



Monitoring Violent Deaths in Michigan

The Michigan Violent Death Reporting System (MiVDRS)

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Background

Nationally, ~50,000 people die annually from interpersonal and self-directed violence. Michigan has ~2,100 violent deaths each year, and suicide and homicide are among the five leading causes of death for residents under the age of 55.¹ To reduce personal, familial, and societal costs of violence, the Centers for Disease Control and Prevention (CDC) implemented the National Violent Death Reporting System (NVDRS) in 2003. NVDRS is a state-based surveillance system that enables states to design tailored violence prevention strategies. The system is currently operating in 18 states.² Michigan set up the Michigan Violent Death Reporting System (MiVDRS) in 2010.

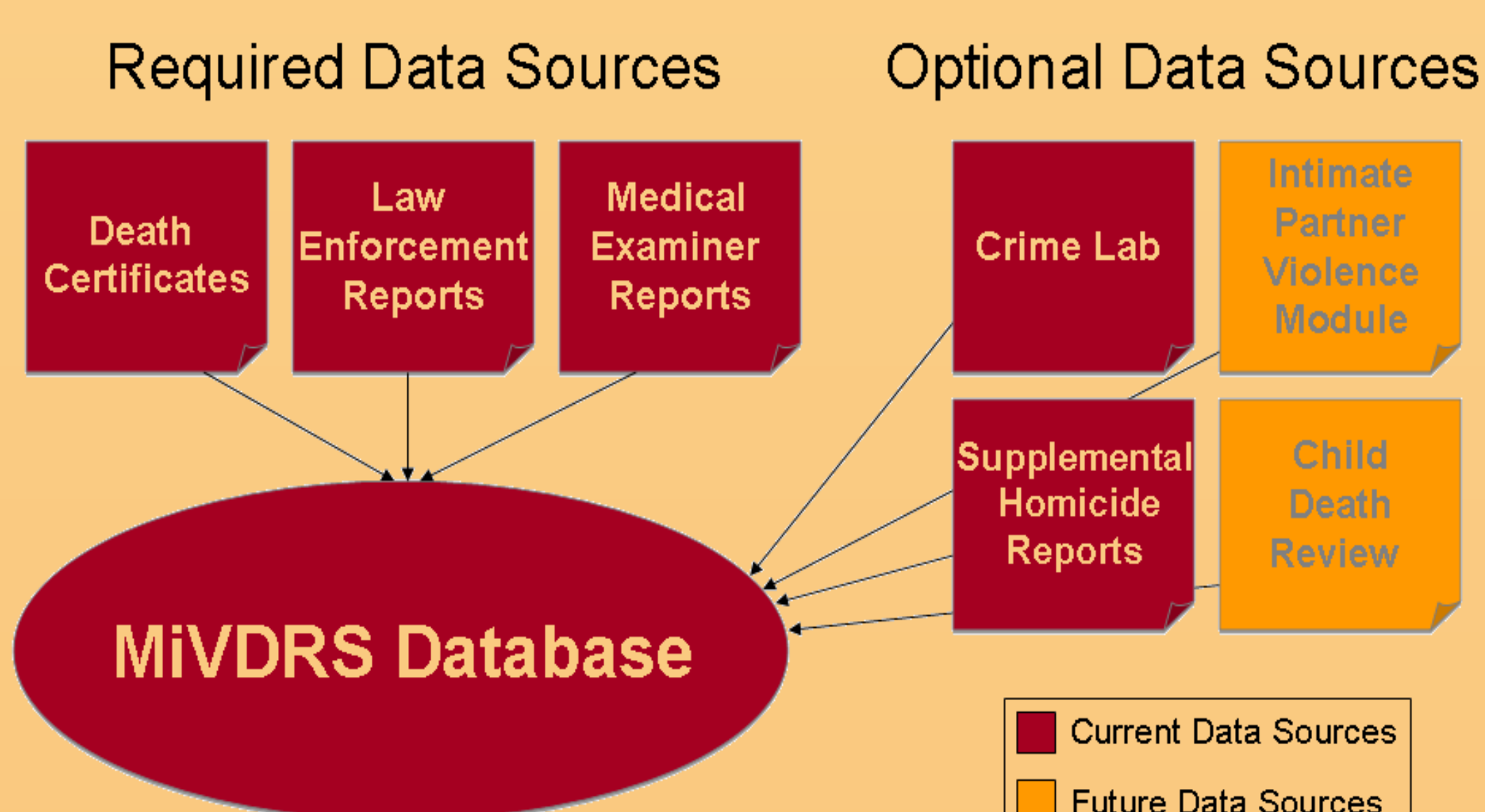
MiVDRS Goals

- Collect and analyze timely, high quality data to monitor the magnitude and characteristics of violent deaths in Michigan.
- Disseminate data routinely and expeditiously to public health officials, law enforcement officials, policy makers, and the public.
- Provide data to develop, implement, and evaluate violent death prevention and intervention programs.
- Build and strengthen partnerships among organizations and communities to facilitate data collection and use to reduce and prevent violent deaths and injuries.
- Participate in the NVDRS and contribute to national efforts to assess and prevent violent deaths.

System Design

- Data on violent death incidents are collected and linked using multiple complementary sources (Figure 1).
- Data are collected on suicide, homicide, legal intervention, undetermined manner, unintentional firearm injury, and terrorism-related deaths.
- Deaths are classified using the International Classification of Diseases, 10th edition (ICD-10) codes and/or manner of death listed on the death certificate.

Figure 1. MiVDRS Data Sources²



Results to Date

Figure 2. Manner of violent death rates (per 100,000) by gender, Michigan residents, 2010

