

Firearm Injuries In Children: A Public Health Crisis

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Firearm Injuries in Children

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10 Leading Causes of Death, United States 2016, All Races, Both Sexes

| Age Groups | | | | | |
|------------|----------------------------------|----------------------|----------------------|----------------------|----------------------|
| Rank | <1 | 1-4 | 5-9 | 10-14 | 15-24 |
| 1 | Congenital Anomalies | Unintentional Injury | Unintentional Injury | Unintentional Injury | Unintentional Injury |
| 2 | Short Gestation | Congenital Anomalies | Malignant Neoplasms | Suicide | Suicide |
| 3 | SIDS | Malignant Neoplasms | Congenital Anomalies | Malignant Neoplasms | Homicide |
| 4 | Maternal Pregnancy Complications | Homicide | Homicide | Homicide | Malignant Neoplasms |

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| 1 | Congenital Anomalies 4816 | Unintentional Injury 1261 | Unintentional Injury 787 | Unintentional Injury 847 | Unintentional Injury 13,895 |
| 2 | Short Gestation 3927 | Congenital Anomalies 433 | Malignant Neoplasms 449 | Suicide 436 | Suicide 5723 |
| 3 | SIDS 1500 | Malignant Neoplasms 377 | Congenital Anomalies 203 | Malignant Neoplasms 431 | Homicide 5172 |
| 4 | Maternal Pregnancy Complications 1402 | Homicide 339 | Homicide 139 | Homicide 147 | Malignant Neoplasms 1431 |

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Firearm Injuries

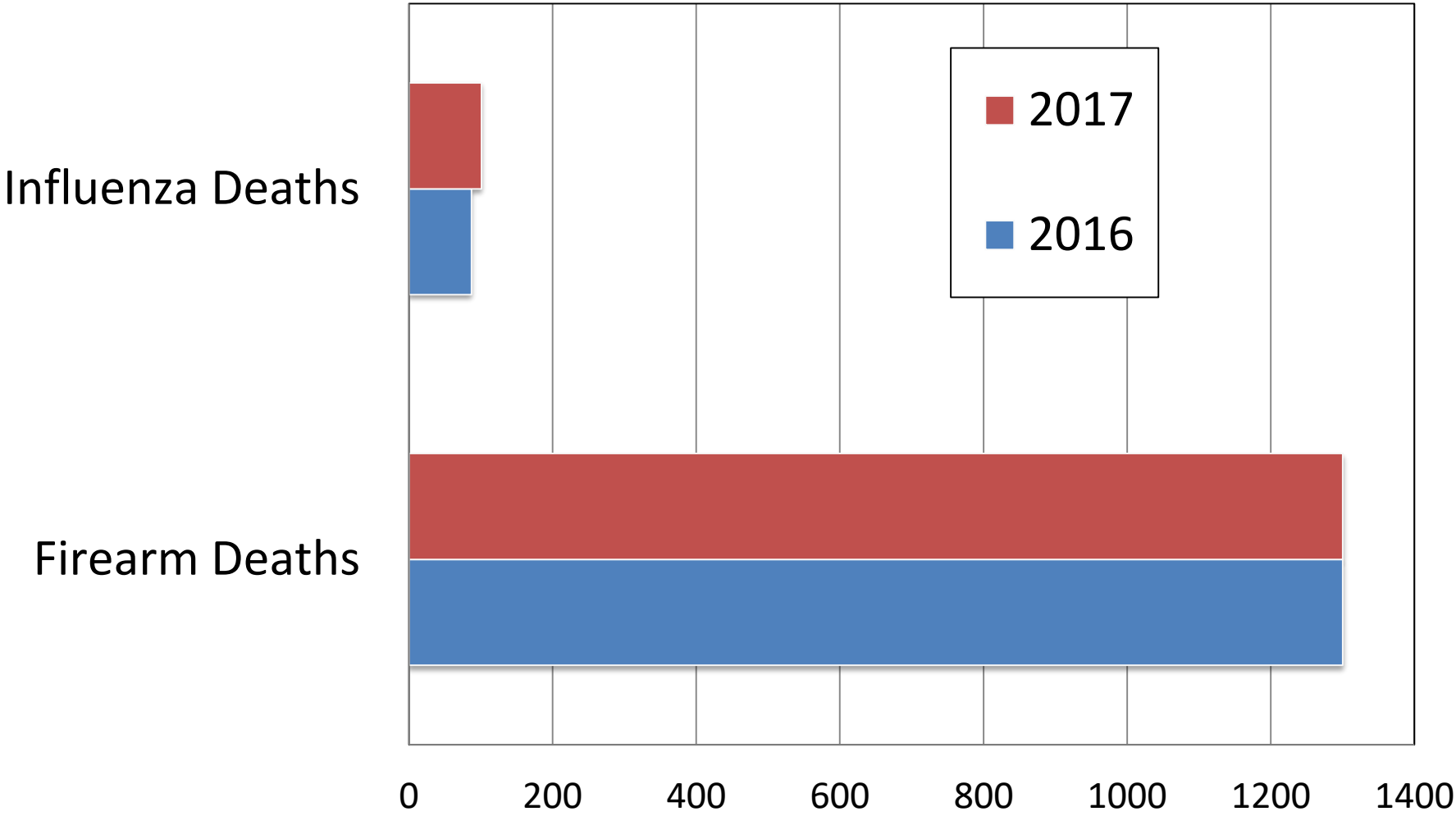
- 3rd leading cause of death for children age 1-17 years in the US
- Second leading cause of injury-related death
- 1300 children die and 5800 treated for firearm injuries each year in the US
 - 53% homicides
 - 38% suicides
 - 6% unintentional
- Very high case fatality rate

Firearm Injuries

- 82% of firearm deaths are boys
- African Americans had the highest overall fatality rate
 - Whites and Native Americans had highest suicide rate
- Young homicide victims are often bystanders
- 4% of children witness a firearm injury each year

- 91% of child firearm deaths in high income countries occur in the US
- 19 children are treated or die in EDs in the US each day from firearm injuries

Pediatric Influenza Deaths vs. Pediatric Firearm Deaths in the USA 2016-2017



What about Kentucky?

