

# Characteristics of Child Mortality in Alaska Observed through the MCDR



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**Alaska Division of Public Health**

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\*\*\*Disclaimer statement\*\*\*

These data, unless otherwise indicated are not for public distribution but were extracted from the Case Reporting System (CRS) for initial provisional analysis to inform the MCDR & APQC meeting attendees. The information contained herein is subject to change without notice and caution should be used with interpretation until such data are verified.

The MCH-Epidemiology unit, MCDR program has public reports available through the state website or you can contact the MCDR program for the status and availability of verified and finalized MCDR data.

# OVERVIEW



**Alaska infant and child mortality rates and trends compared to the U.S.**



**Manner and causes of death by age group and gender**



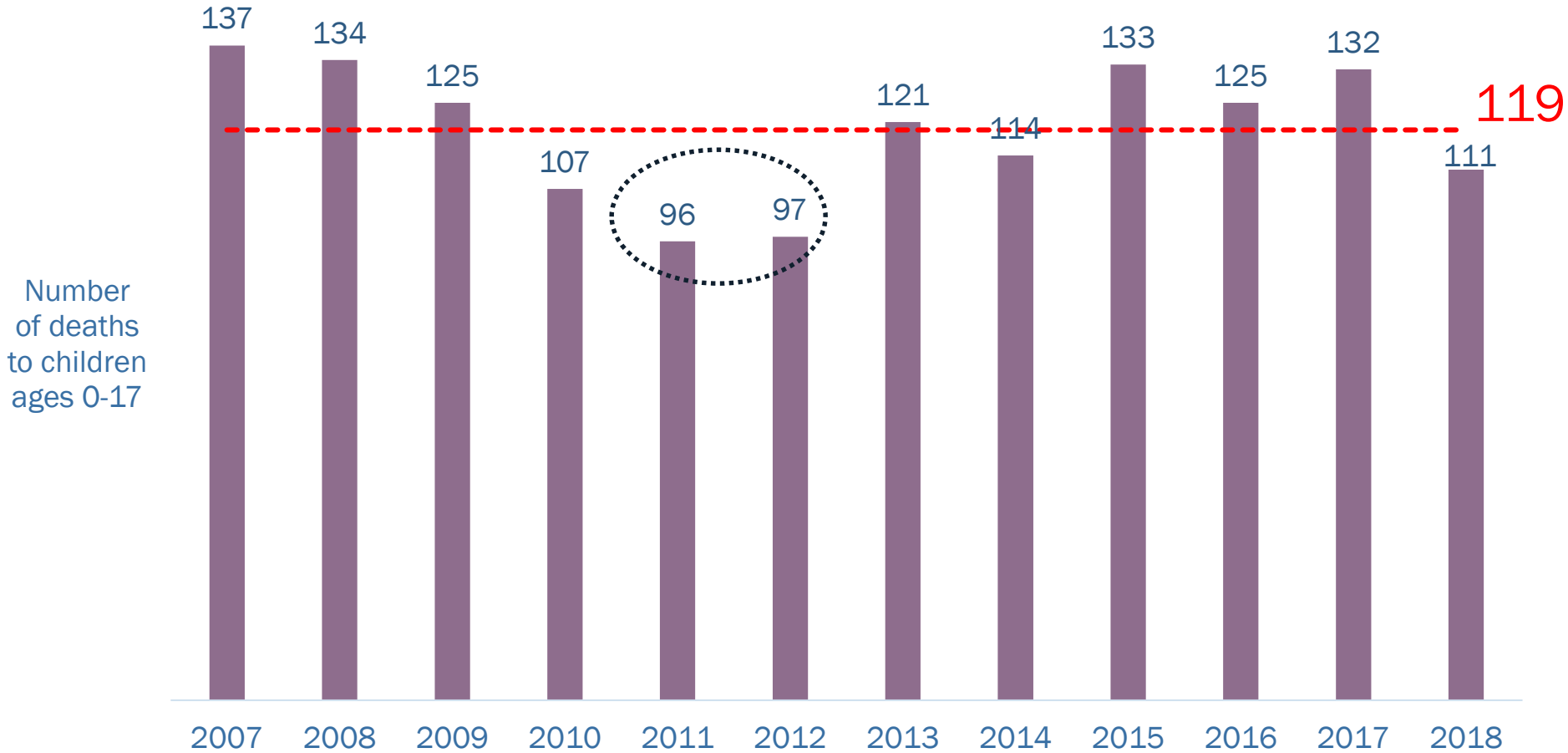
**Contributing factors associated with infant and child deaths**