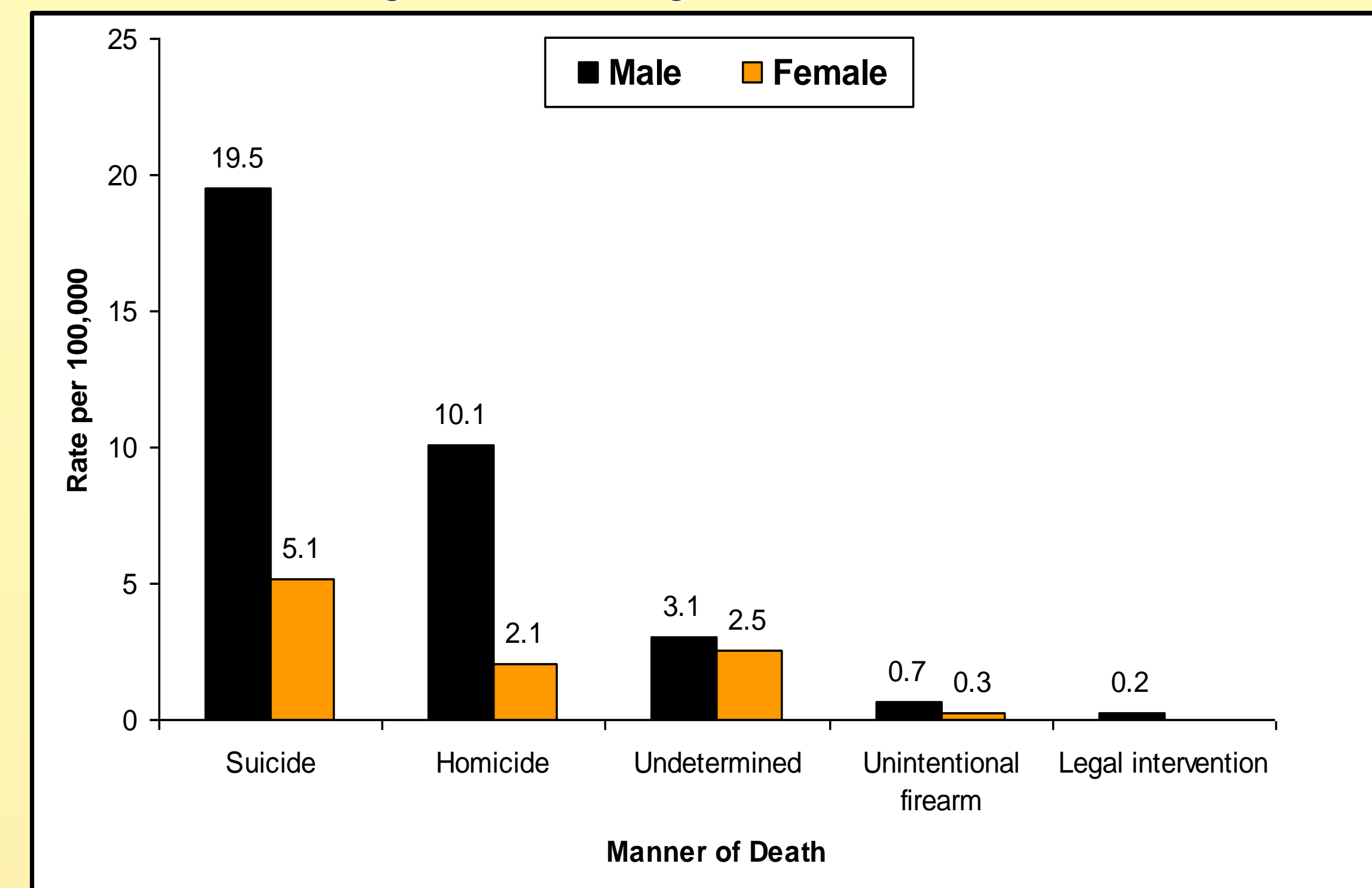


Figure 3. Suicide rates (per 100,000) by age and gender, Michigan residents, 2010