ANNUAL REPORT

Public Health Child Fatality Review Program



Public Health Child Fatality Review Program 2017 Annual Report

2015 Child Deaths in Kentucky from the Public Health Office of Vital Statistics

Kentucky Department for Public Health
Division of Maternal and Child Health

November 2017

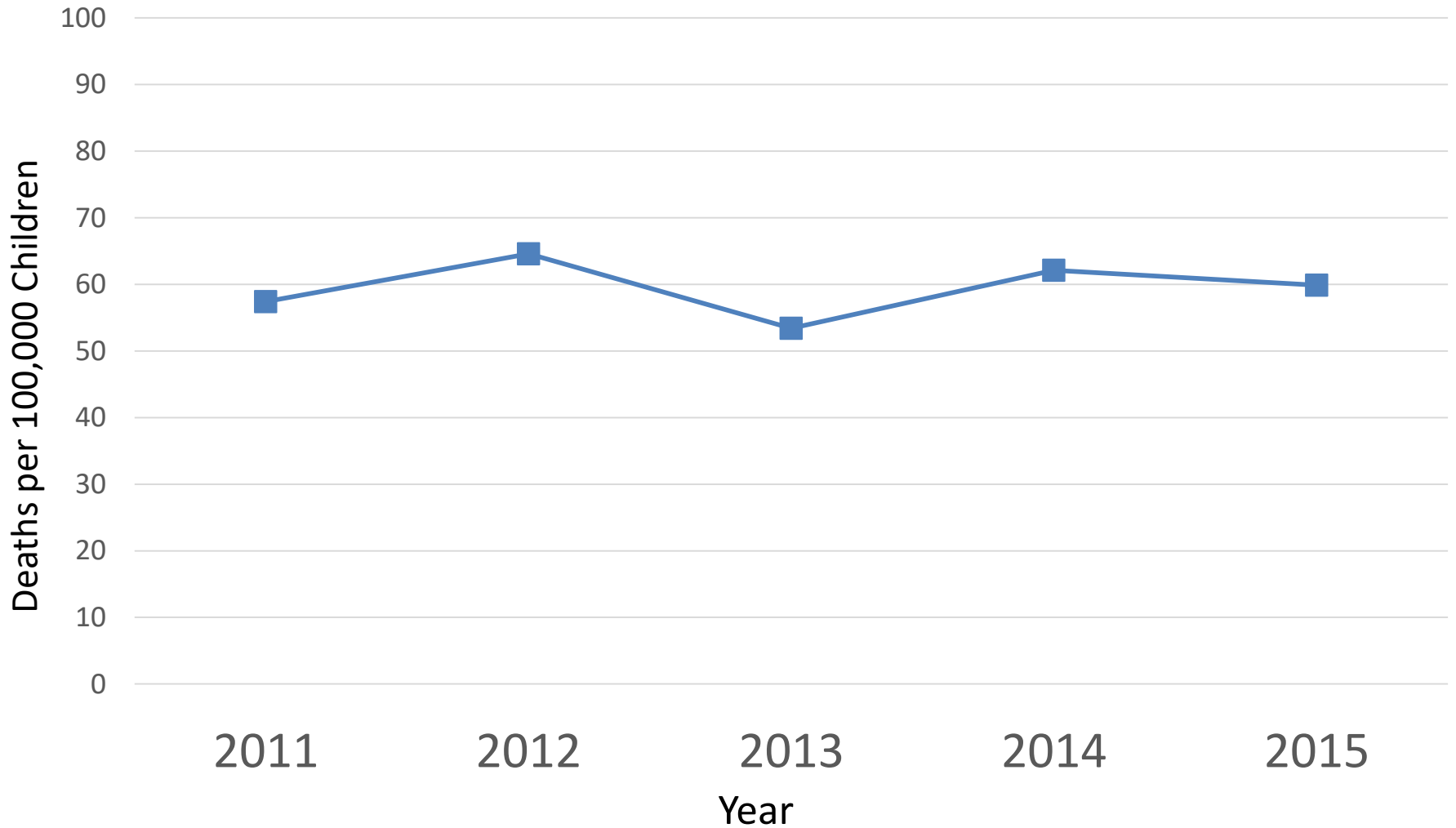


Kentucky Public Health
Prevents. Promotes. Protects.

What about Kentucky?

