

HCIFS Annual Report 2010



An Analysis of the Harris County Institute of Forensic Sciences Pathology Services Caseload



HCIFS Statistical Summary, 2010

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- 9,378 deaths were reported to HCIFS
 - Harris County 2010 population estimate: 4,110,771
 - Approximately 25,128 HC death certificates were filed in 2010
 - 37% of HC deaths were reported to HCIFS in 2010
- 3,933 deaths were certified
 - includes trauma inquests and out of county cases
- 3,824 Harris County medicolegal cases, all brought to IFS for examination
 - 40 “out of county” cases
- 3,174 full autopsies*
 - 690 external examinations



**Partial autopsies are not performed at the HCIFS. Population intercensal data, July 1, 2010, Texas Data Center, Office of the Texas State Demographer; DC total is provisional from Texas Dept. State Health Services (TXDSHS)*

Summary 2010, continued

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- Decedents unidentified on arrival: 150
 - Decedents remaining unidentified: 3
- 251 Referrals to Harris County Bereavement Services
- No exhumations were performed
- No hospital autopsies were retained

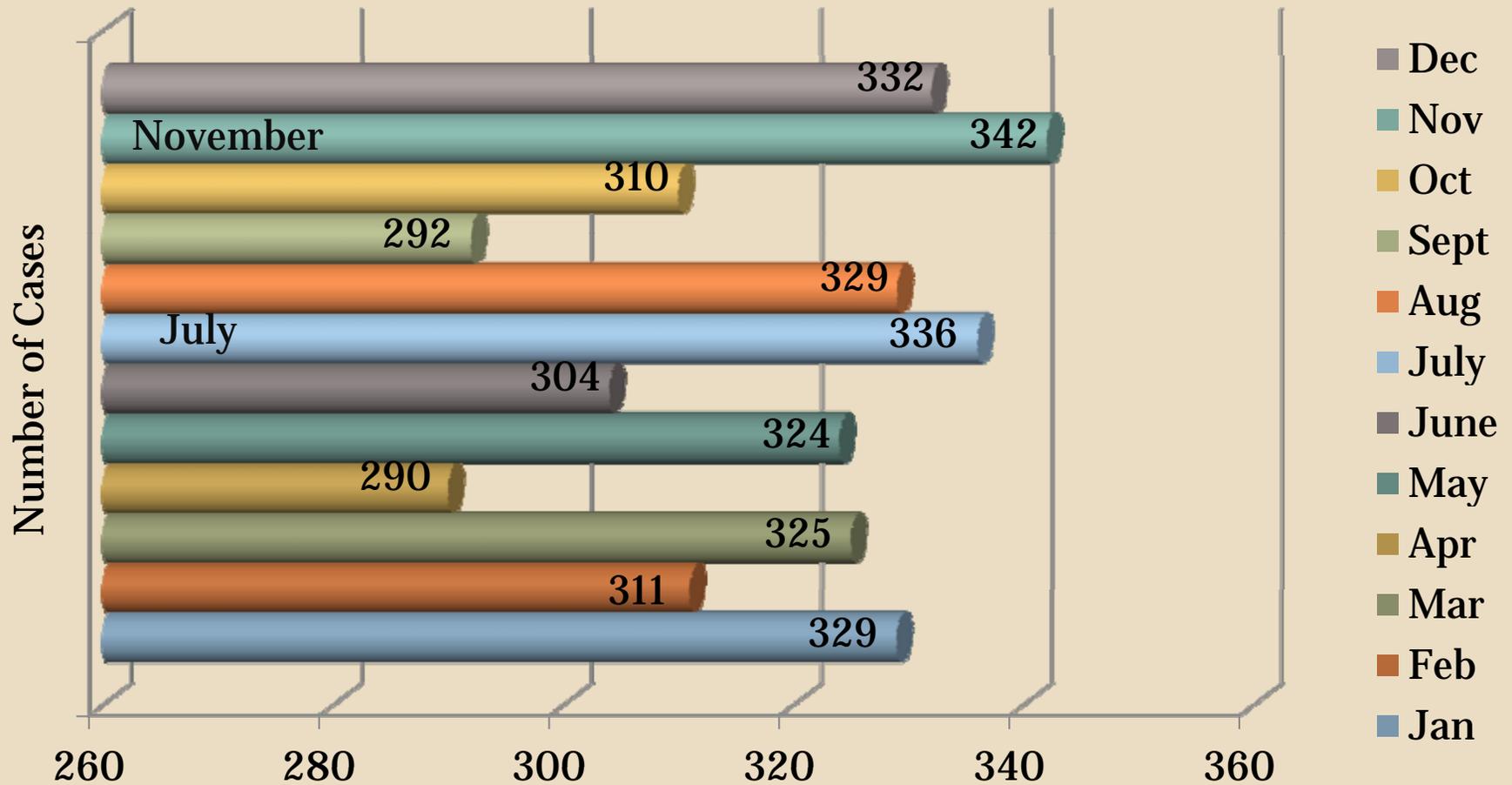
Summary, Organ and Tissue Donation

4

- IFS maintains agreements with LifeGift, Biograft Transplant Services, Inc., and the Lions Eye Bank of Texas at Baylor College of Medicine.
- **92 ML cases** were released for single and paired organ recovery from January 1, 2010 to December 31, 2010.
- **305 ML cases** were released for multiple tissue recovery from January 1, 2010 to December 31, 2010.

Monthly ML Case Counts 2010

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Average Daily ML Caseload

6

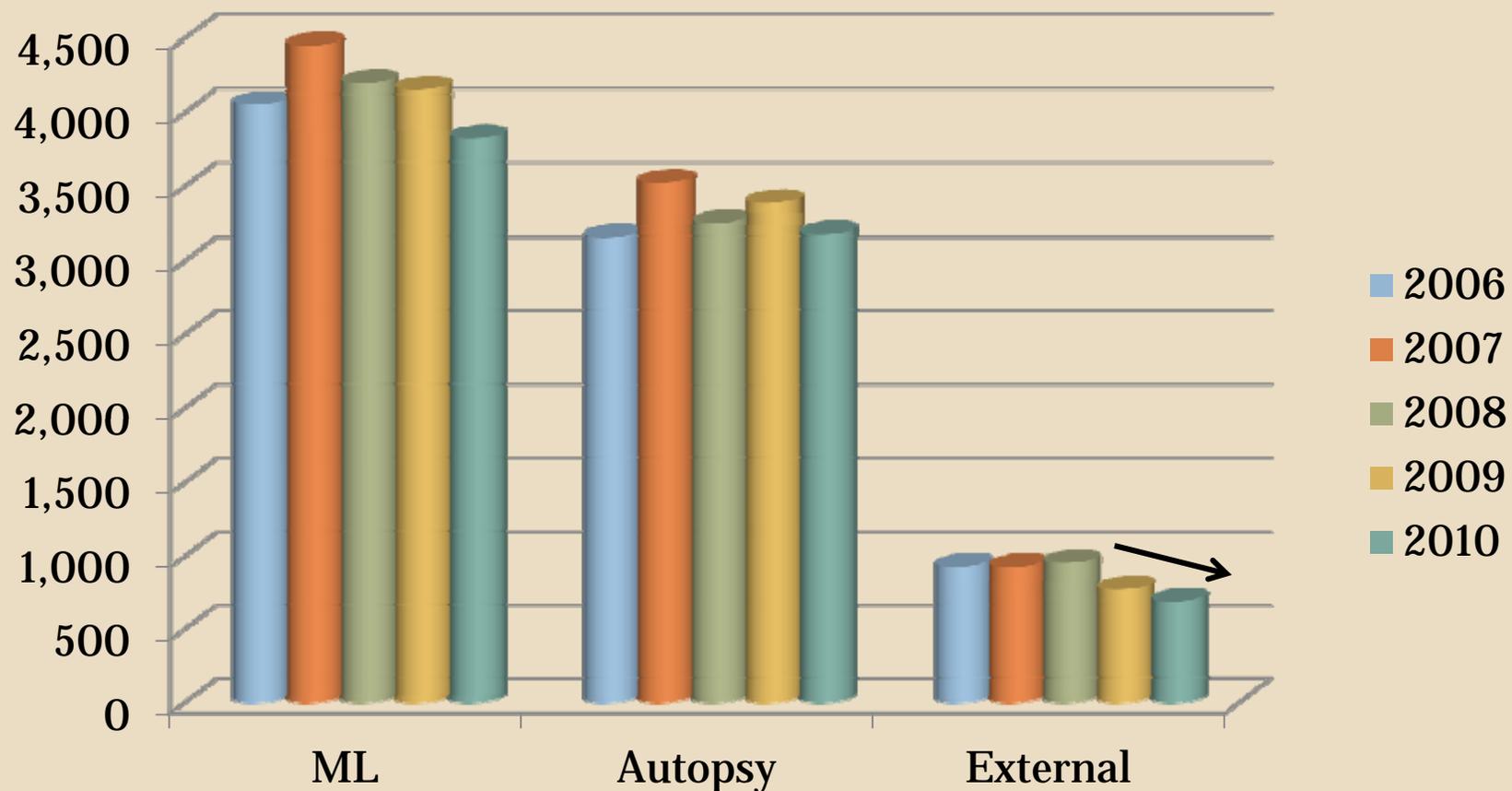
- Average daily caseload:
 - 2010: 10.5 cases
 - 2009: 11.4 cases
 - 2008: 11.5 cases



- Months with highest average daily caseload:
 - 2010 – November (11.4), February (11.1)
 - 2009 – June (12.5), March (12.2)

HCIFS Caseload: 2006-2010

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Forensic Anthropology Cases, 2010

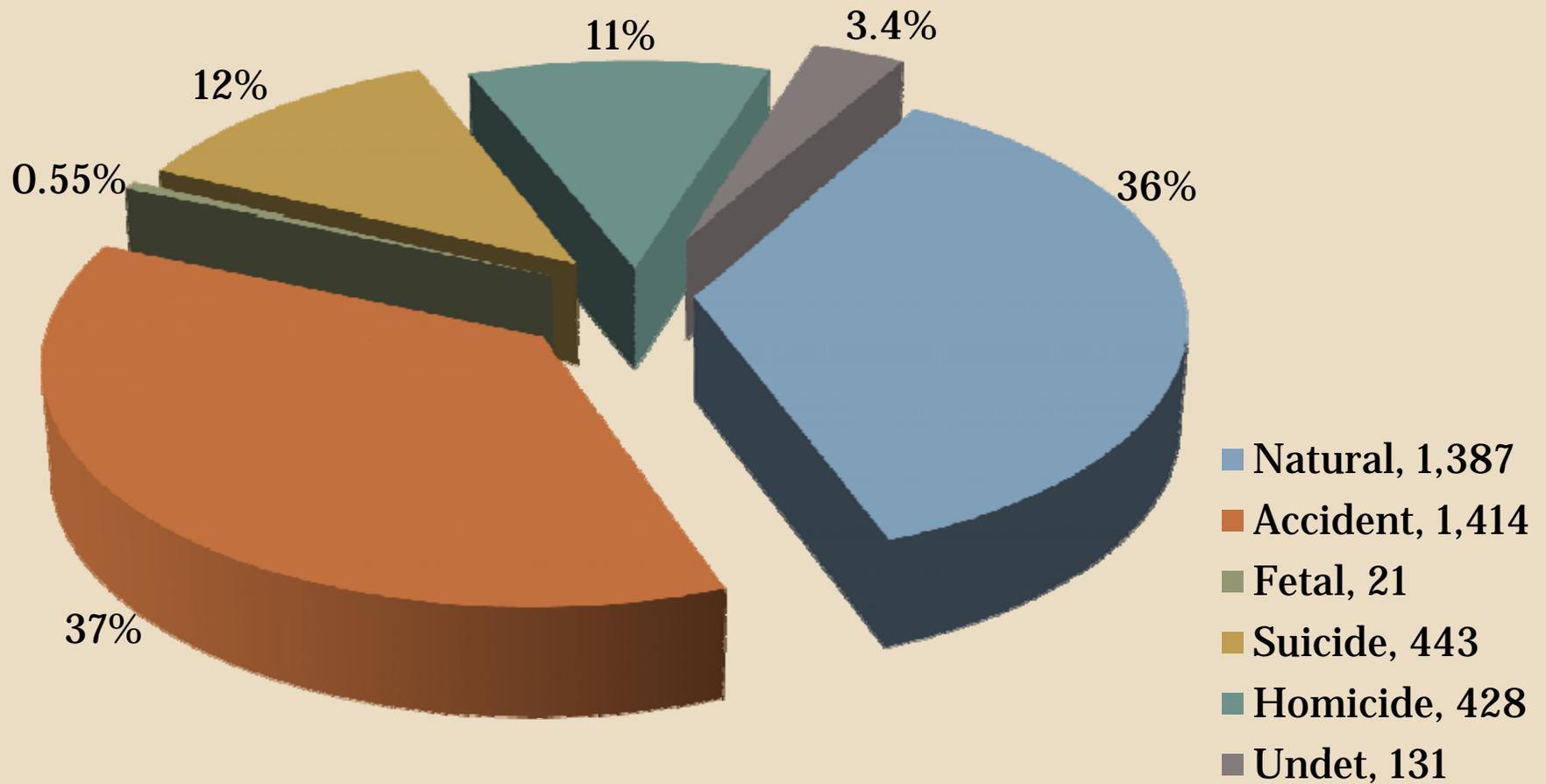
8

- Provided 59 autopsy consultations (no report)
- Completed 157 bone/cartilage trauma reports
- Received 12 skeletons for analysis
- Attended 32 death scenes for skeletal recovery
- Examined 20 cases of remains determined to be either non-human or non-forensic



