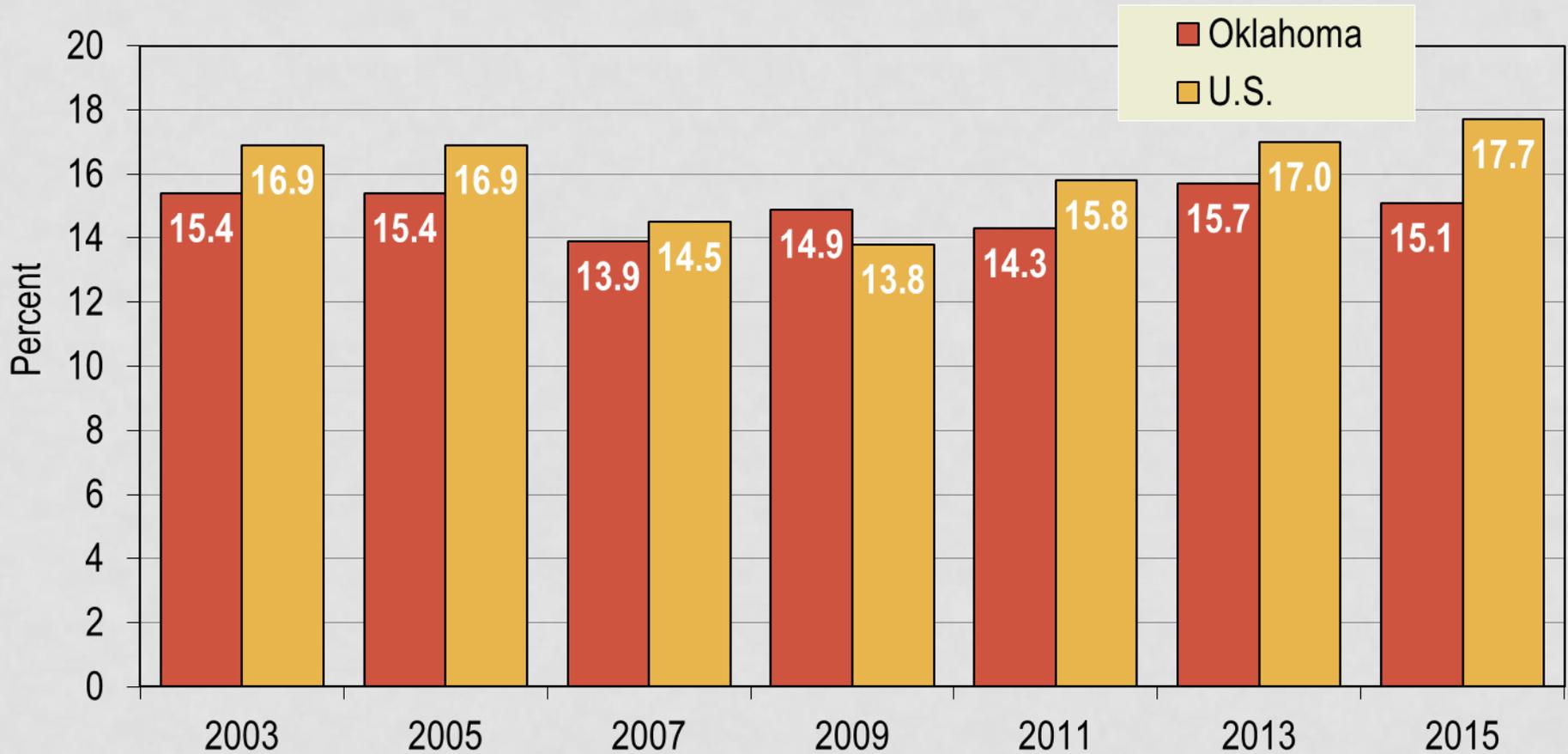
*WHO FELT SAD AND HOPELESS THE PREVIOUS 12 MONTHS\**