**Prevention recommendations**

# CHILD DEATHS IN ALASKA, 2007-2018

DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS



# CHILD DEATHS IN ALASKA BY AGE, 2014-2018

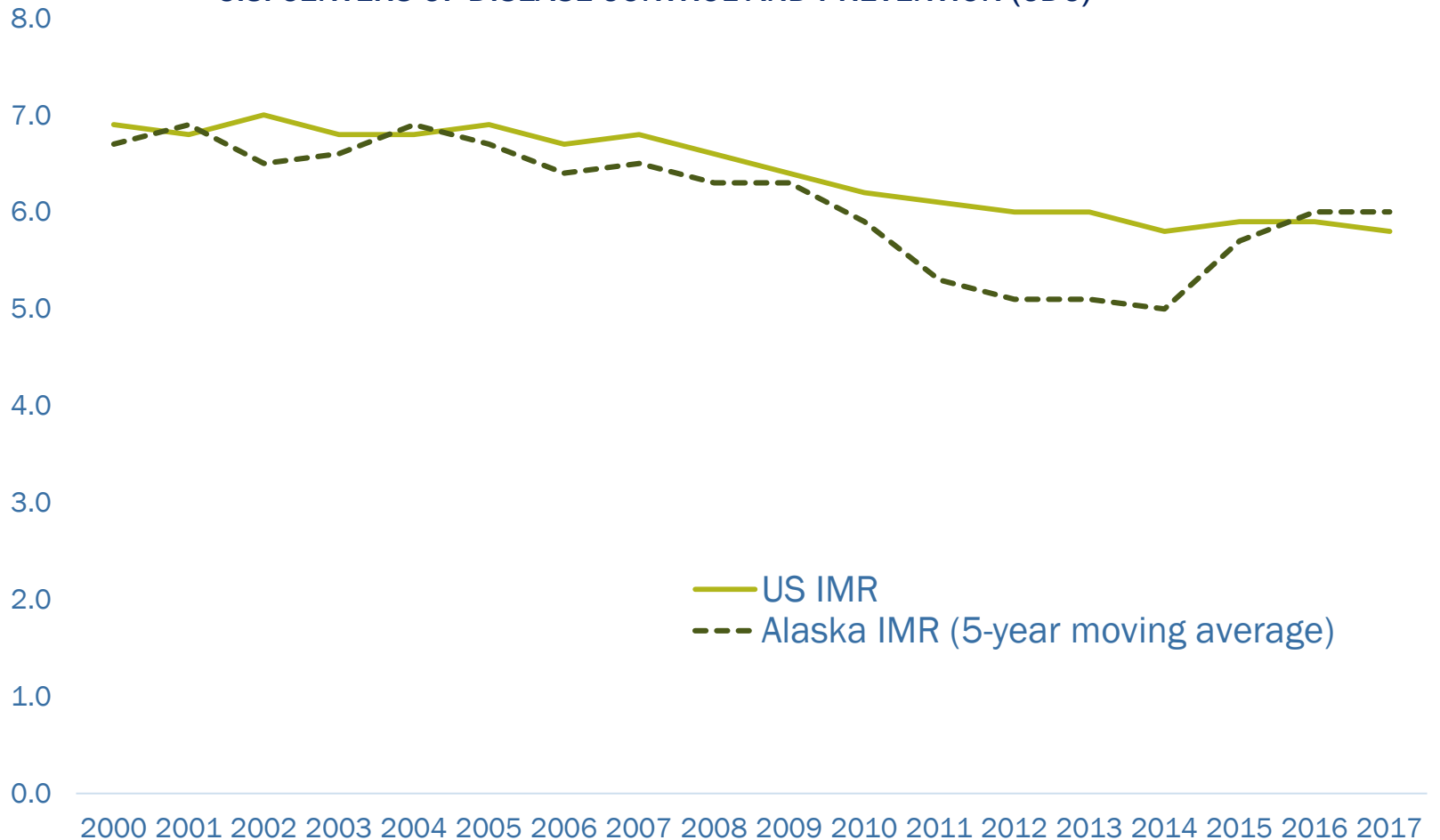
DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS