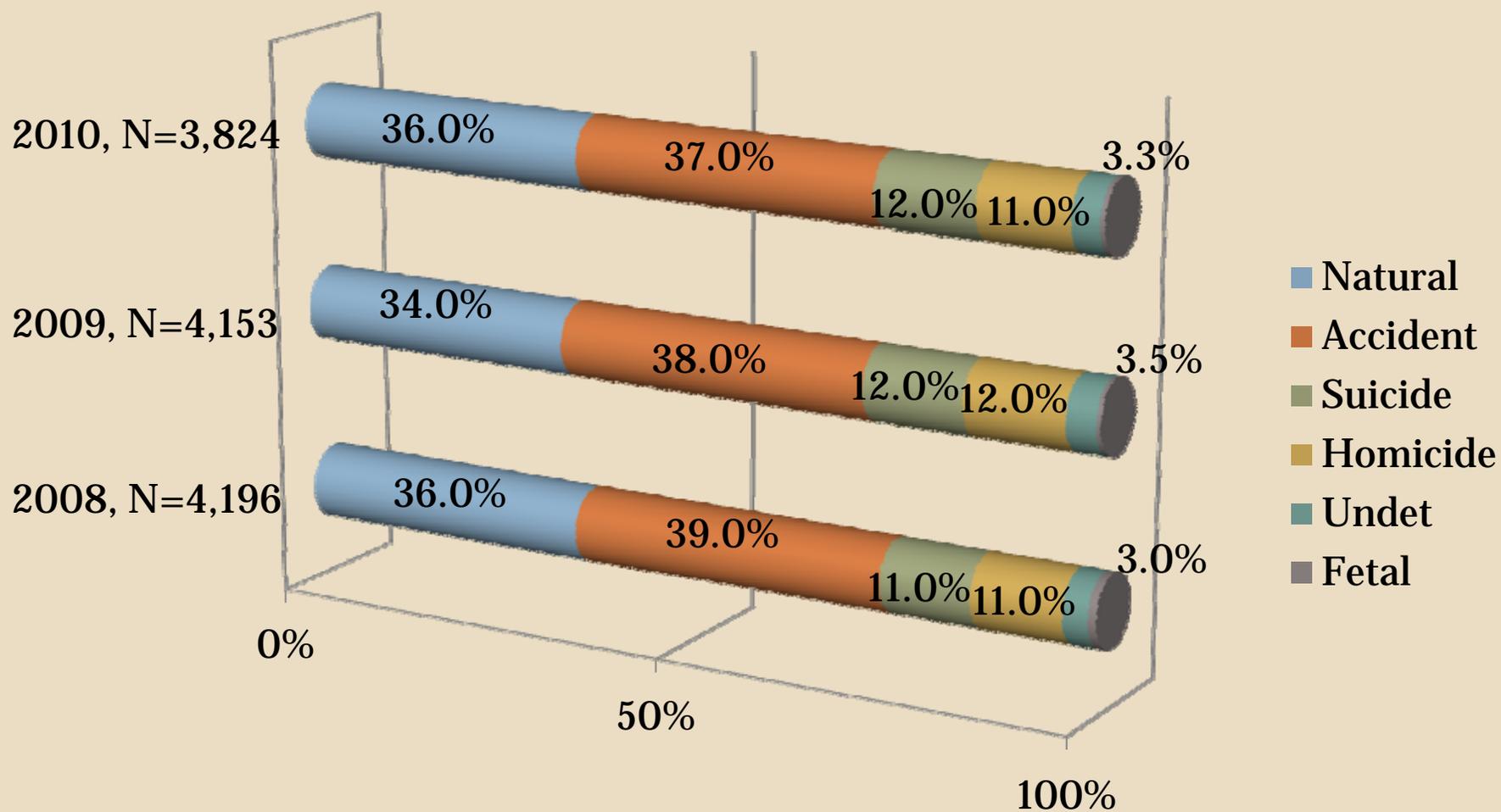
Manner of Death Composition

9



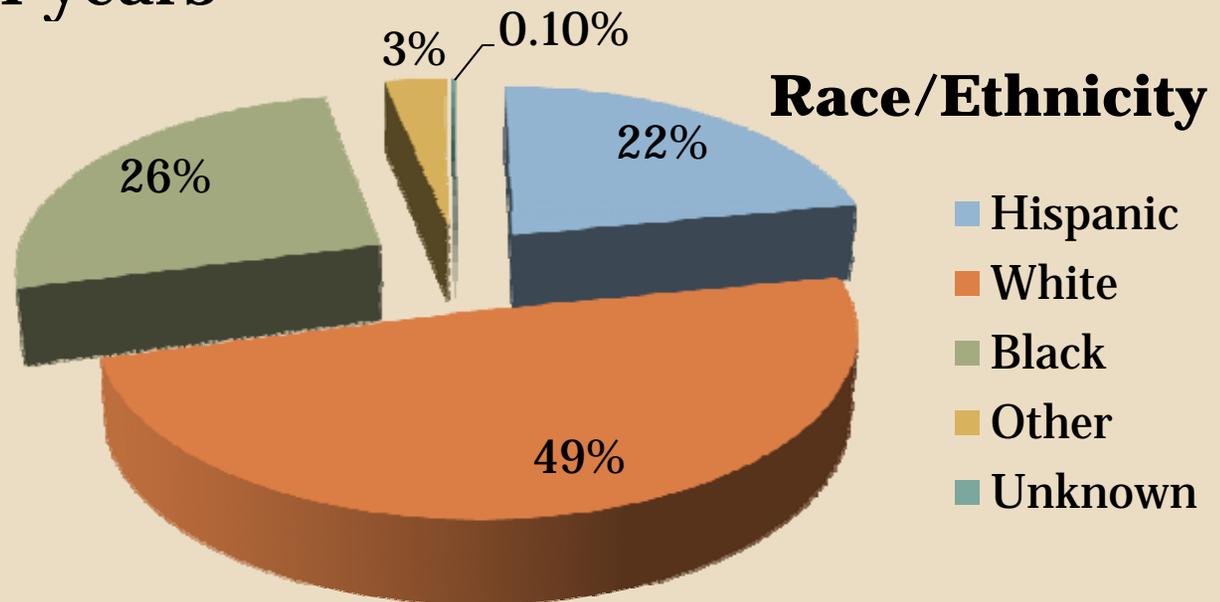
Manner of Death 2008-2010

10



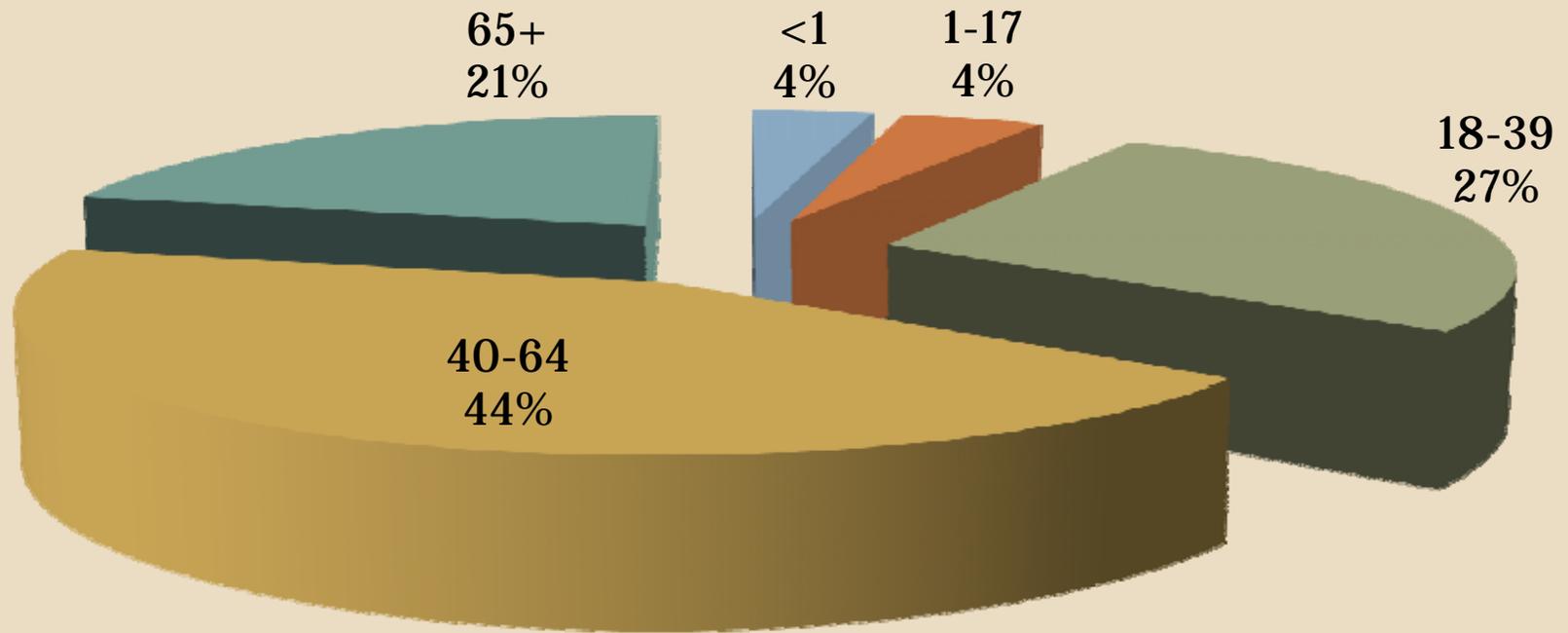
Demographic Components of ML Cases

- Male to Female ratio is 2.1 to 1
- Age range (excluding fetal manner)
 - 1 day to 104 years



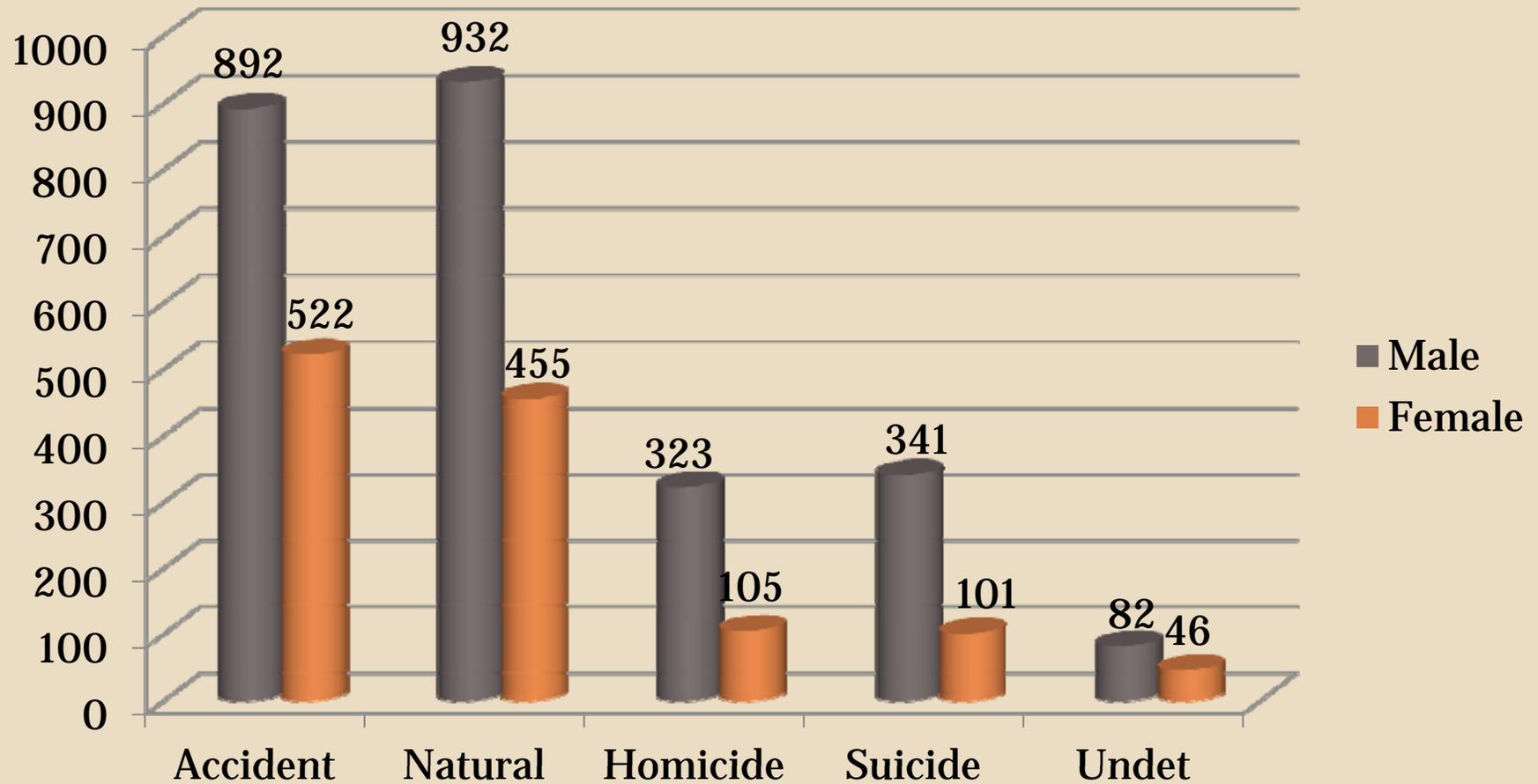
Age Categories Represented by Proportion