- Public Health Child Fatality Review Program
- Established through legislation by the KY Department for Public Health as a voluntary body
- Goal of decreasing child deaths through prevention efforts
- Monitor vital statistics data to identify trends related to fatalities that may be preventable in Kentucky
- Latest report published November 2017
- Summarizes information from 2011-2015

Kentucky's Childhood Death Rate by Year of Death, 2011-2015

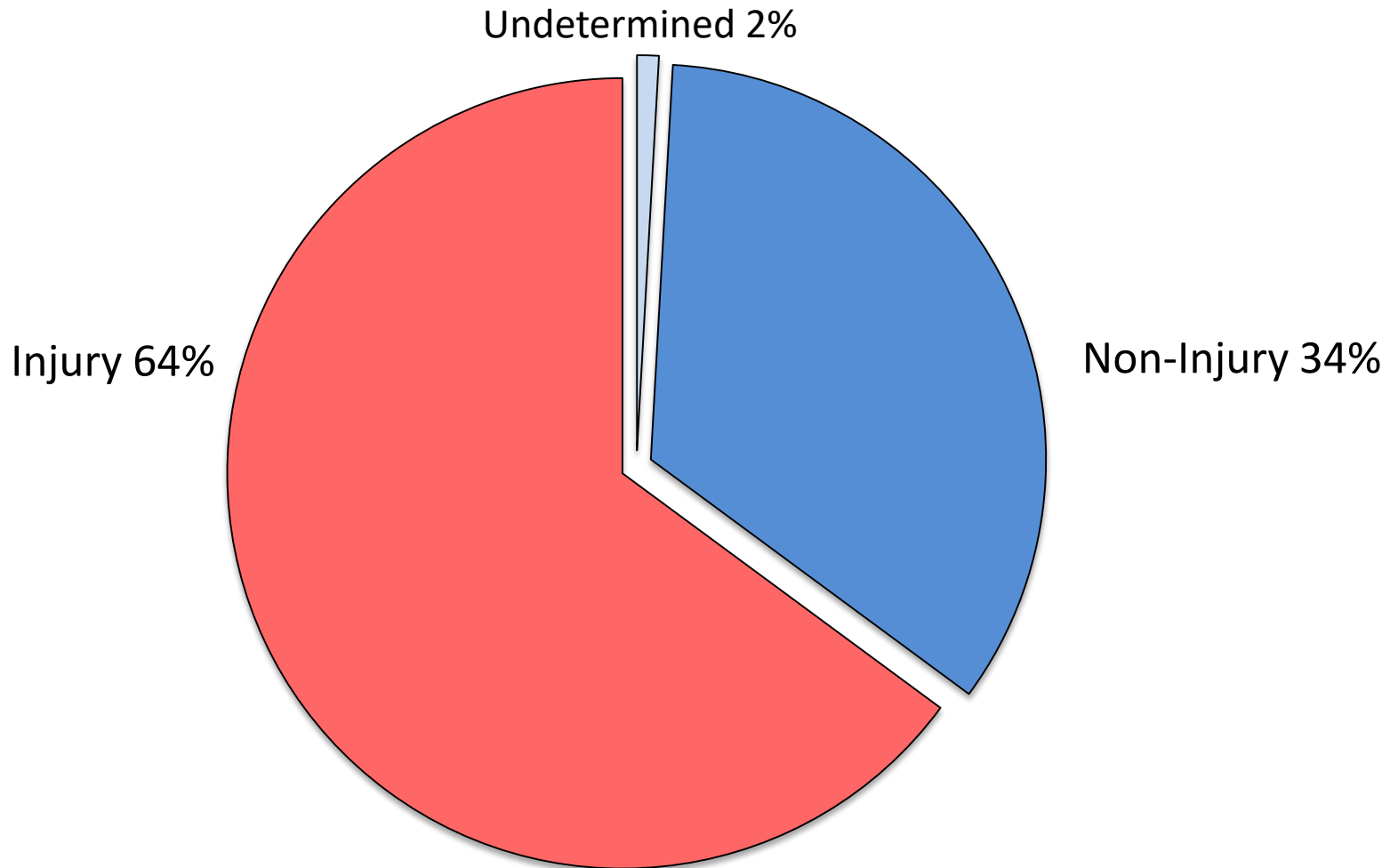


2011-2015 Kentucky Data

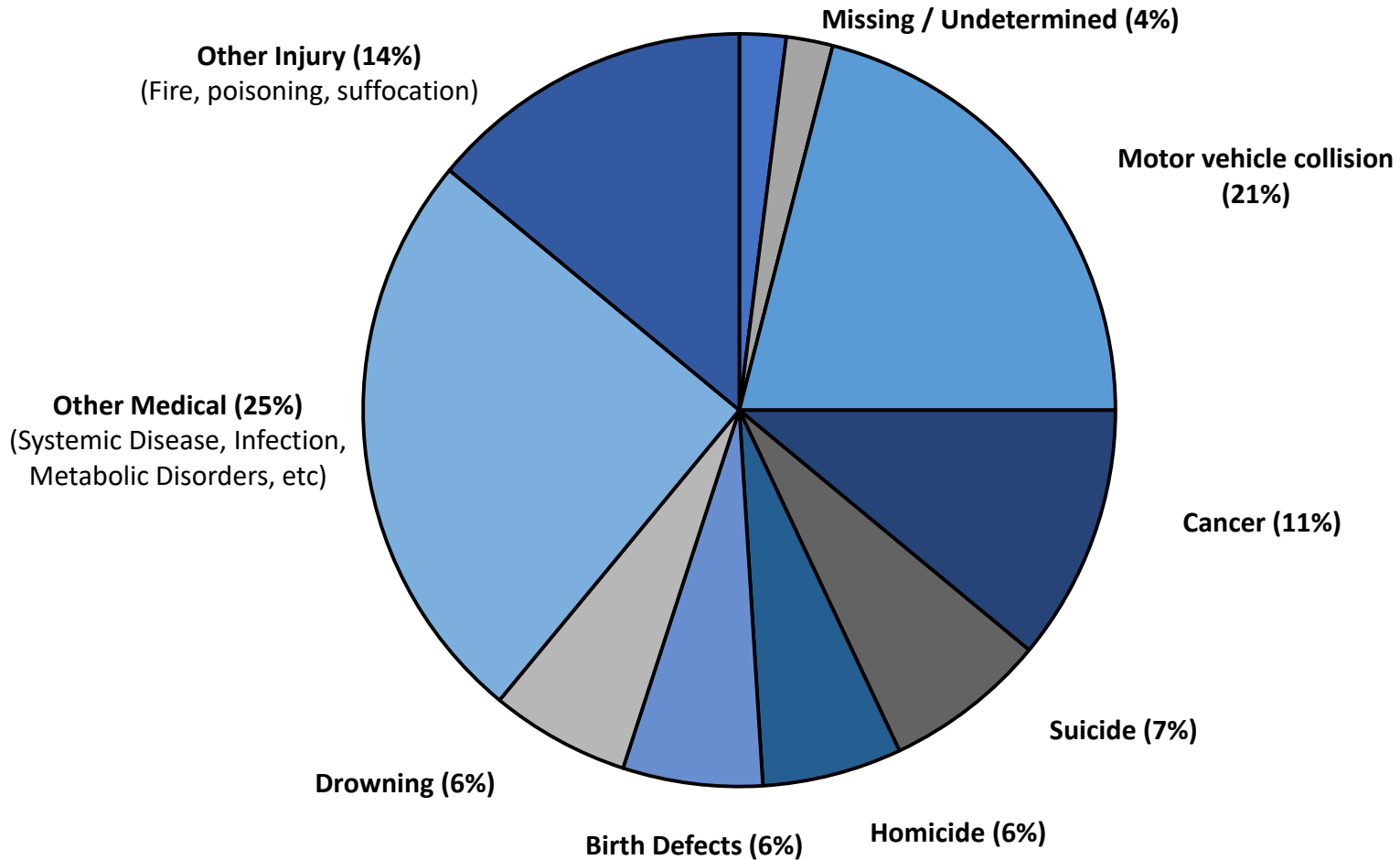
- The majority of deaths among children older than one year of age are due to injury-related causes
- Potential for prevention
- Motor vehicle collision is the most common reason for death
- Increasing number of suicides and at a younger age
- 58% of firearm deaths due to self-harm (suicide)
- Nationally suicide is the third leading cause of death for youth 10-24, but in Kentucky it is the second leading cause of injury related deaths in this age group