Number of Child Deaths

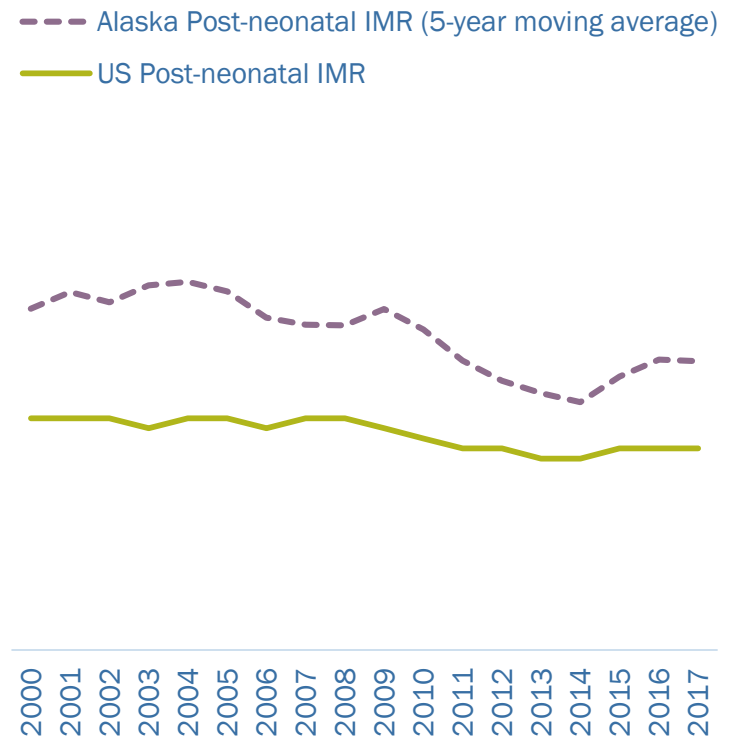
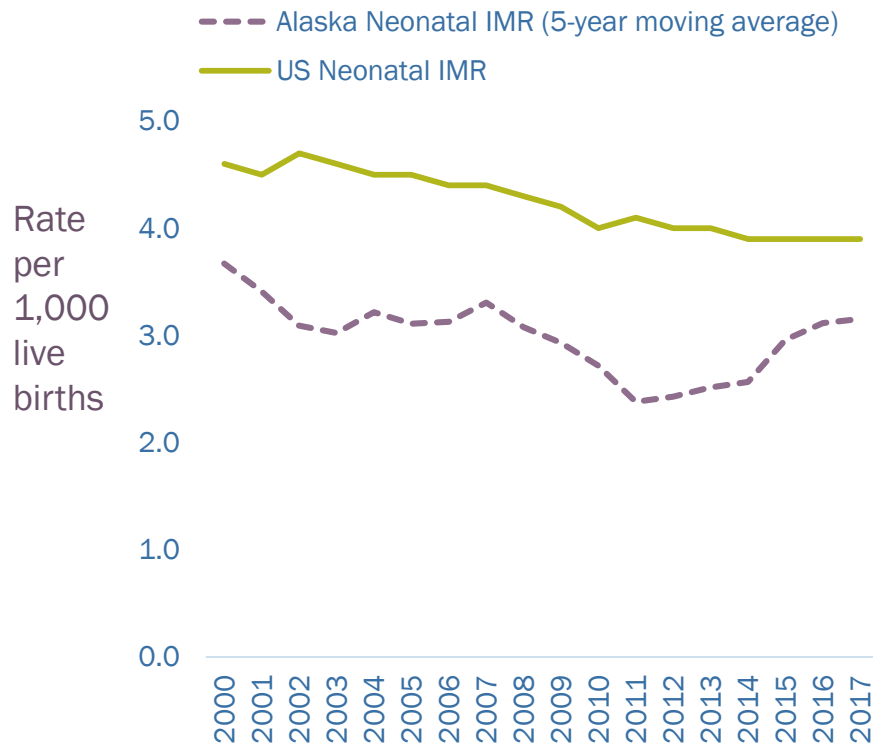
# INFANT MORTALITY RATES: ALASKA AND U.S., 2000-2017

DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS  
& NATIONAL VITAL STATISTICS SYSTEM, NATIONAL CENTER FOR HEALTH STATISTICS (NCHS),  
U.S. CENTERS OF DISEASE CONTROL AND PREVENTION (CDC)



# NEONATAL AND POST-NEONATAL INFANT MORTALITY RATES: ALASKA & U.S., 2000-2017

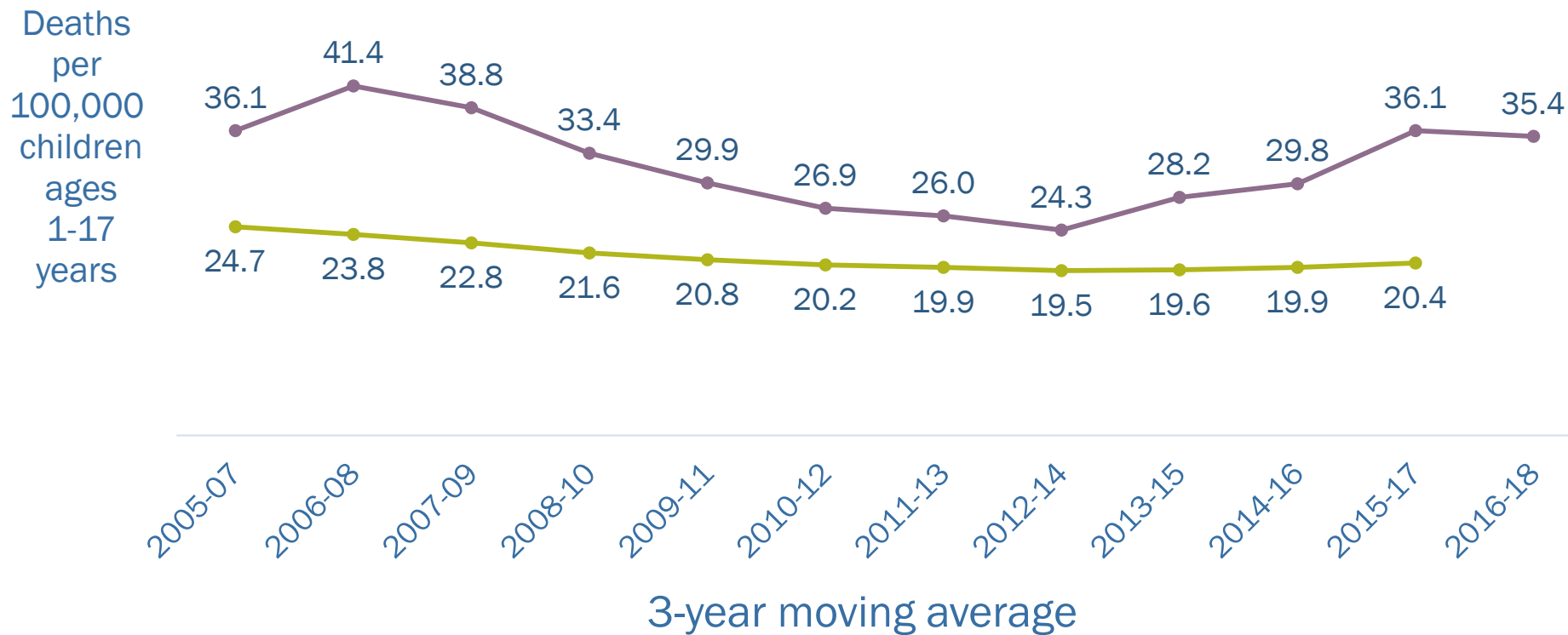
**DATA SOURCES: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS & NATIONAL VITAL STATISTICS SYSTEM, NATIONAL CENTER FOR HEALTH STATISTICS (NCHS), U.S. CENTERS OF DISEASE CONTROL AND PREVENTION (CDC)**