12



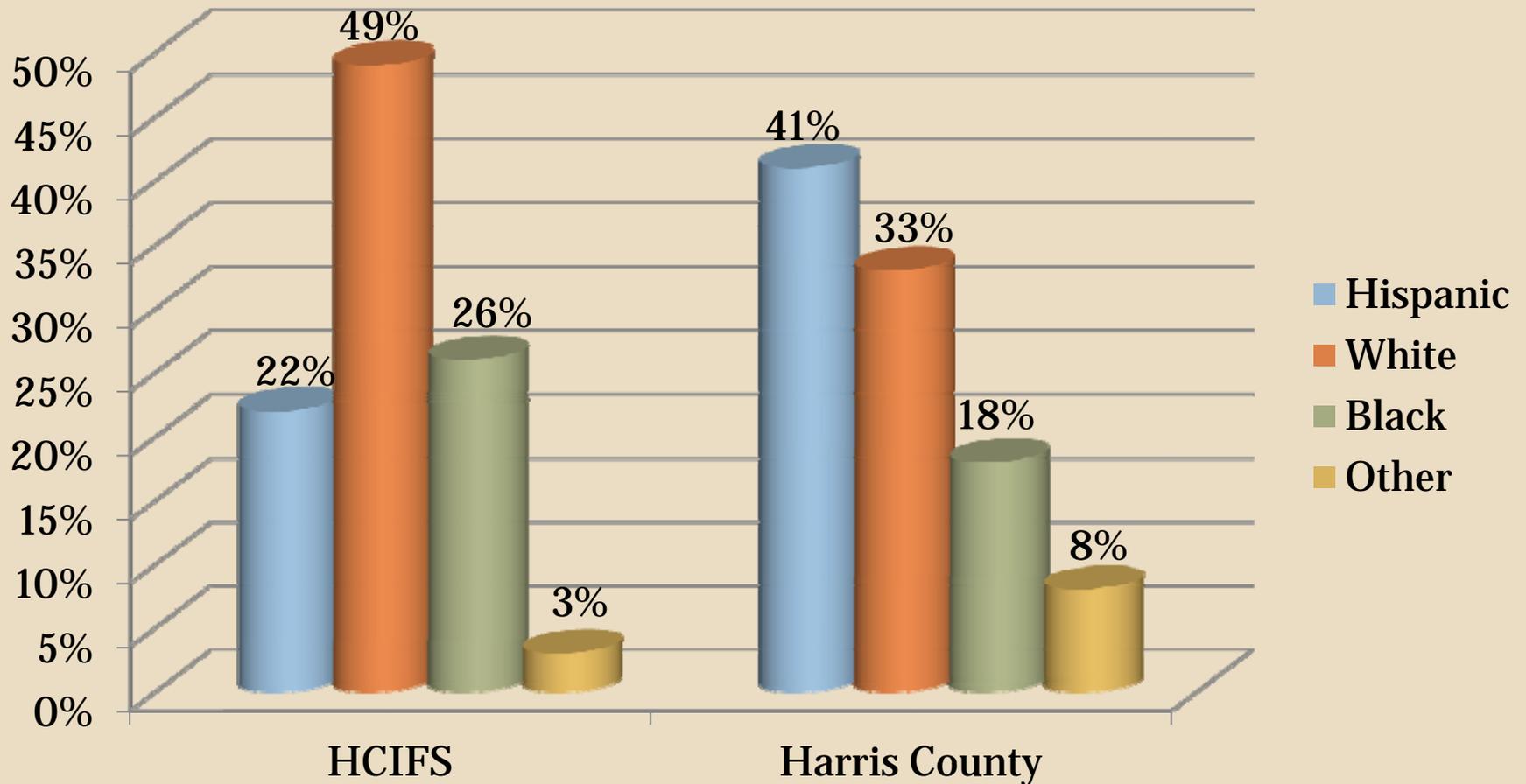
Manner Stratified by Sex

13



Race/Ethnicity Compared to Harris County Population

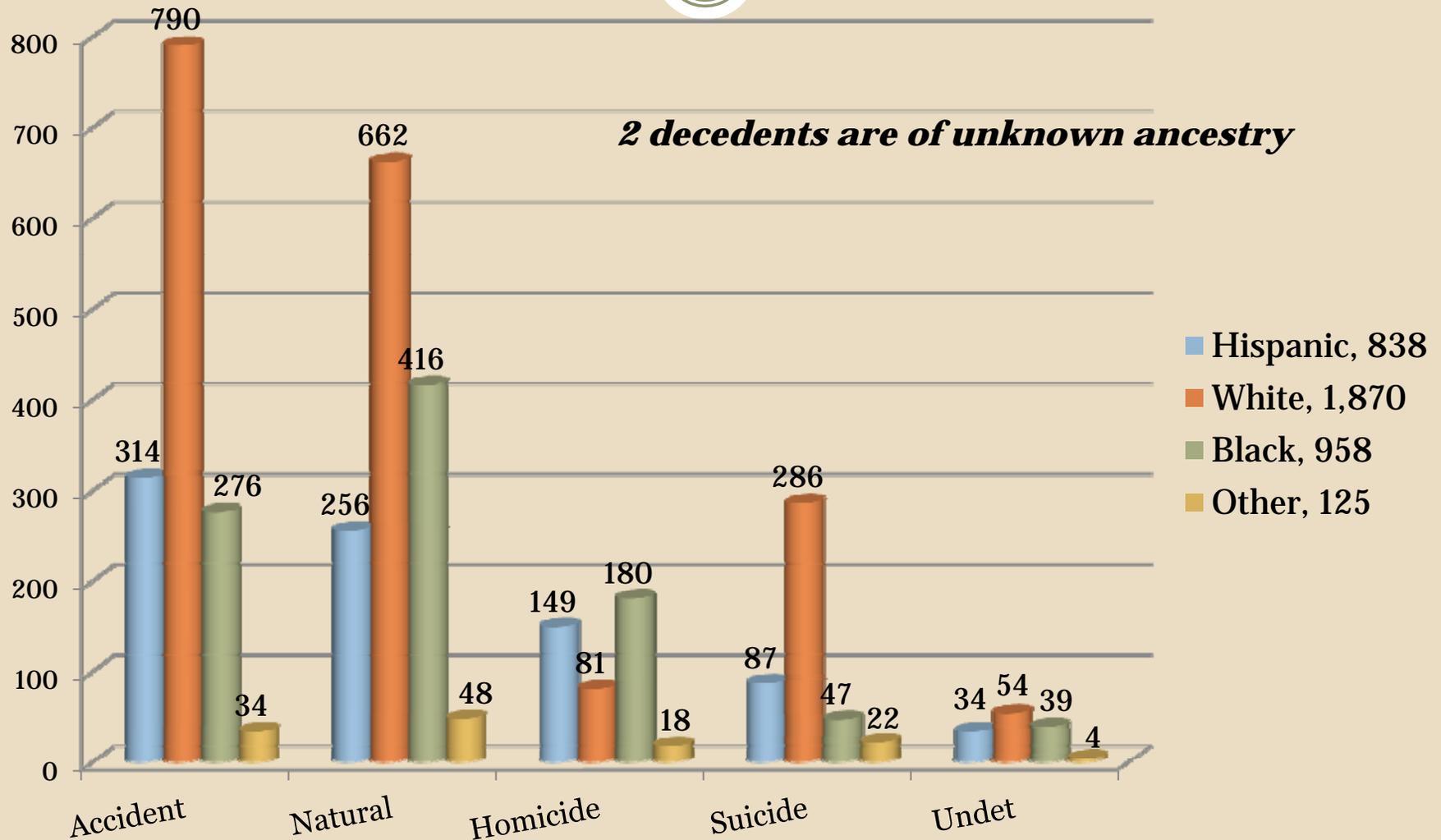
14



Population intercensal data, July 1, 2010, Texas Data Center, Office of the Texas State Demographer

ML Cases by Selected Manner and Ancestry

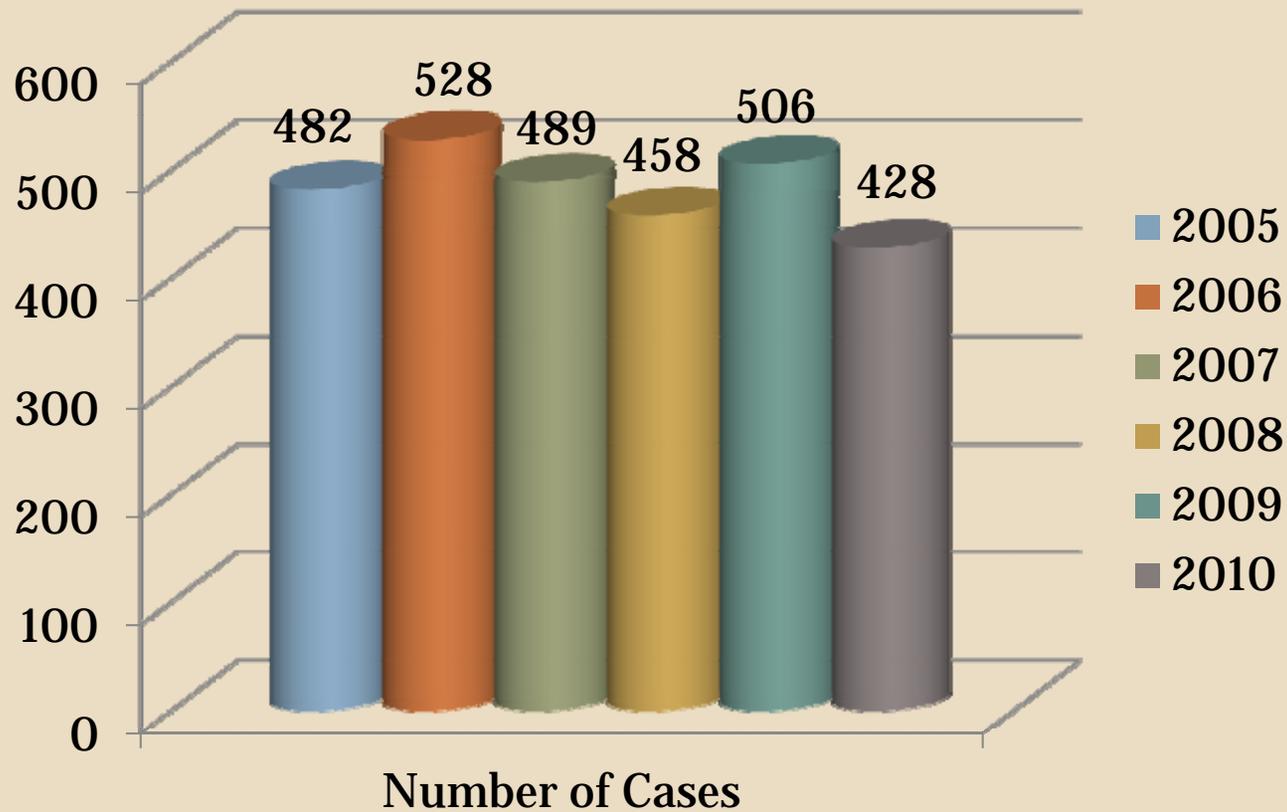
15



Homicide Numbers 2005-2010

16

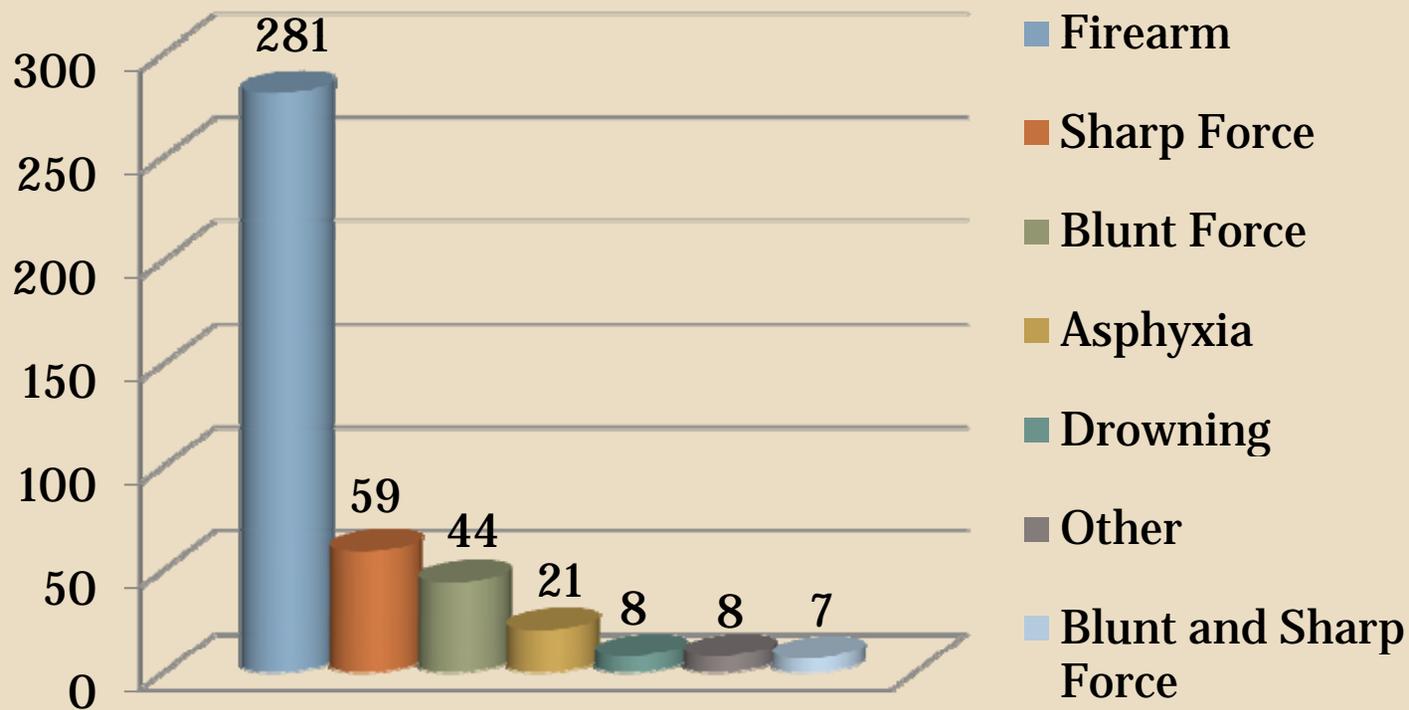
- The number of Homicide cases decreased substantially in 2010.