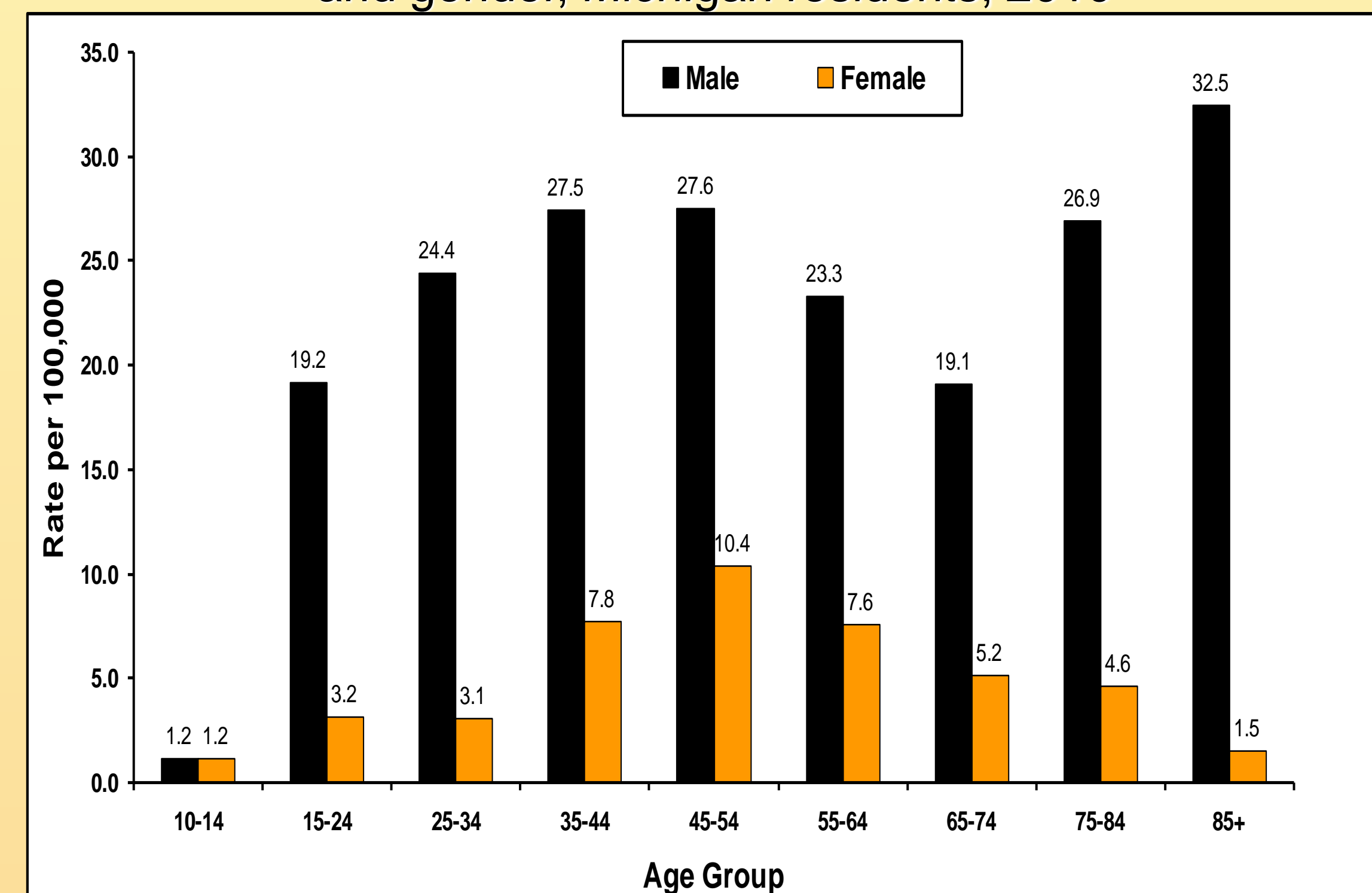


Figure 4. Weapons/methods