\*Youth Risk Behavior Survey

# U.S. AND OKLAHOMA YRBS STUDENTS IN GRADES 9 – 12

*WHO SERIOUSLY CONSIDERED SUICIDE THE PREVIOUS 12 MONTHS\**



\*Youth Risk Behavior Survey

# U.S. AND OKLAHOMA YRBS STUDENTS IN GRADES 9 - 12

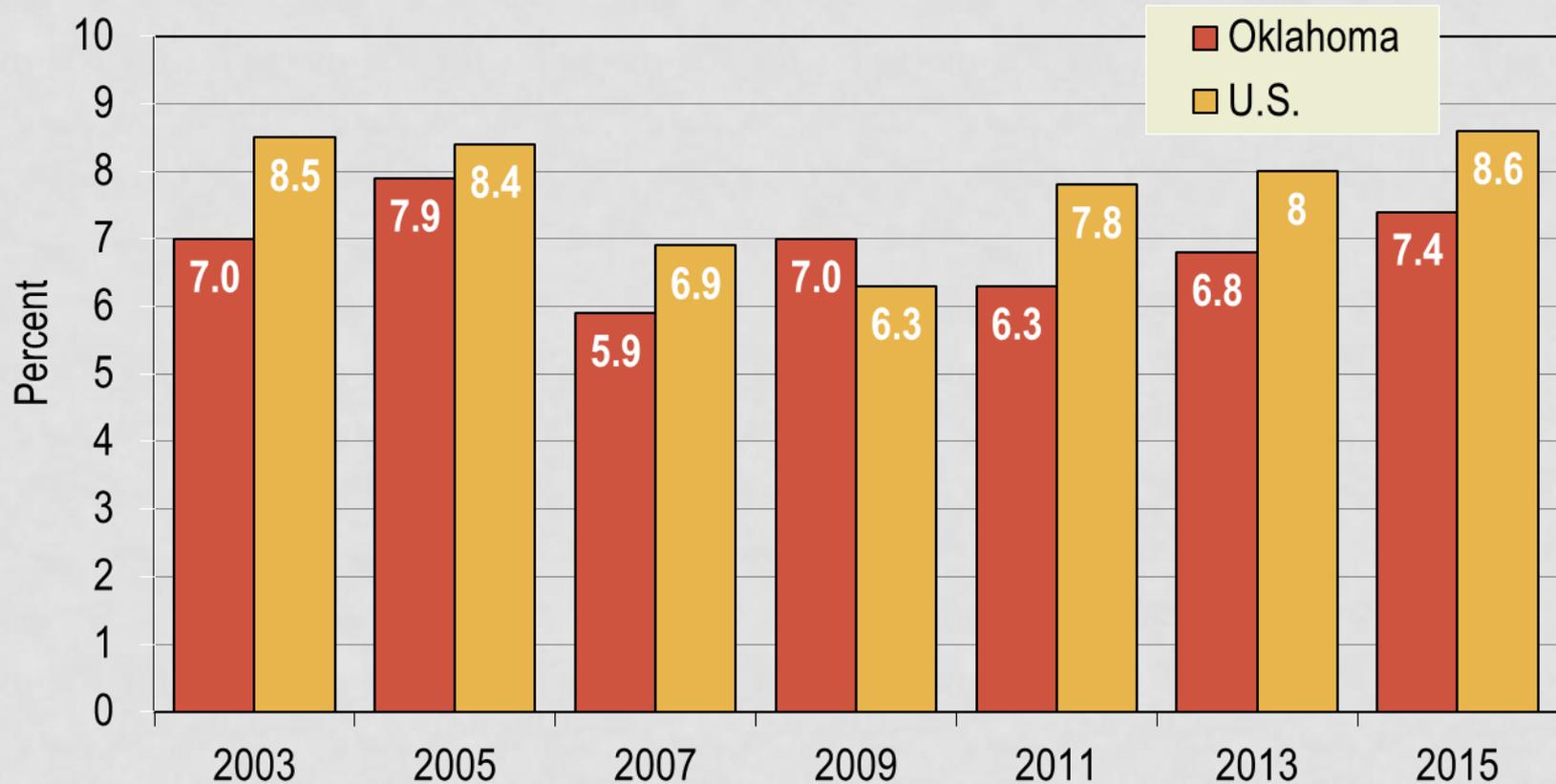
*MADE A PLAN ABOUT HOW THEY WOULD ATTEMPT SUICIDE\**