# TREND IN CHILD AND TEEN MORTALITY RATES (1-17 YEARS) IN ALASKA AND U.S., 2005-2018

SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS AND NATIONAL CENTER FOR HEALTH STATISTICS ON CDC WONDER

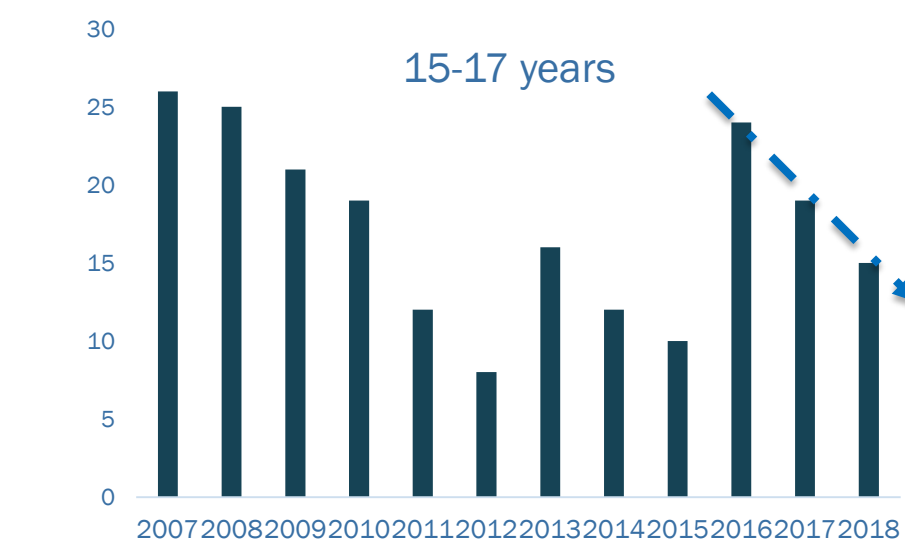
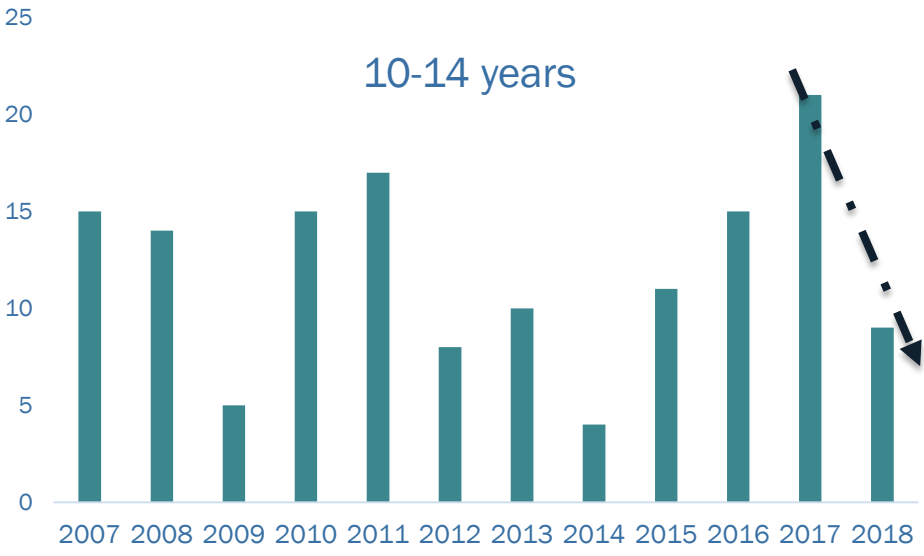
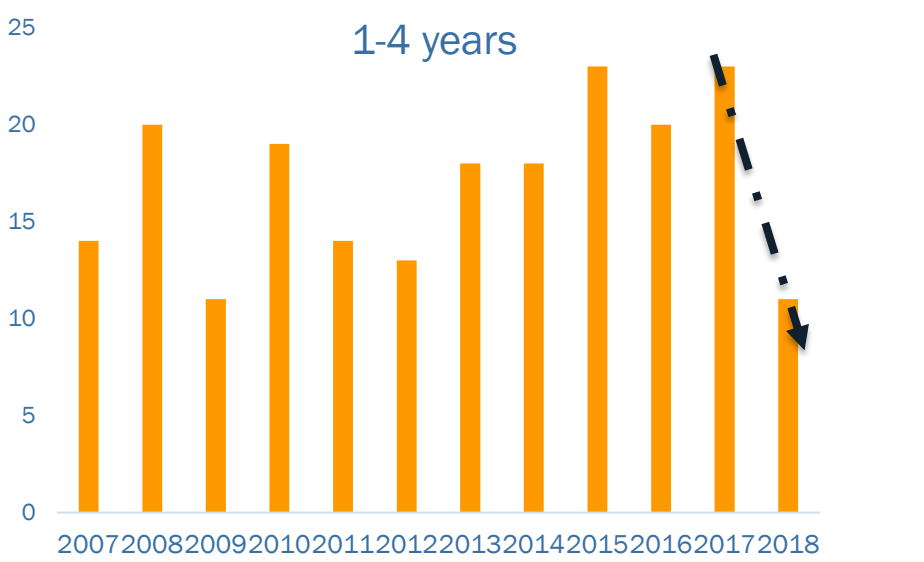
—●— Alaska —●— U.S.