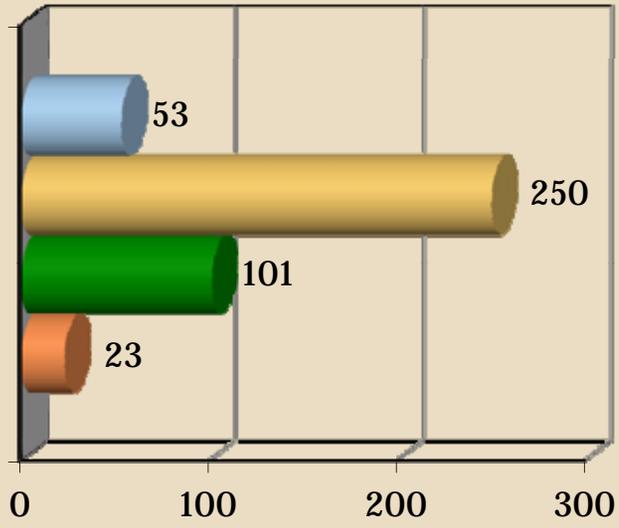
Causes of Death in Homicide Cases

17

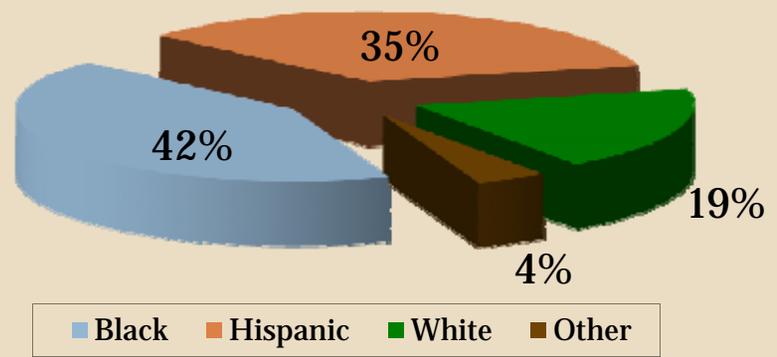
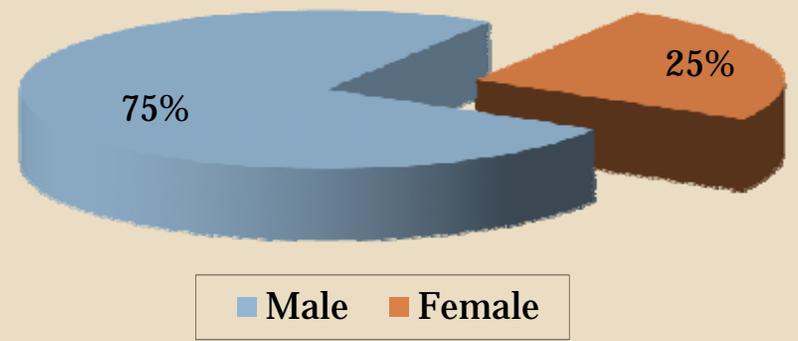
- 29 Homicide cases are associated with domestic violence
- 10 Homicide deaths occurred “while at work”
- 46 cases are companions to at least one other ML case



Homicide Deaths by Demographic Category

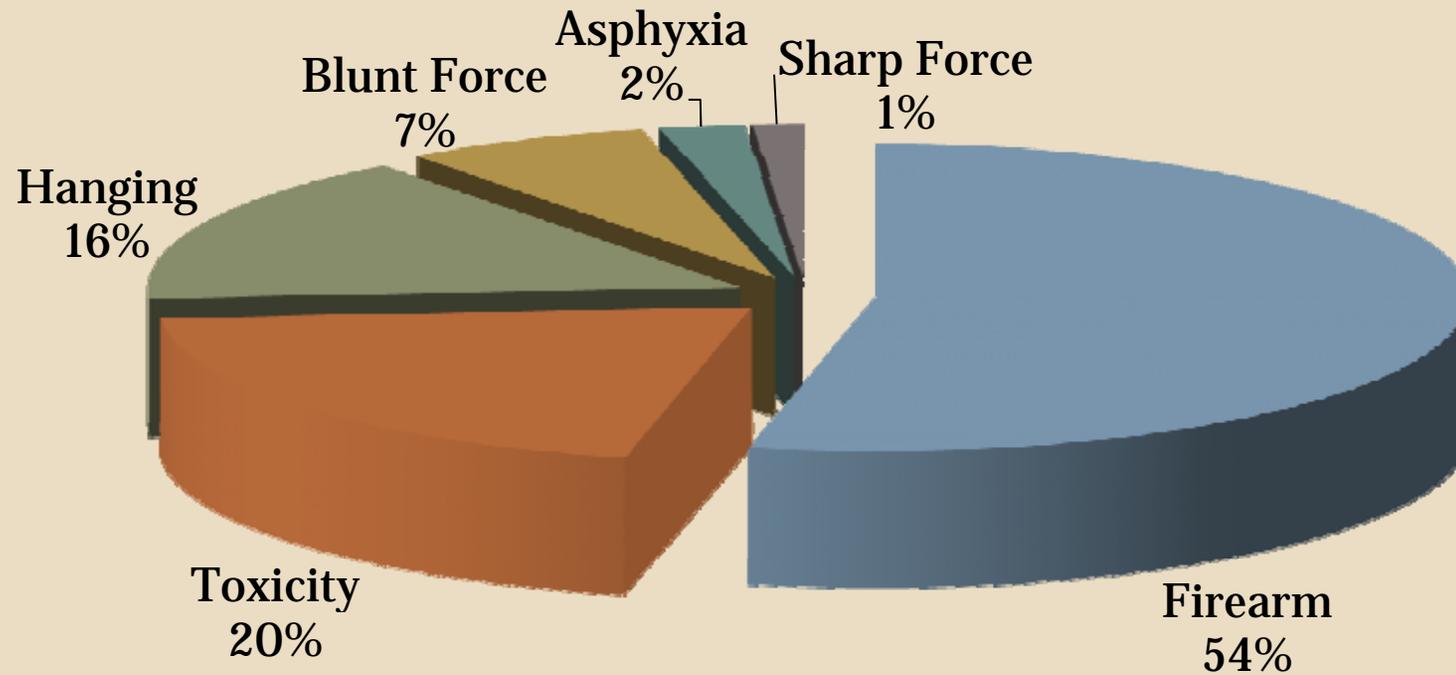


One Homicide case decedent is of unknown age



Causes of Death in Suicide Cases

19



N=443

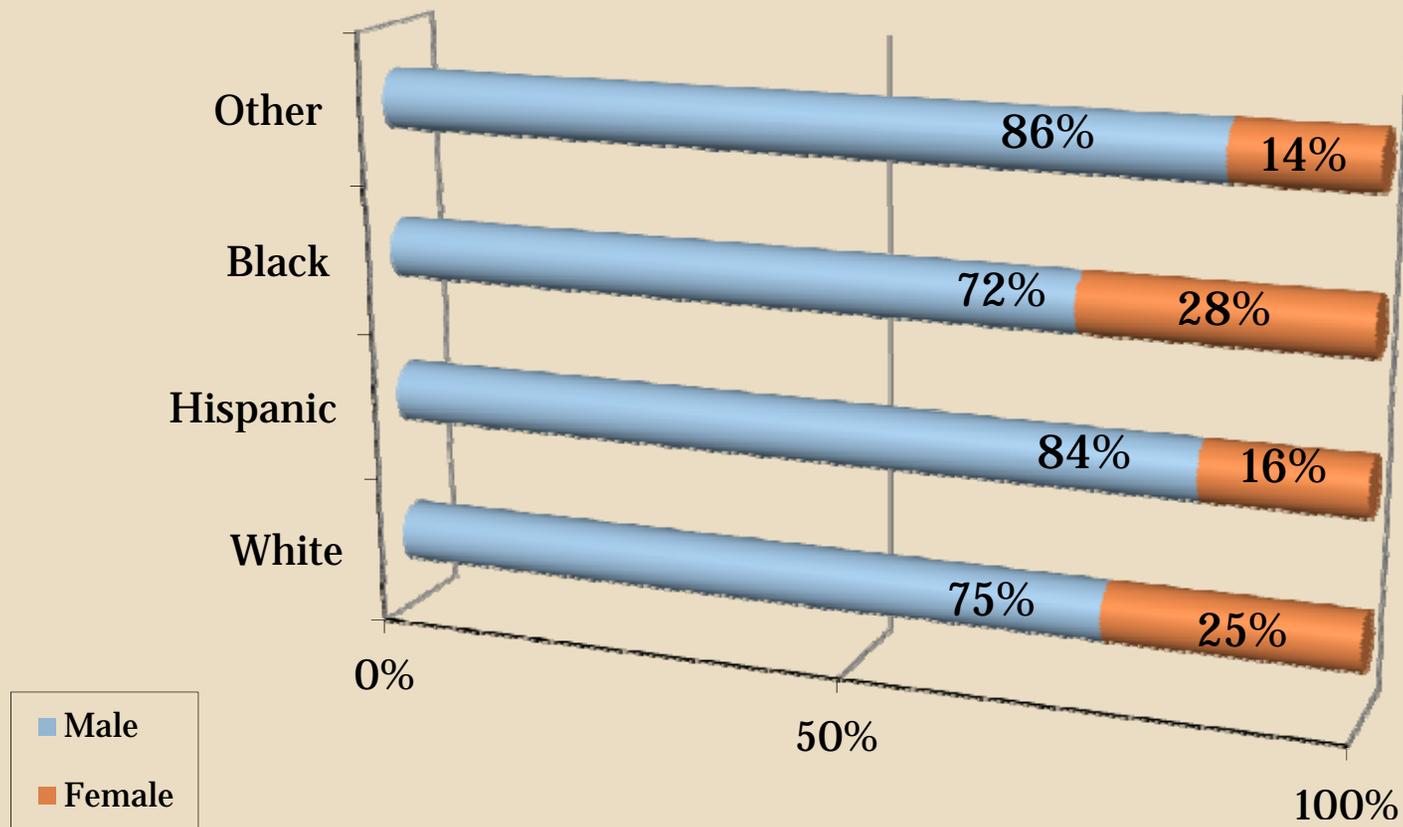
Demographic Data for Suicide

20

- Male to Female ratio is 3.4 to 1
- Age range is 13-93 years
- The number of White suicide cases is almost double the other ethnicities combined (286 compared to 157)
- Murder suicides:
 - 2006: 9, 2007: 9, 2008: 13, 2009: 10
 - 2010: 14