\*Youth Risk Behavior Survey

# U.S. AND OKLAHOMA YRBS STUDENTS IN GRADES 9 - 12

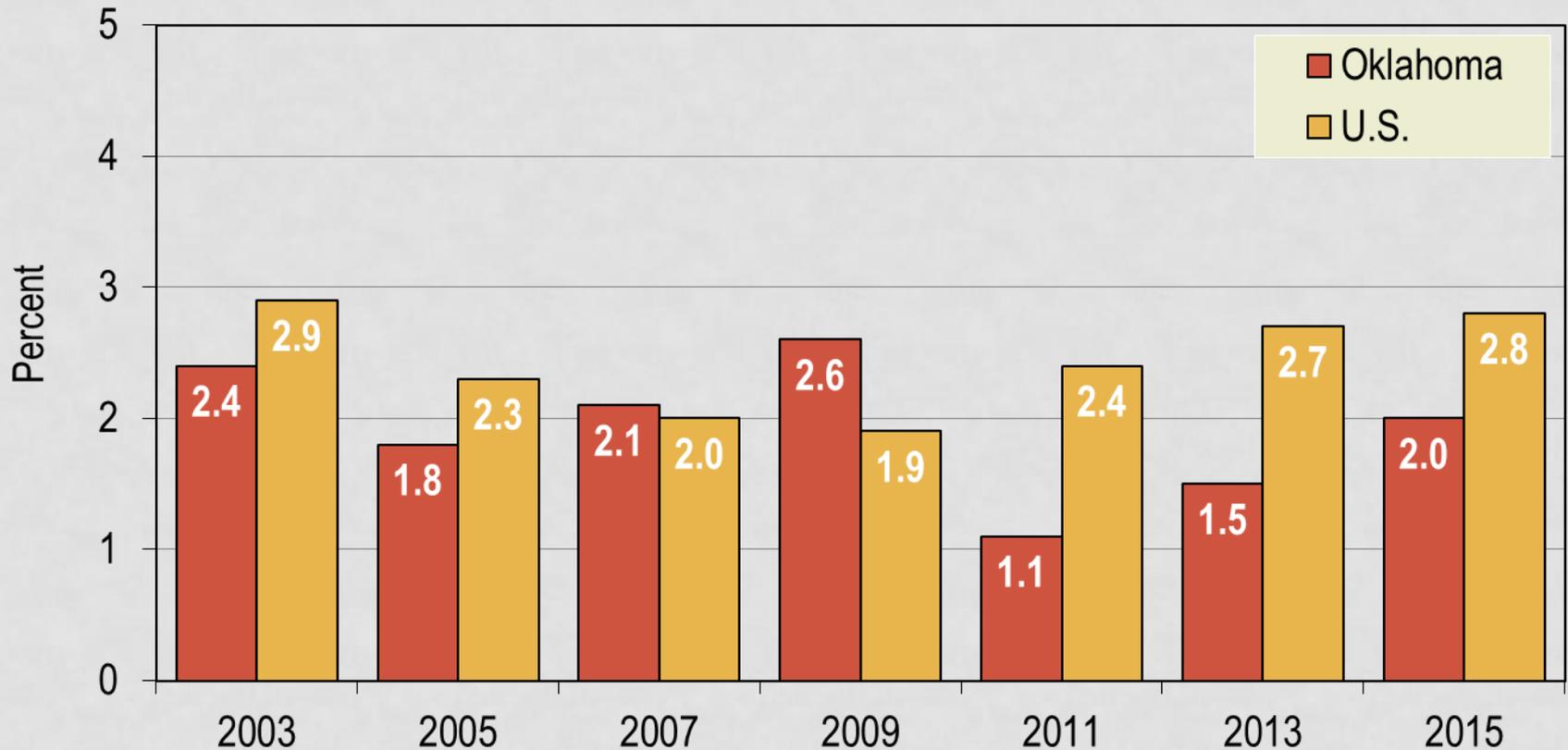
*WHO ATTEMPTED SUICIDE DURING THE PREVIOUS 12 MONTHS\**



\*Youth Risk Behavior Survey

# U.S. AND OKLAHOMA YRBS STUDENTS IN GRADES 9 – 12

*SUICIDE ATTEMPT RESULTED IN AN INJURY, POISONING, OR OVERDOSE  
THAT HAD TO BE TREATED BY A DOCTOR OR NURSE\**



\*Youth Risk Behavior Survey

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