used in suicide by gender, Michigan residents, 2010

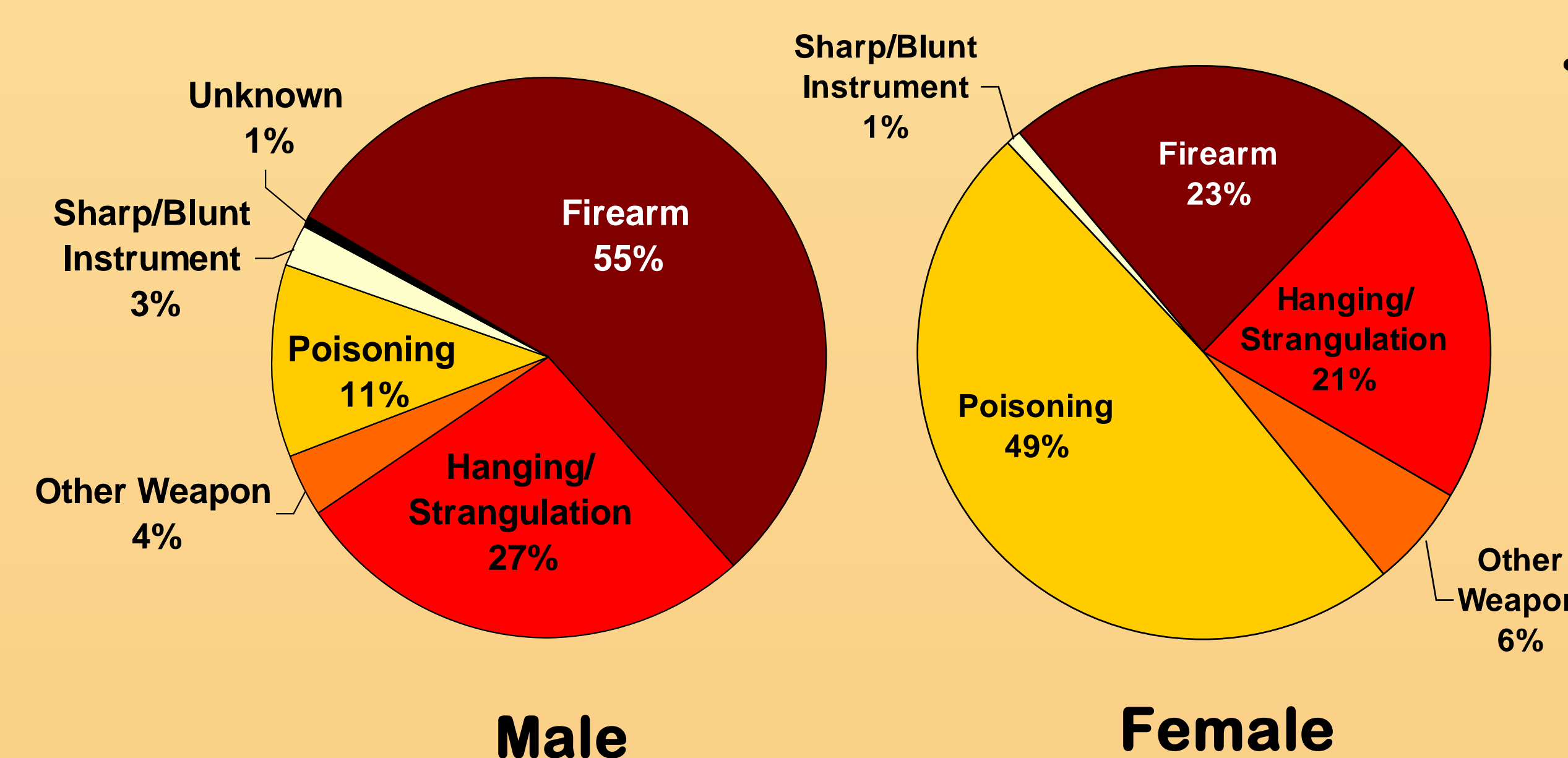
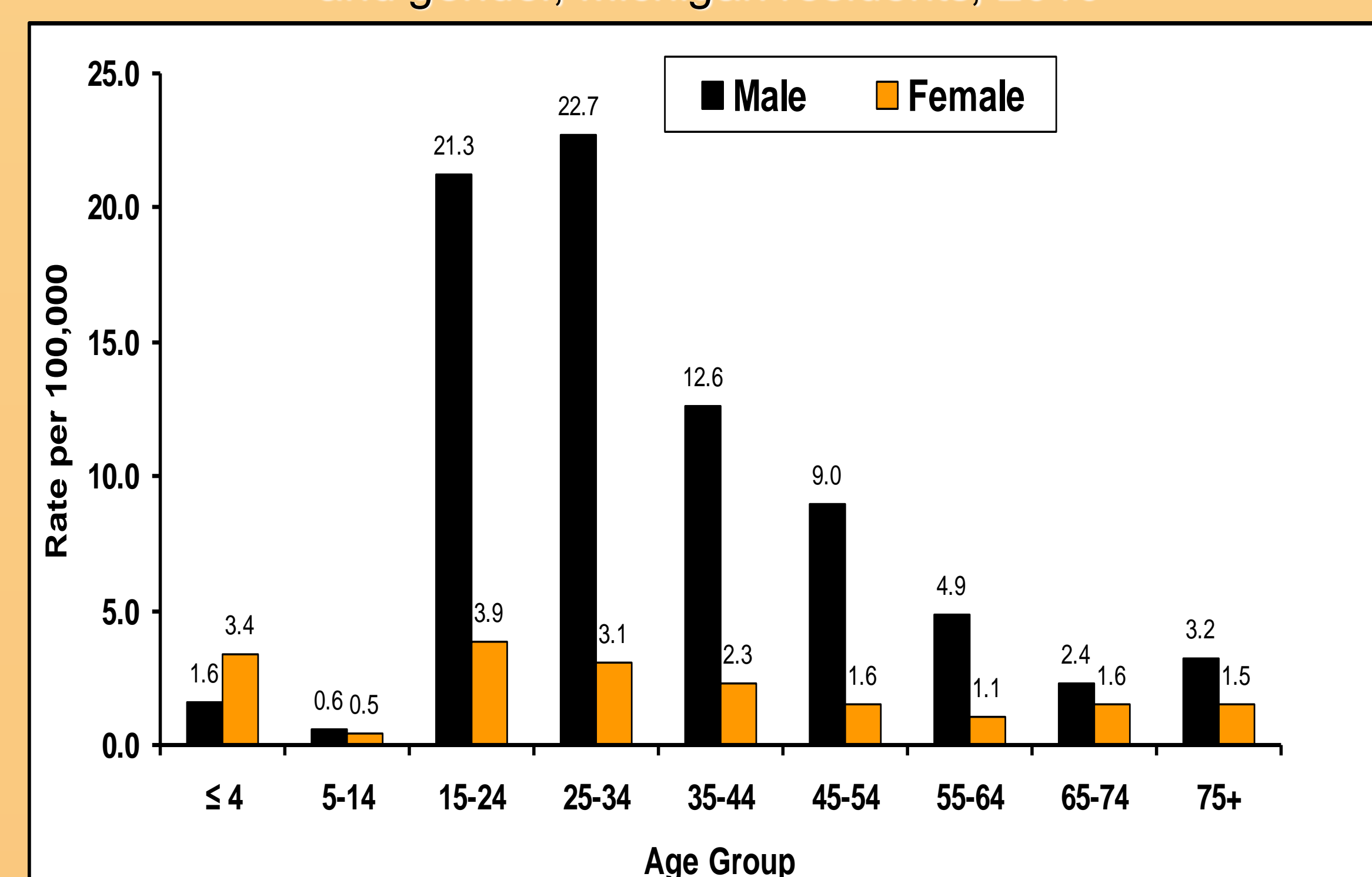