2015 Deaths among Kentucky Children 1-17 Years of Age by Cause Category

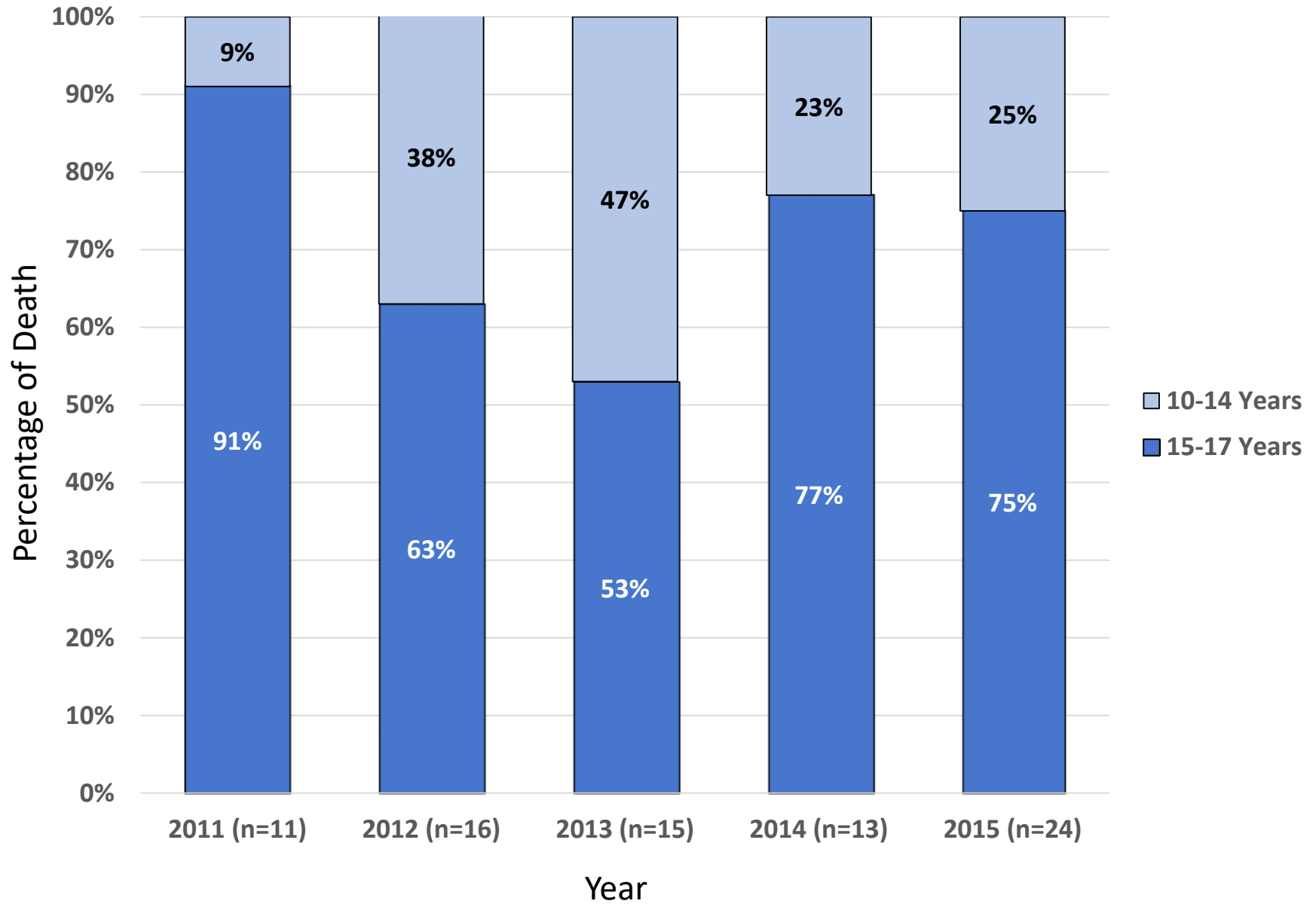
Undetermined (2%; n=4) Non-Injury (34%; n=77) Injury (64%; n=146)