# CHILD DEATHS IN ALASKA BY AGE GROUP, 2007-2018

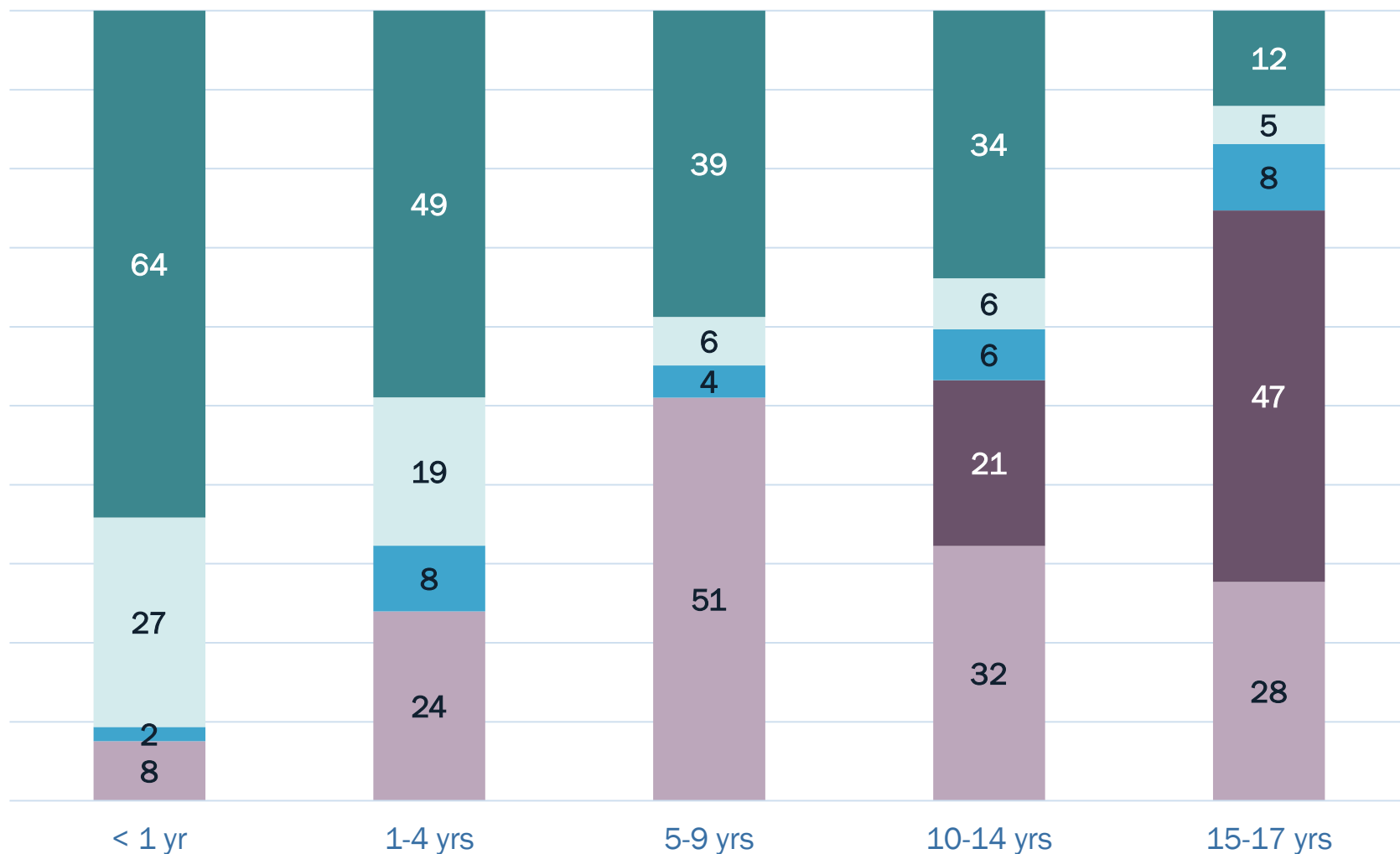
DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS