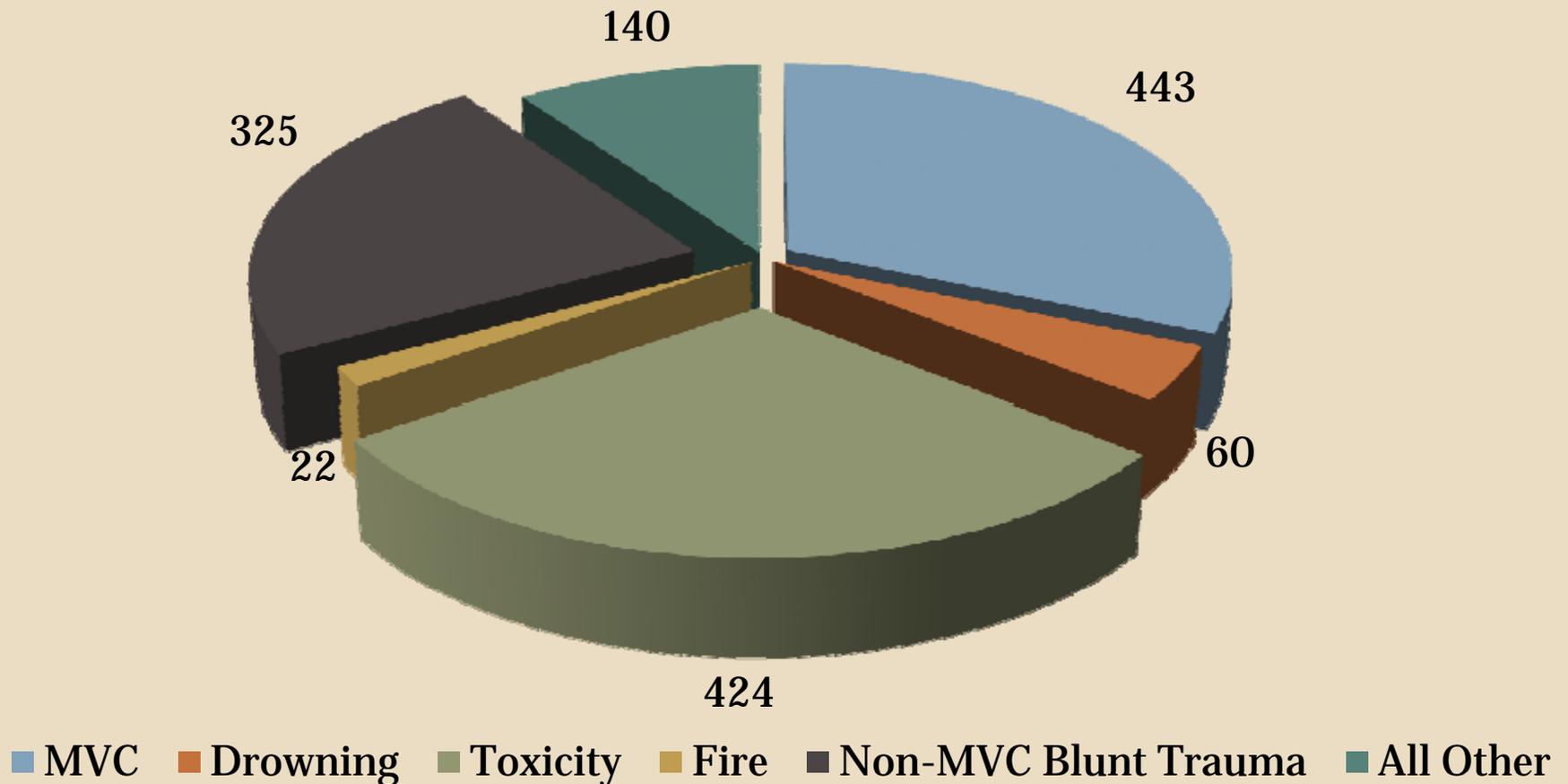
Suicide Stratified by Sex and Race/Ethnicity