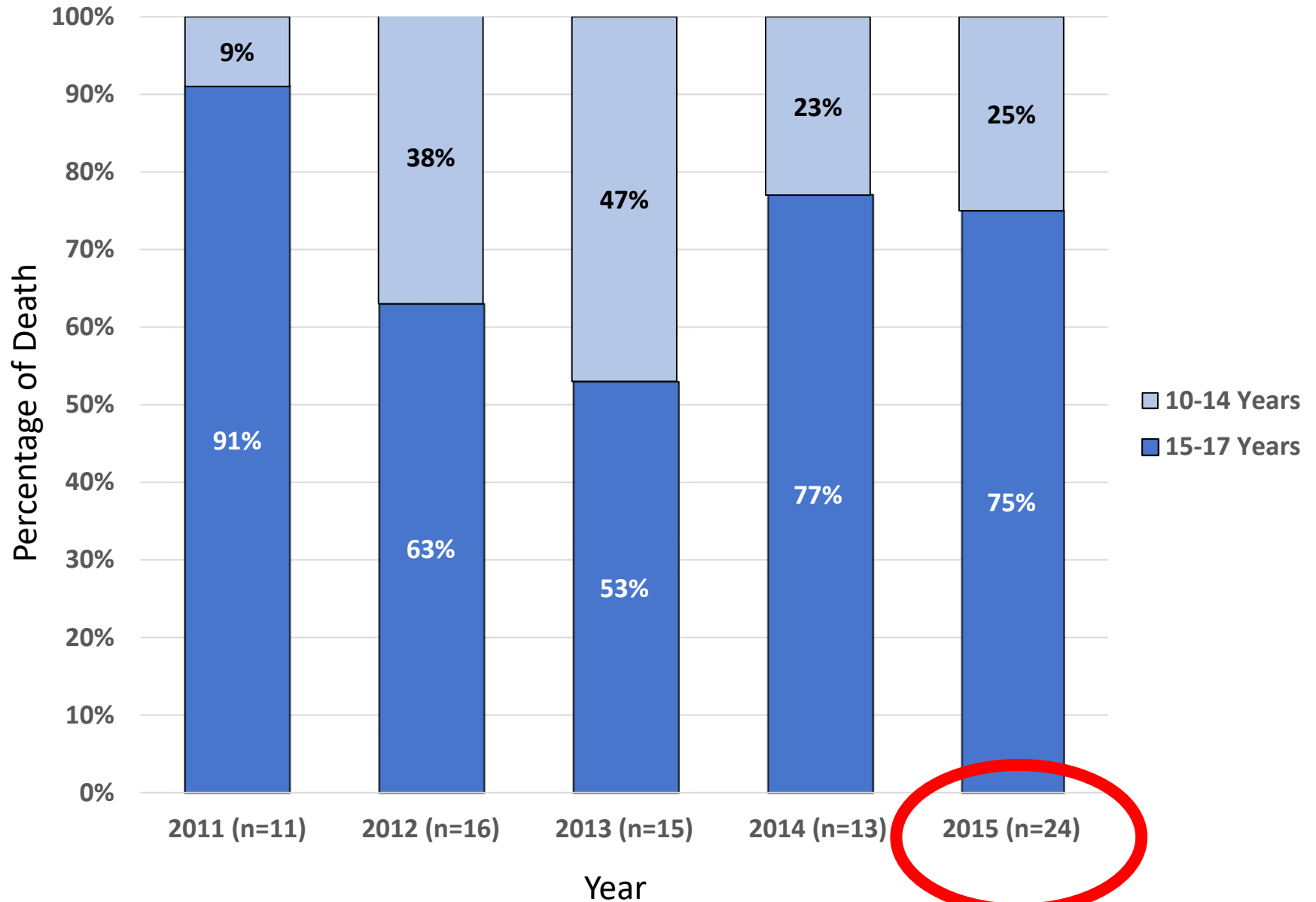
Deaths among Kentucky Children 1-17 Years of Age by Cause Category for a Typical Year