Figure 5. Homicide rates (per 100,000) by age and gender, Michigan residents, 2010



Violent Deaths

- There were 2,129 violent death occurrences among Michigan residents in 2010.
- Suicide was the most common manner of violent death**, accounting for 56.5% of deaths (n=1,203), followed by homicide at 27.8% (n=592).
- Rates for all violent deaths were higher among males (Figure 2).

Suicide

- Most suicide victims were male (78.5%). The highest suicide rate was among males 85 years and older (32.5 per 100,000). Among females, the highest rate was among 45 to 54 year olds (10.4 per 100,000) (Figure 3).
- Firearms were most commonly used in male suicides (55%) while poisoning was the most common method used by females (49%) (Figure 4).
- The suicide rate was highest among American Indians/Alaska Natives (25.6 per 100,000) (Table 1), which was more than 6 times higher than among Asian/Pacific Islanders and more than twice the rate among whites.

Homicide

- Most homicide victims were male (82.4%). The highest homicide rate was among males 25 to 34 years old (22.7 per 100,000). For females, the highest rate was among 15 to 24 year olds (3.9 per 100,000) (Figure 5).
- The homicide rate was highest among blacks (29.9 per 100,000), which was approximately 15 times the rate among whites and about 6 times the rate among Hispanics (Table 1).
- Firearms were used in the majority (74%) of homicides.

Table 1. Suicide and homicide rates (per 100,000) by race/ethnicity, Michigan residents, 2010

Suicide			
Race/Ethnicity	Number	Percent	Rate*
AI/AN [‡]	14	1.2	25.6
White	1060	88.1	14.0
Black	94	7.8	6.8
A/P [§]	10	0.8	4.2
Hispanic	24	2.0	5.5
Total	1202	100.0	12.2
Homicide			
Black	413	69.9	29.9
AI/AN [‡]	6	1.0	11.0
White	147	24.8	1.9
A/P [§]	1	0.2	-
Hispanic	21	3.6	4.8
Total	588	100.0	5.9

*Per 100,000 population. Not reported when number of decedents is <6. Race was "other" for 3 persons.

[‡]Race/ethnicity categories are mutually exclusive.

[‡] American Indian/Alaska Native [§] Asian/Pacific Islander

Future Directions

Prior to MiVDRS, individual data sources explained violent deaths in a narrow context. MiVDRS will link data from multiple sources, which will provide comprehensive information on violent deaths.

Data from the MiVDRS system will be analyzed to develop reports, fact sheets, and other materials pertaining to violent deaths. Additionally, the data will help:

- Identify high-risk groups and communities
- Examine factors that contribute to health disparities and violence in our communities
- Bolster efforts to reduce violent deaths
- Characterize victims and suspects of fatal violence
- Examine specific subtypes of violent deaths including child abuse-related deaths, intimate partner violence incidents, murder-suicides, and gang-related deaths
- Provide detailed information on circumstances precipitating violent deaths

The MiVDRS program will soon be able to respond to data requests for research and other purposes.

System Challenges

- Michigan has a high number of violent deaths on which data must be ascertained.
- Michigan does not have centralized Medical Examiner or law enforcement data systems. Data must be collected from approximately 68 medical examiners and ~600 law enforcement agencies.
- Medical examiner or law enforcement data may not be available for some incidents.
- Nationally, NVDRS data are not representative since data are available from a limited number of states.

References

- Centers for Disease Control and Prevention. (n.d.). *10 Leading Causes of Death, Michigan 1999 - 2007*. Retrieved October 4, 2011, from WISQARS (<http://webappa.cdc.gov/cgi-bin/broker.exe>).
- Centers for Disease Control and Prevention. Surveillance for Violent Deaths — National Violent Death Reporting System, 16 States, 2008 . MMWR 2011;60(No. SS-#):2-3
- Bryant, C. (2011, September 14). A Web-Based Architecture for NVDRS. Centers for Disease Control and Prevention, Atlanta, GA.