21



Most Common Accidental Deaths

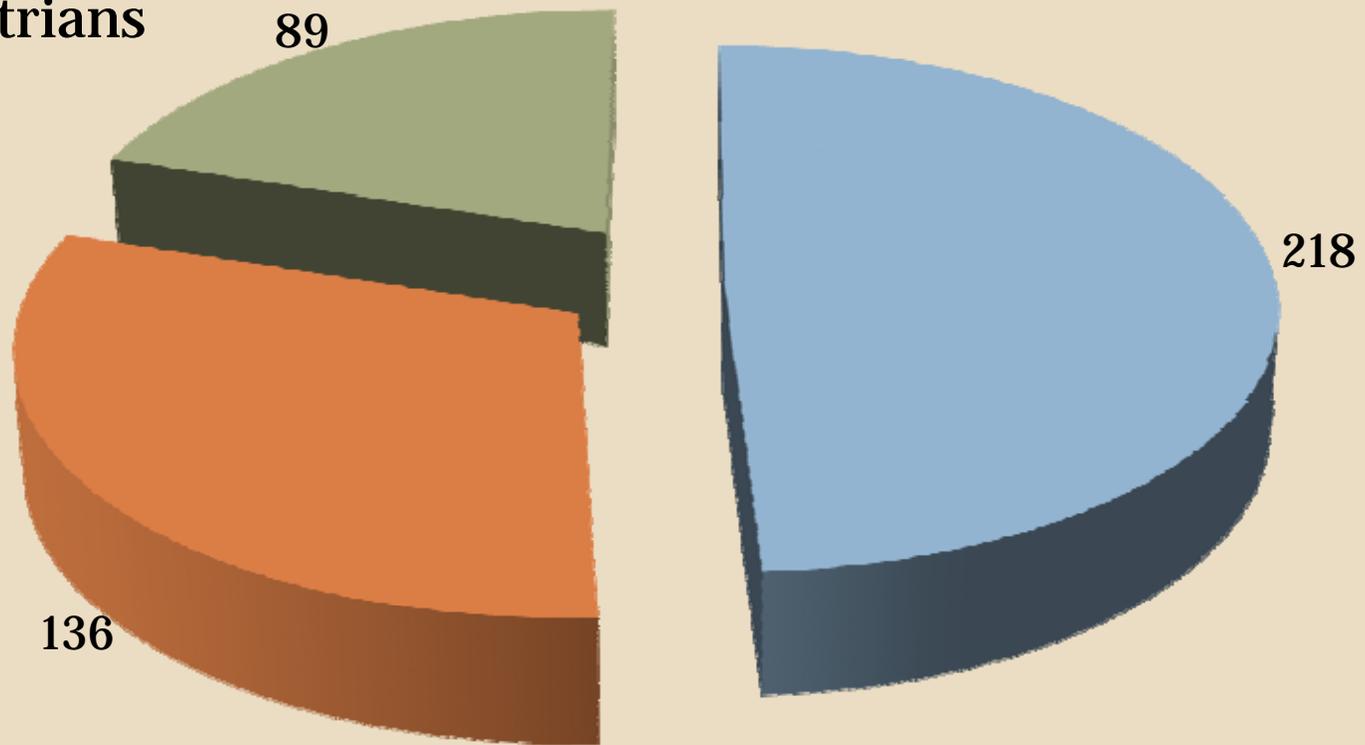
22



Motor Vehicle Crash Deaths

23

- 8 children 2-13 years were pedestrians

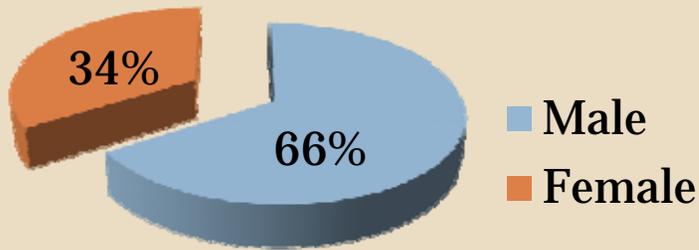


■ Driver ■ Passenger or Unknown Position ■ Pedestrian

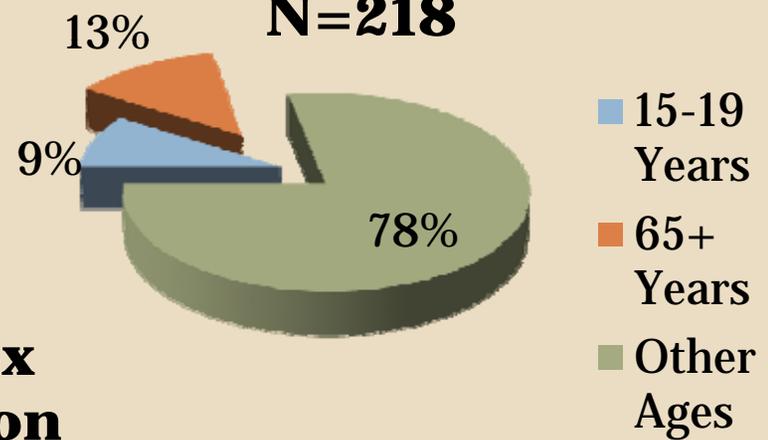
Driver Distribution

24

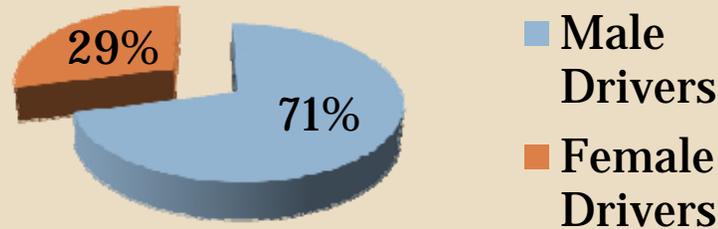
Sex Distribution All MVC, N=443



Proportion of Drivers who were teens or seniors, N=218



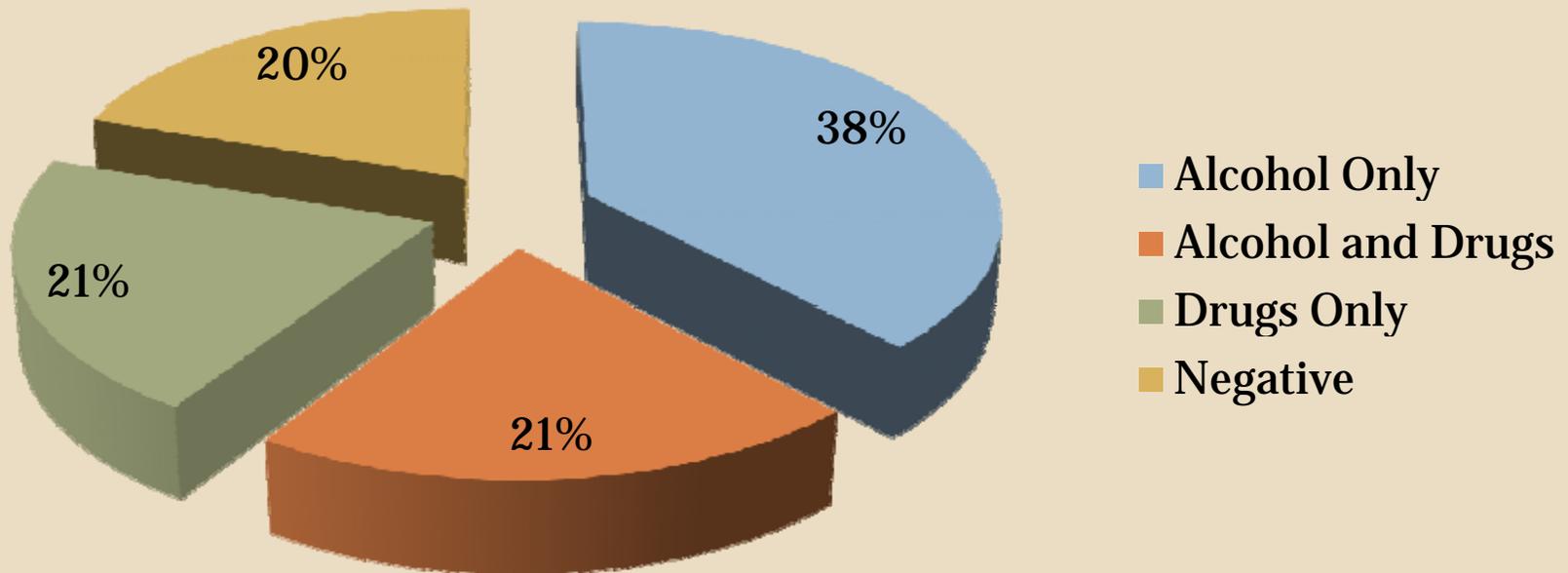
Driver Sex Distribution N=218



Drugs and Alcohol in Drivers

25

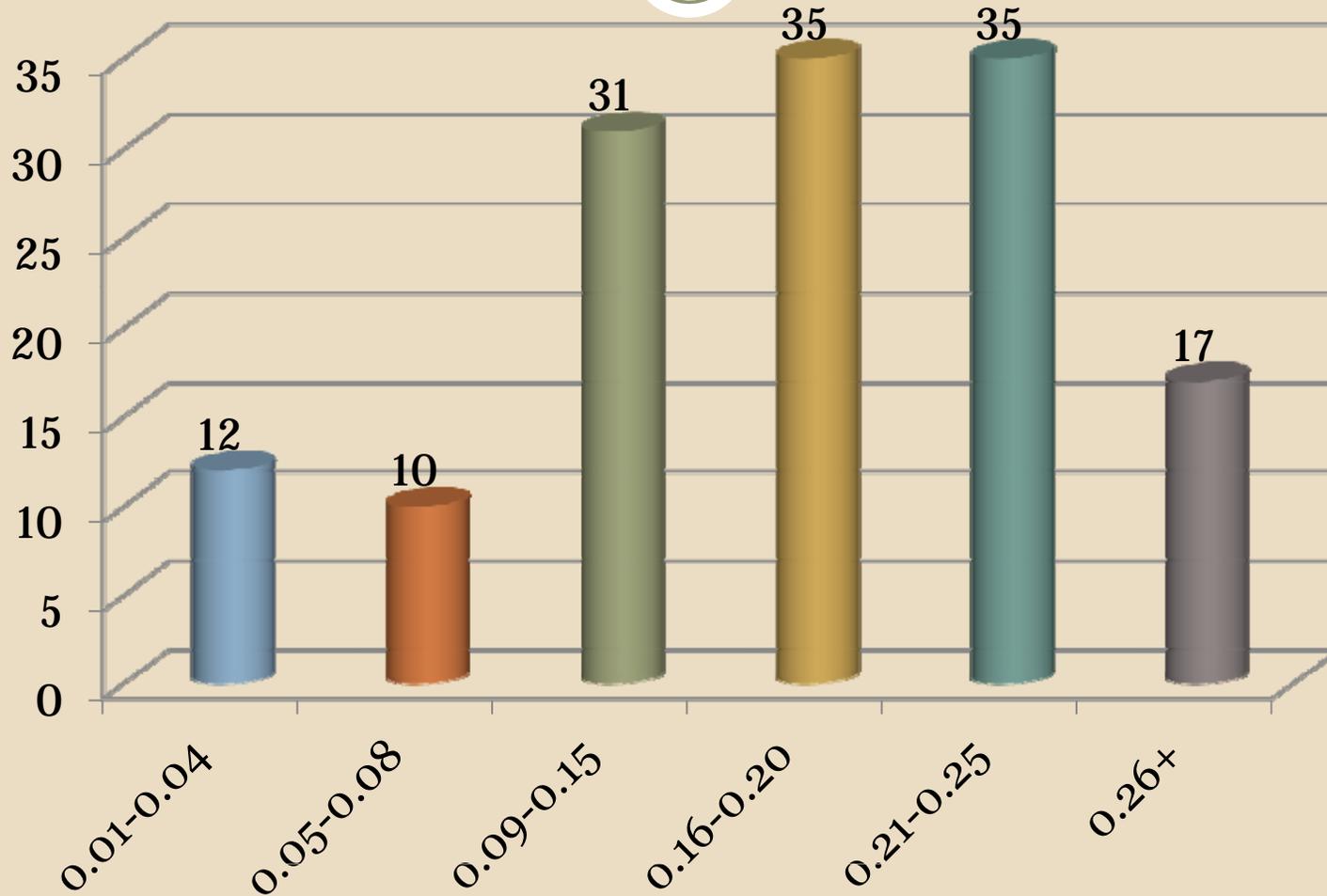
N=237 Driver Serology Panels



Data courtesy of Dr. J. Walterscheid and Ms. K. Tsai (Toxicology Intern)

Driver Blood Alcohol Content

26



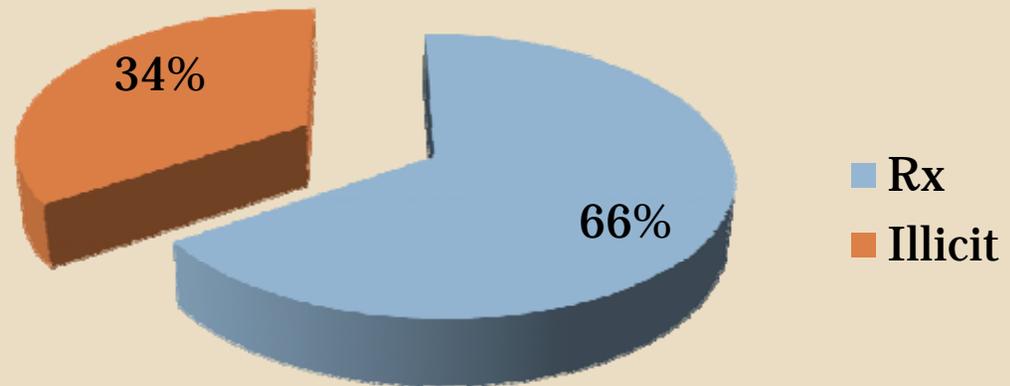
N=140 drivers positive for alcohol

Common Toxicology Results for Drivers

27

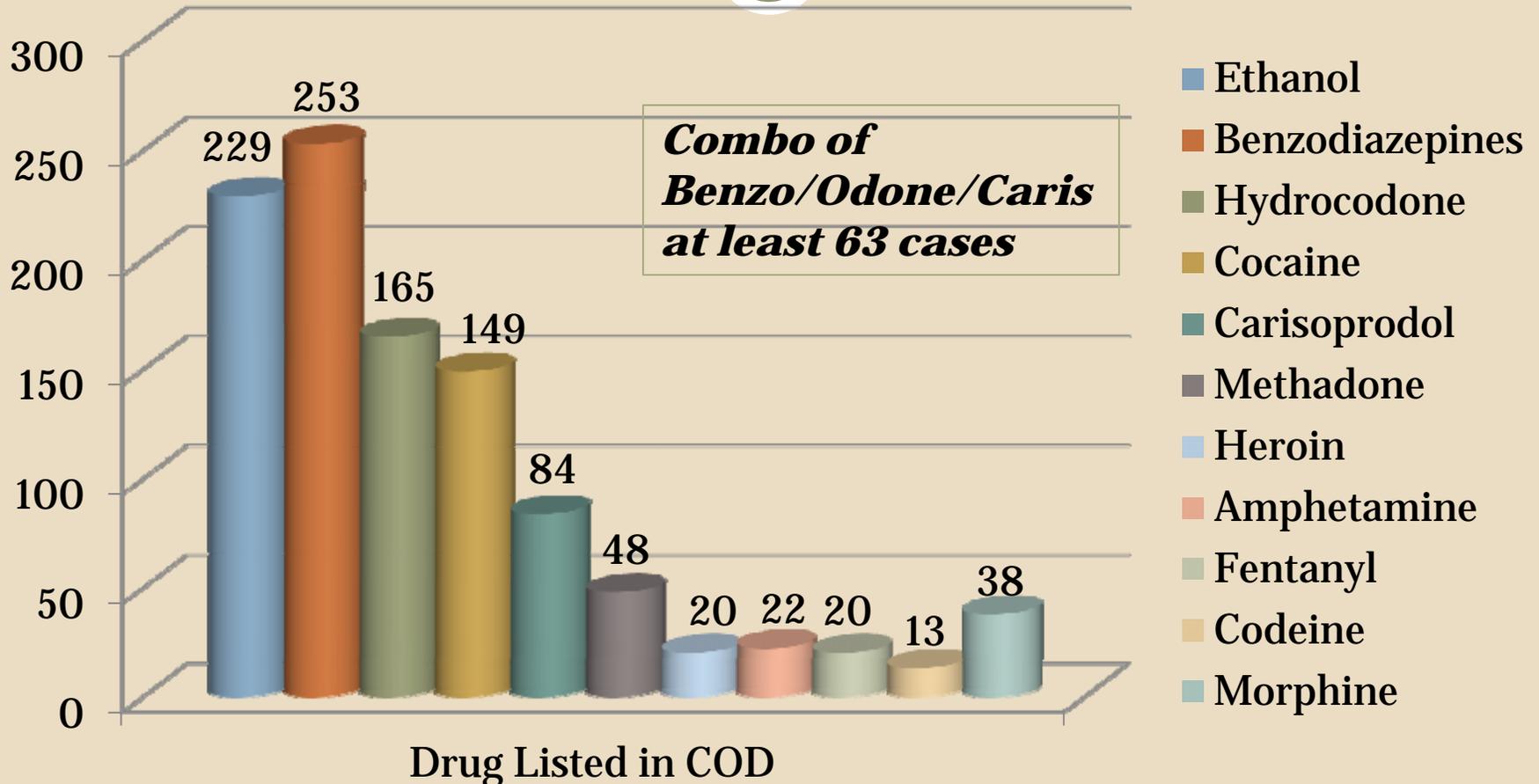
- **Drugs commonly found in driver fatalities:**
 - NOR-THC
 - Meprobamate
 - Carisoprodol
 - Alprazolam
 - Hydromorphone
 - Hydrocodone

Prescription vs. Illicit Drugs Only Results



Drugs of Abuse

28



Total cases of toxicity = 515

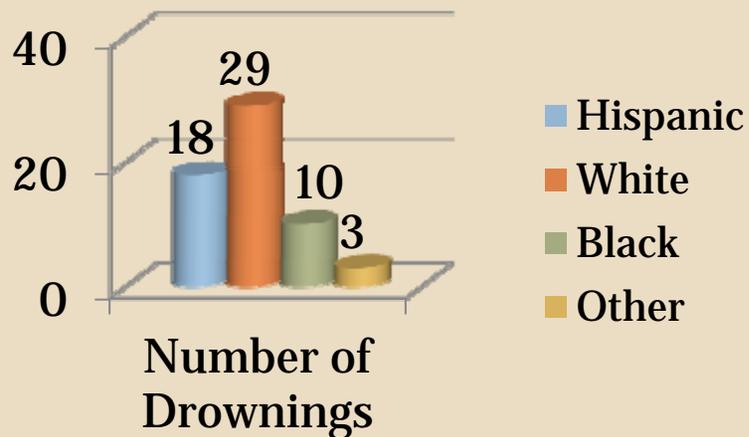
Drugs may be combined within a case. These data do not reflect discrete cases.

Accidental Drowning

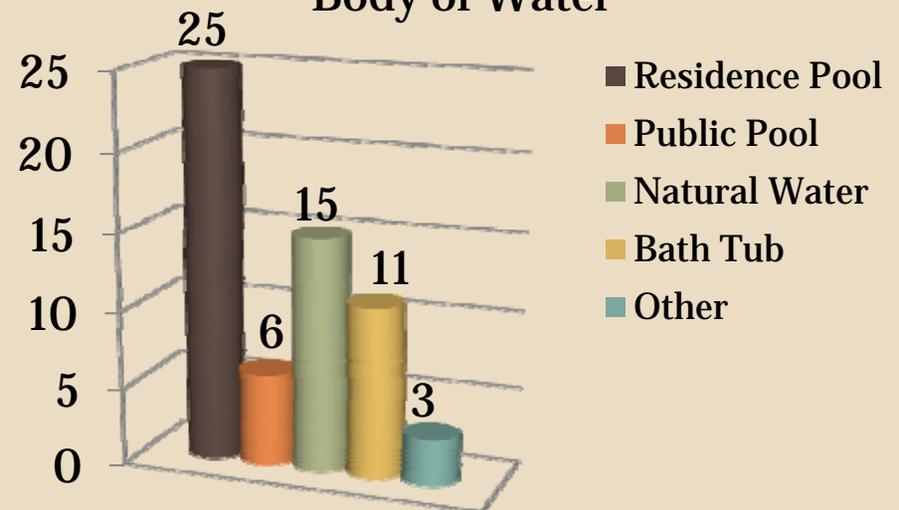
29

- Total Cases = 60 (not MVC cases)
- Age Range is 16 months to 83 years
 - 18 young children ages 16 months to 11 years
- The majority of drowning victims are male (42:18)