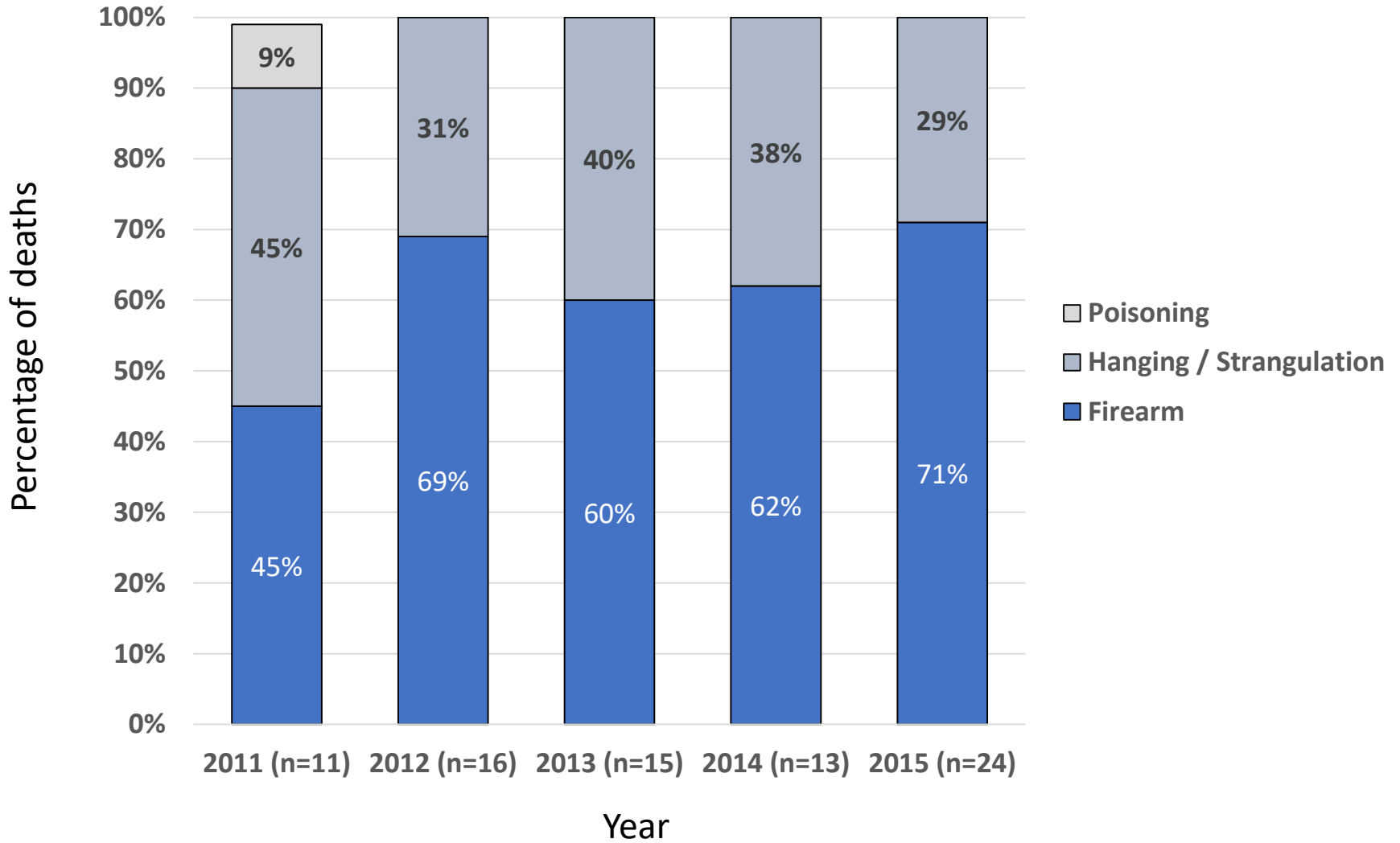
Suicide Deaths among Kentucky Children by Age Group and Year, 2011-2015



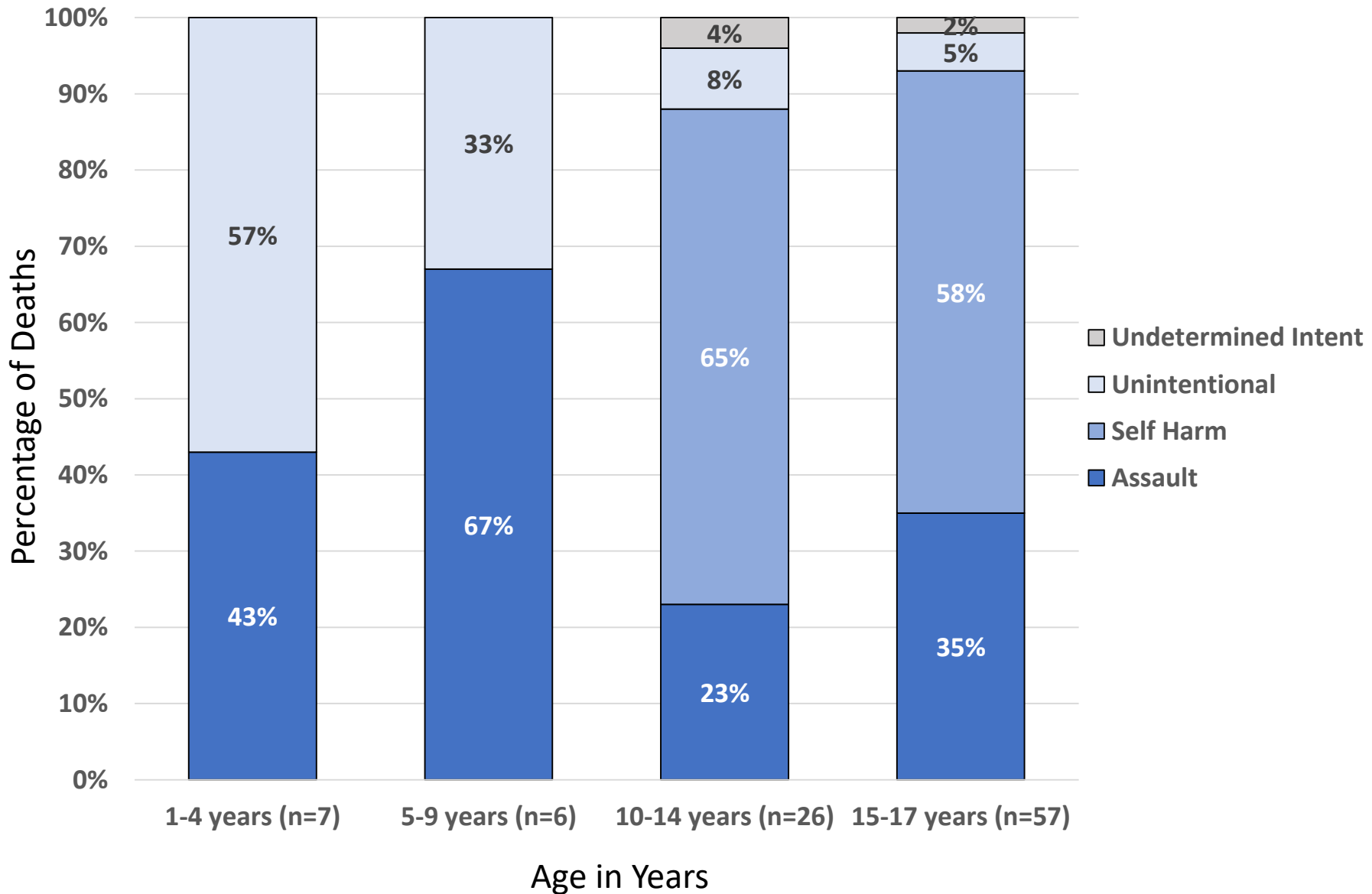
Suicide Deaths among Kentucky Children by Age Group and Year, 2011-2015