By Race/Ethnicity

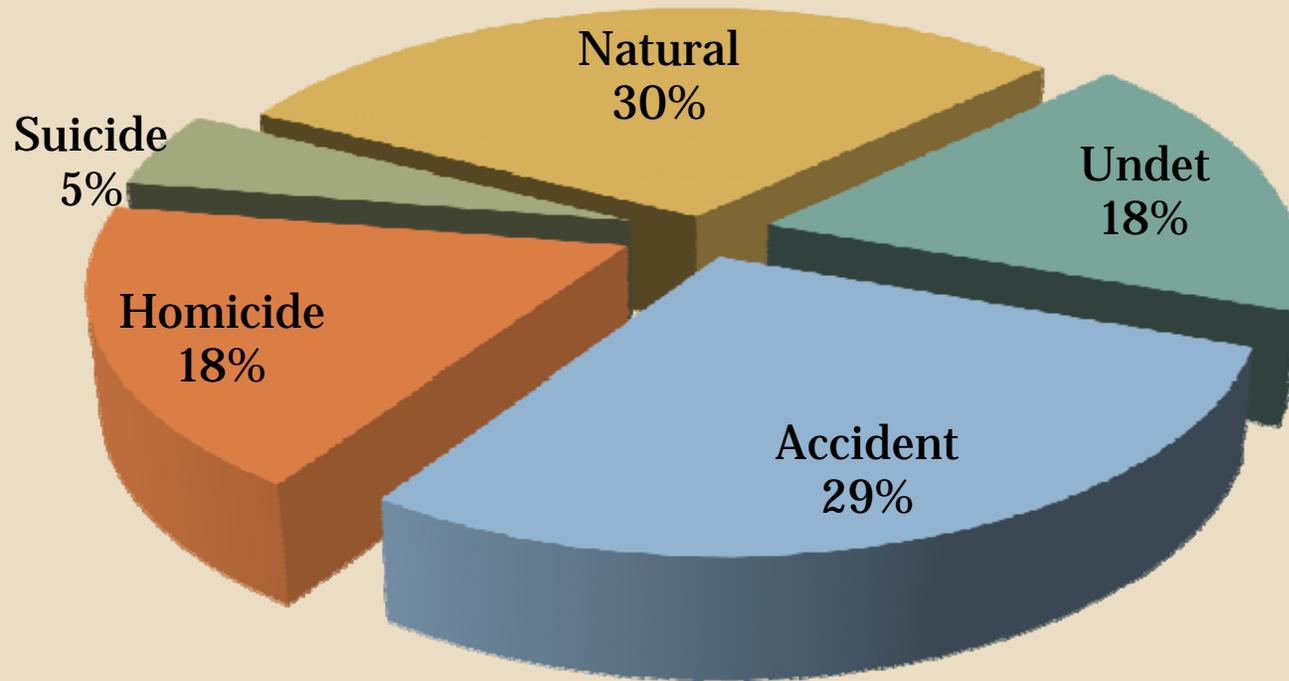


Body of Water



Manner in Children 0-17 Years

30

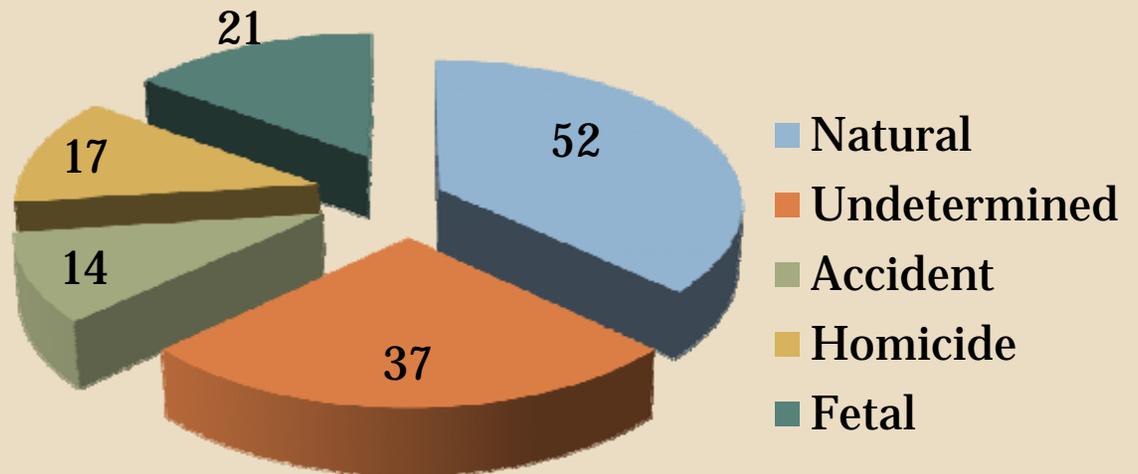


Infant Deaths

31

- 141 infant/fetal death cases (less than 1 year of age)
- 36 cases of Undetermined Manner/22 were co-sleeping
- 24 SIDS cases

Infant/Fetal Case Manner

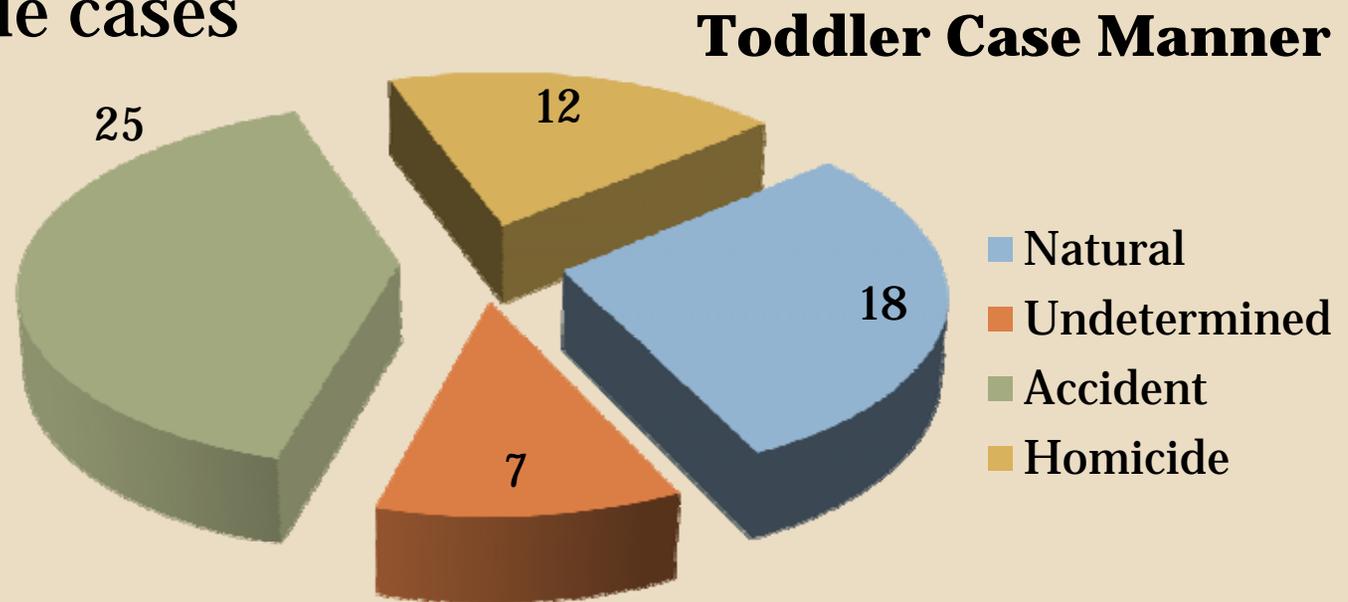


**Houston/Harris County Child Fatality Review Team*

Toddler Deaths (1-4 Years)

32

- 62 toddler death cases
- 8 toddlers were killed in MVC (4 pedestrians)
- 11 toddlers drowned in accidents
- 12 Homicide cases
 - 7 Females
 - 5 Males