Suicide Deaths among Kentucky Children by Mechanism and Year, 2011-2015



Firearm Deaths among Kentucky Children by Age Group and Manner, Combined 2011-2015



Firearm Injuries and Mental Health

Christopher Peters, MD
Child and Adolescent Psychiatrist

Firearms in Child Abuse and Domestic Violence

Jennie Green, MD

Child Abuse Pediatrics Fellow

University of Louisville Pediatric Forensic Medicine

National Violent Death Reporting System

- According to the CDC's National Violent Death Reporting System, in 2013 approximately 53,000 died of violence-related injuries
- 23.2% of deaths were attributed to homicides
- Deaths involving a firearm or firearms:
 - 51.4% of suicides
 - 66.6% of homicides
- Of unintentional firearm deaths, the most common history (28.9%) was playing with a firearm

Intimate Partner Violence

- In 2010, it was estimated that there were more than **74 million people** in the US who had experienced IPV (National Intimate Partner and Sexual Violence Survey)
- IPV events that involved a firearm are 12 times as likely to result in death (Saltzman 1992)
- Injuries are more serious when the perpetrator is in possession of a firearm (Kleck 1991; Wells 2002).
- Among men in treatment for IPV who reported owning a firearm, 12% reported a history of using firearms to threaten their partners (Rothman et al 2006)

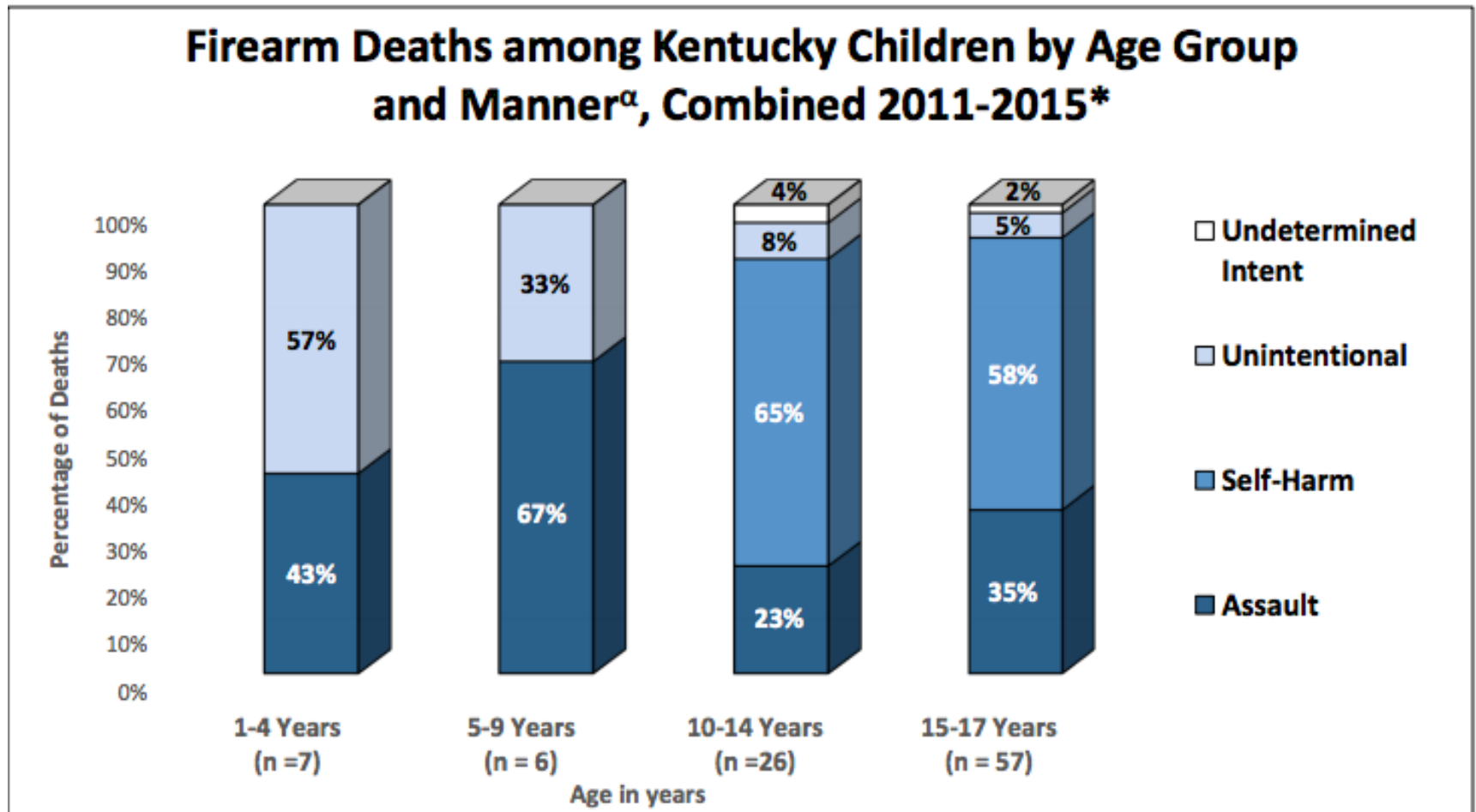
IPV and Homicide

- In 2007, 14% of all homicides were committed by intimate partners (Catalano 2009)
- Of all homicides by an intimate partner, 20% of those murdered were “corollary victims” (Smith 2014)

Corollary Victims

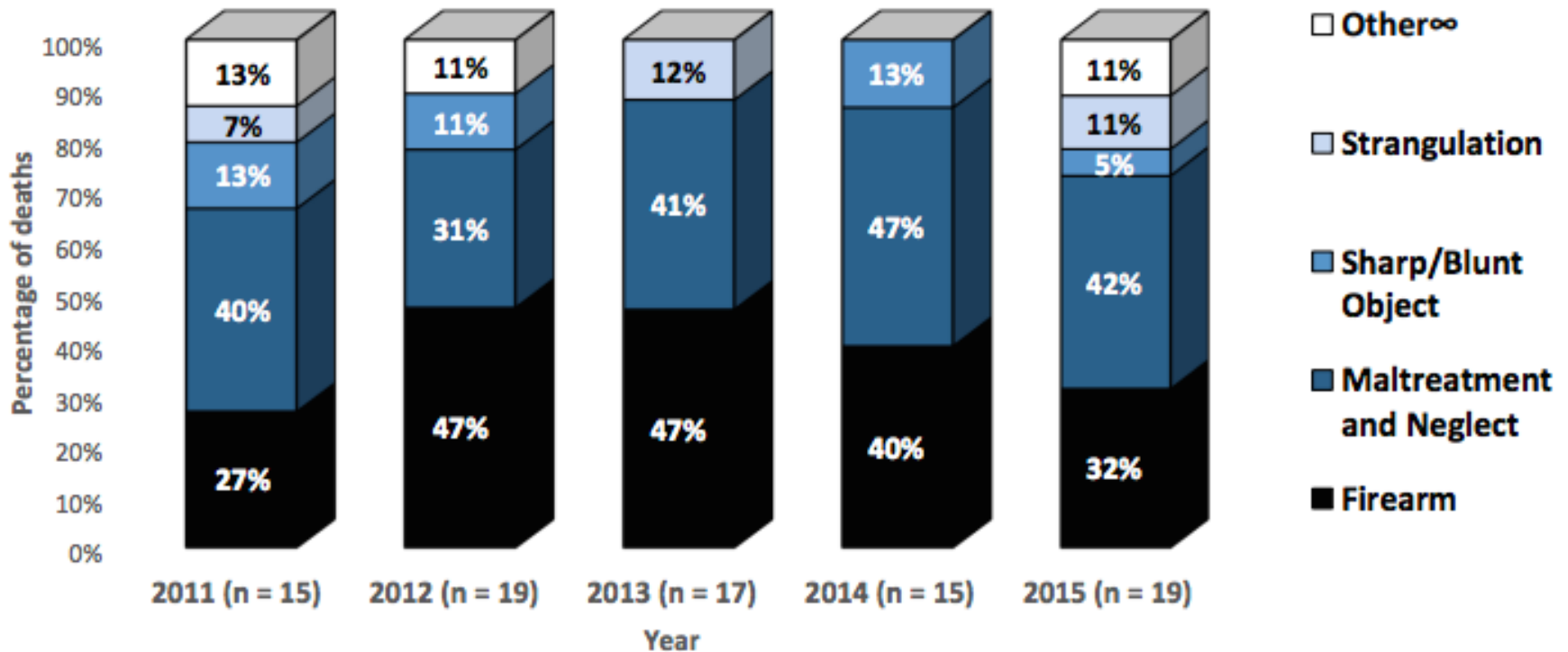
- A corollary victim is a non-intimate partner victim whose death is connected to IPV
- **It is estimated 25.4% of victims were 17 years or younger and one third were elementary school age**
- 70% of corollary victims were killed by a firearm

Firearm-Related Child Deaths in Kentucky



Homicide Deaths By Mechanism in Kentucky

Homicide Deaths among Kentucky Children by Mechanism^a and Year, 2011-2015*



Kentucky External Panel and DCBS Statistics

- According to the Kentucky Child Fatality and Near Fatality External Panel Review, there were 567 fatalities and near-fatalities from 2013-2017
- In 2016, there were 3 child fatalities and one child near-fatality where a firearm was involved
- According to DCBS data from 2013-2017 regarding substantiated cases of abuse or neglect, there were 12 child deaths involving a firearm

A History of Family Violence

- Of all substantiated DCBS cases , 25% of families were found to have a history of violence
- Of fatality and near-fatality DCBS cases, 48% of families were found to have a history of violence

Conclusions

- Intimate partner violence is very common in Kentucky
- Firearms are frequently used in intimate partner violence
- When firearms are involved in intimate partner violence, children are severely injured or killed as a result

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EMS Perspectives on Firearm Injuries in Children

Morgan Scaggs

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