Top Four Injury Deaths of Children 0-17

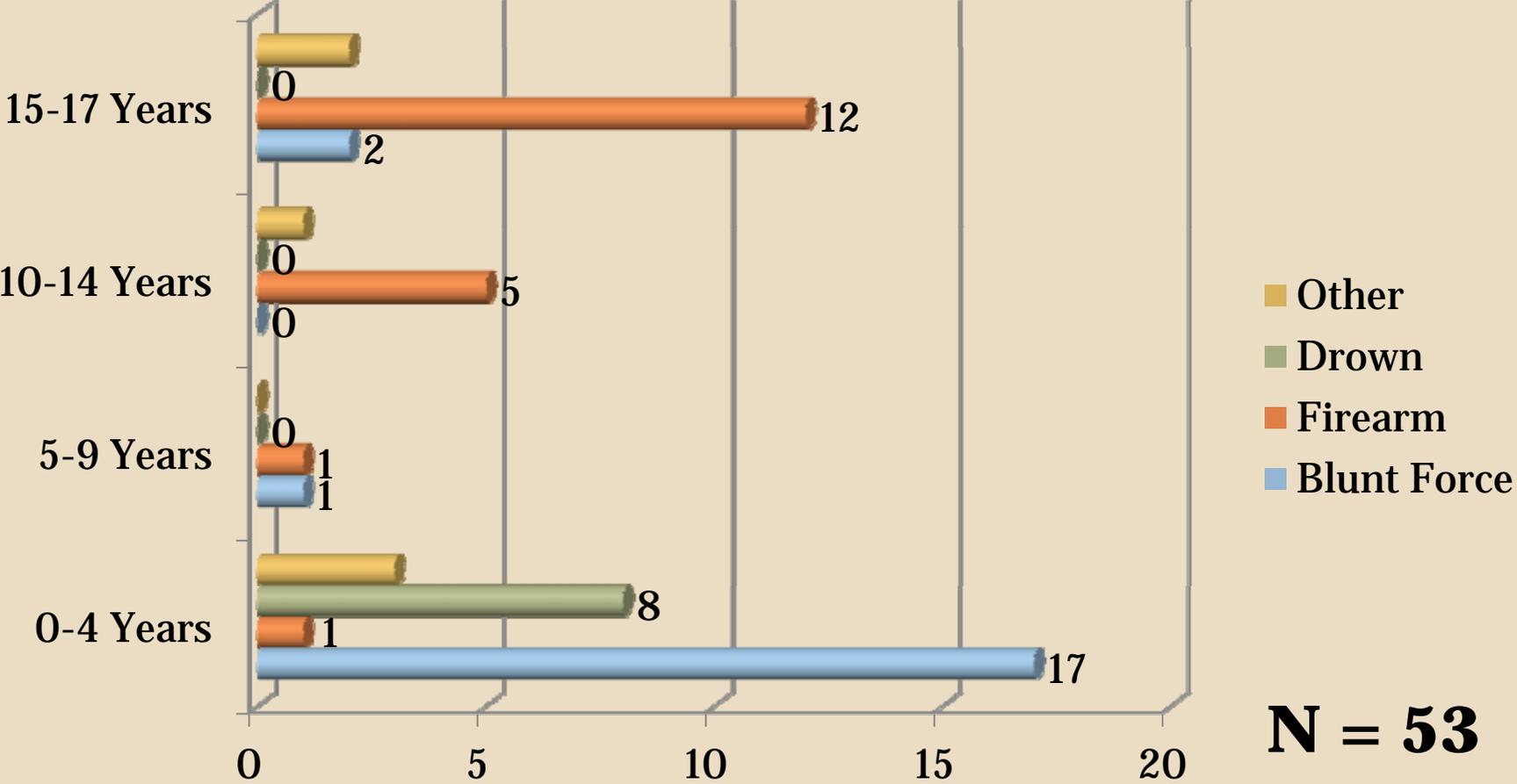
33

1. Motor vehicle crashes (36)
2. Drowning (28)
3. Firearm wounds (19)
4. Asphyxia/choking/
suffocation/hanging (14)



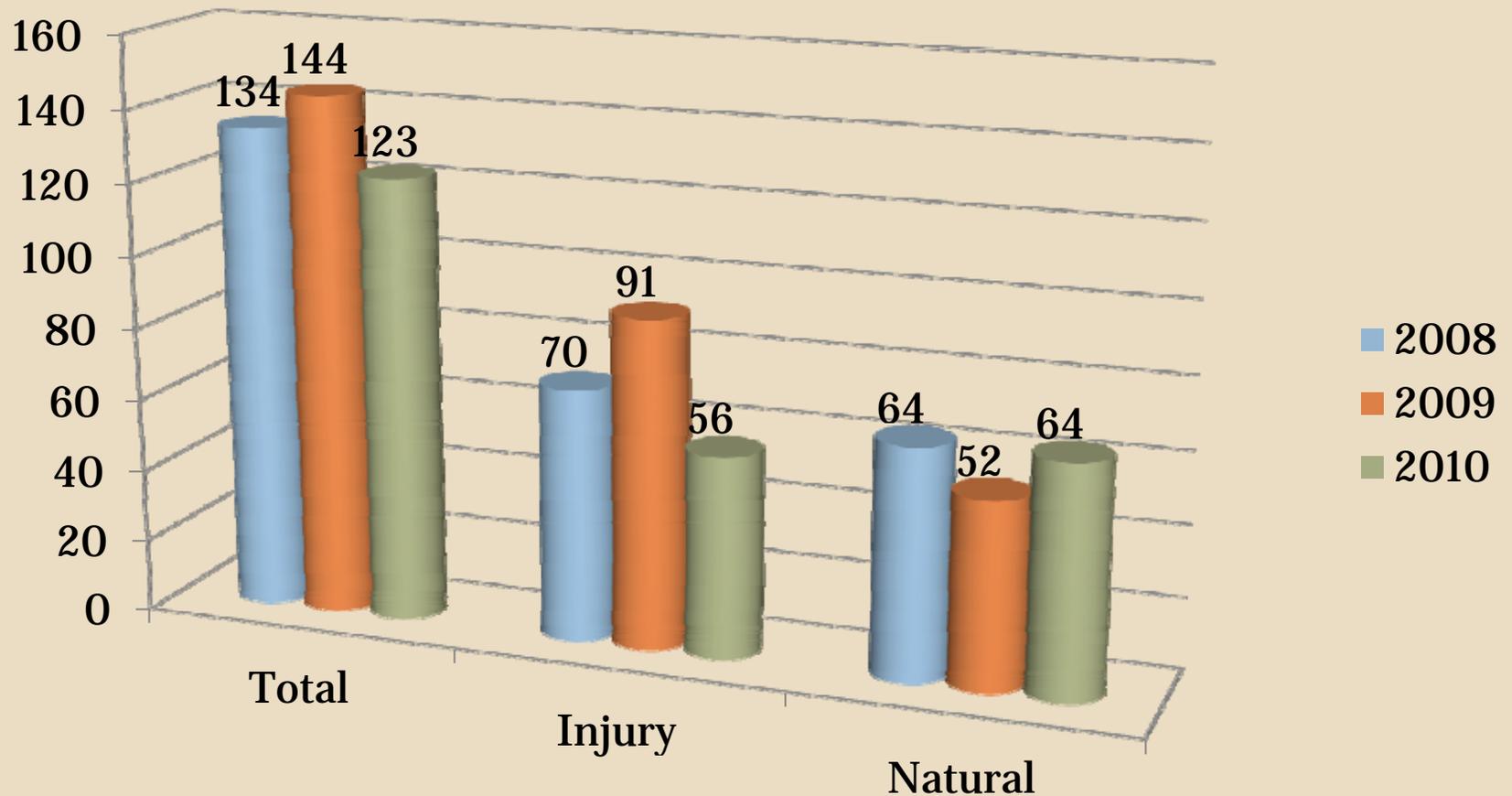
Homicide Deaths of Children 0-17

34



“While At Work” Deaths

35



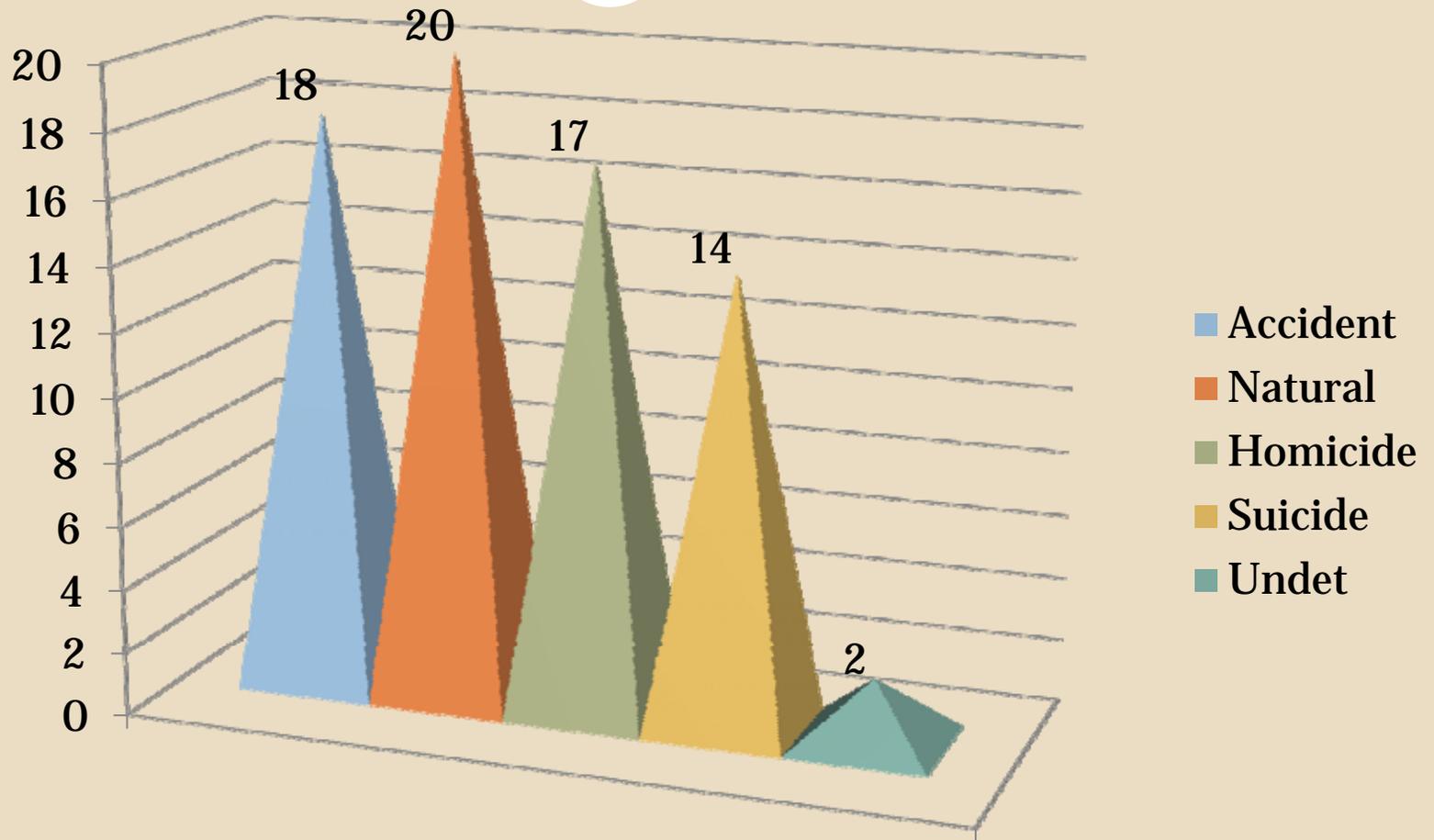
Deaths While “In Custody”

36

- 71 “in custody” deaths were investigated.
 - The HCIFS defines a death in custody as the “death of any person who is under arrest or is in the process of being arrested, is en route to be incarcerated, or is incarcerated at a municipal or county jail, State prison, or other local or State correctional facility (including any juvenile facility).”

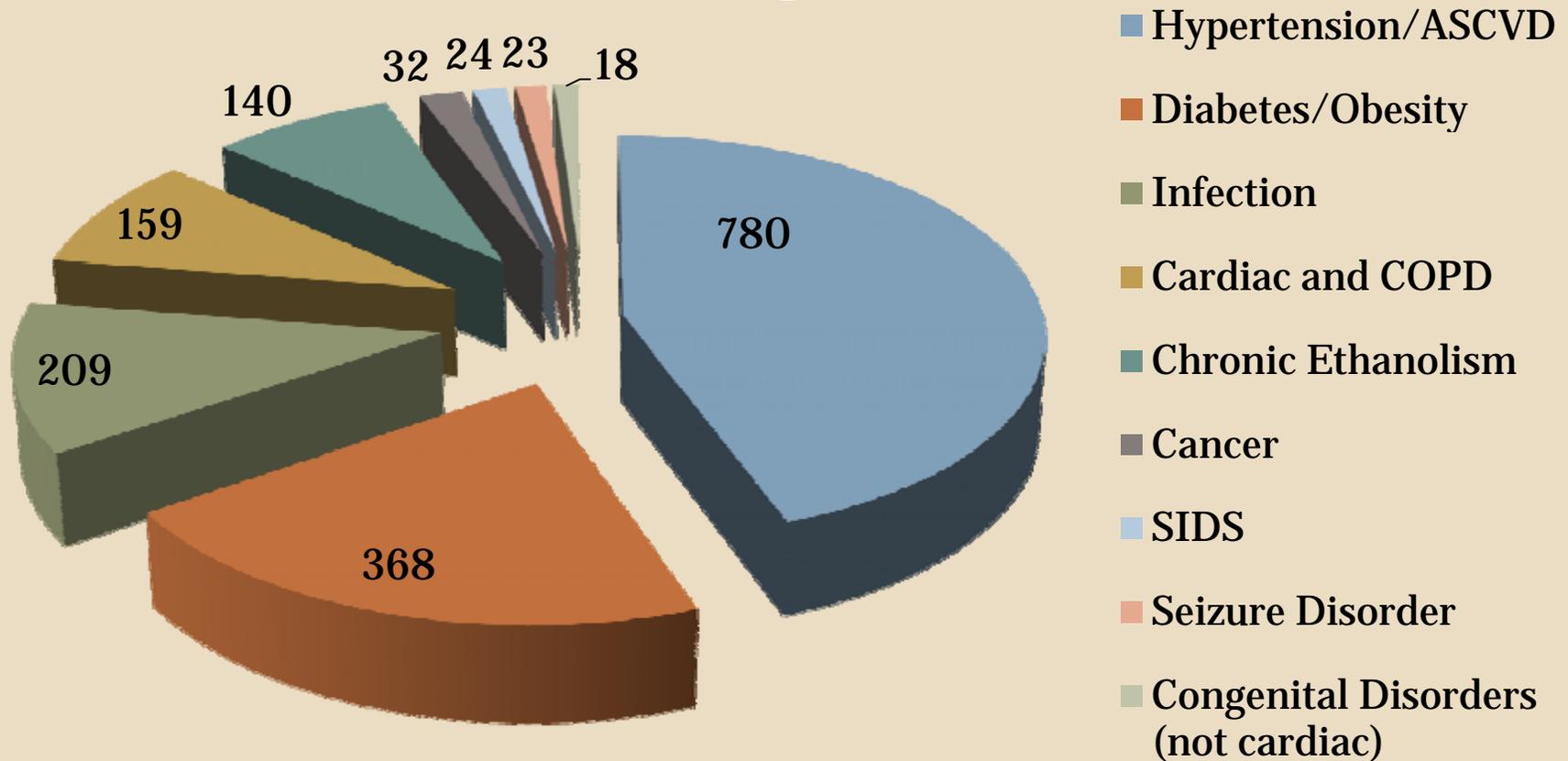
Deaths While “In Custody”

37



Cause of Death Data: Natural Deaths

38



N = 1,387 cases classified as Natural in Manner

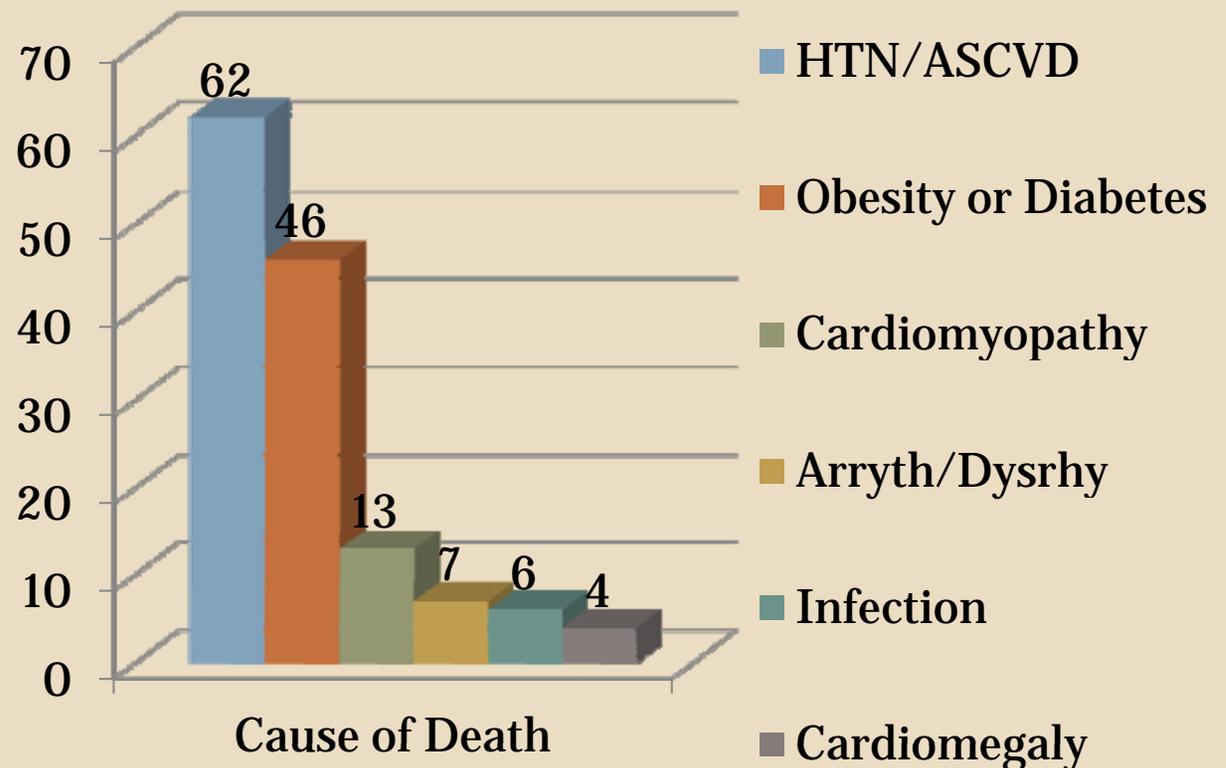
The graph does not reflect discrete cases. The COD may contain more than one of the disorders listed. Less common disorders are not listed.

Cardiac Death in Young People

39

- 92 cases of cardiac death occurred in people aged 14 to 40 years

The most common disorders listed in the cause of death are represented in the graph:



Diabetes and Obesity

40

- The primary or contributing cause of death for 194 decedents was diabetes.
 - 70% of these decedents were either overweight or obese (BMI= 25+)
- BMI was calculated for 3,365 decedents 13 years or older, at least 59” tall, and 100 pounds:
 - 1,180 (35%) are obese with a BMI of 30 or greater
 - 962 (29%) are overweight with a BMI between 25 and 29
 - The greatest BMI is 109 (653 lbs./65”)
 - There are 21 decedents over 400 lbs.
 - 1,223 (36%) decedents normal weight or underweight

Pathologist Publications

41

- HCIFS faculty were published in at least seven scientific journals in 2010, including:
 - *American Journal of Forensic Medicine and Pathology*
 - *American Journal of Clinical Pathology*
 - *Journal of Forensic Sciences*
 - *Journal of Pediatric Neurology*
 - *Medicine and Science in Sports and Exercise*
 - *Modern Pathology*
- The subject matter includes:
 - Sickle cell trait and fatal rhabdomyolysis
 - Influenza A/H1N1
 - Vein of Galen aneurysmal malformations
 - Primary breast lymphoma with sudden death

Annual Report Summary, 2010

42

- 9,378 deaths were reported to HCIF (37% of all HC deaths).
 - 3,933 deaths were certified (includes trauma inquests and out of county cases).
 - 3,824 Harris County medicolegal cases were brought to the office for examination.
 - 40 “out of county” cases received examination.
- 3,174 full autopsies were performed (includes 40 OC cases).
- 690 external examinations were performed.
 - 60% of HC cases were injury deaths classified as Accident, Homicide, or Suicide.
 - Natural deaths comprised 36% of the Harris County medicolegal caseload.
 - Only 3.4% of cases were classified as Undetermined in Cause and Manner.
 - 0.5% of cases were classified as fetal in Manner.
- 150 decedents were completely unidentified on arrival.
 - 3 decedents remain unidentified.
- IFS maintained agreements with three procurement agencies in 2010.
 - 92 ML cases were released for single or paired organ donation.
 - 305 ML cases were released for multiple tissue donation.