# MANNER OF DEATH: PERCENTAGE BY AGE GROUP, 2014-2018

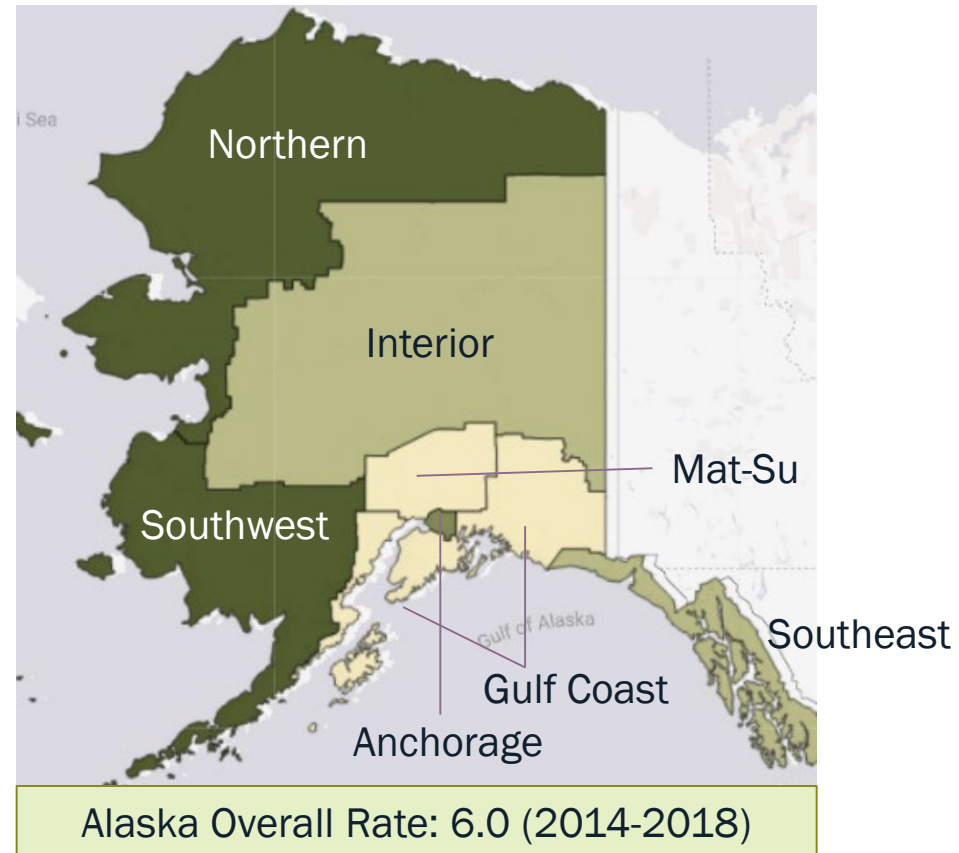
DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS

■ Accident ■ Suicide ■ Homicide ■ Undetermined ■ Natural Causes



# INFANT MORTALITY RATES (IMR) BY REGION, 2014-2018

Region	# deaths	IMR
Northern	33	12.0
Southwest	38	9.6
Anchorage	122	5.6
Interior	57	6.2
Southeast	23	6.5
Mat-Su	27	3.7
Gulf Coast	26	5.7



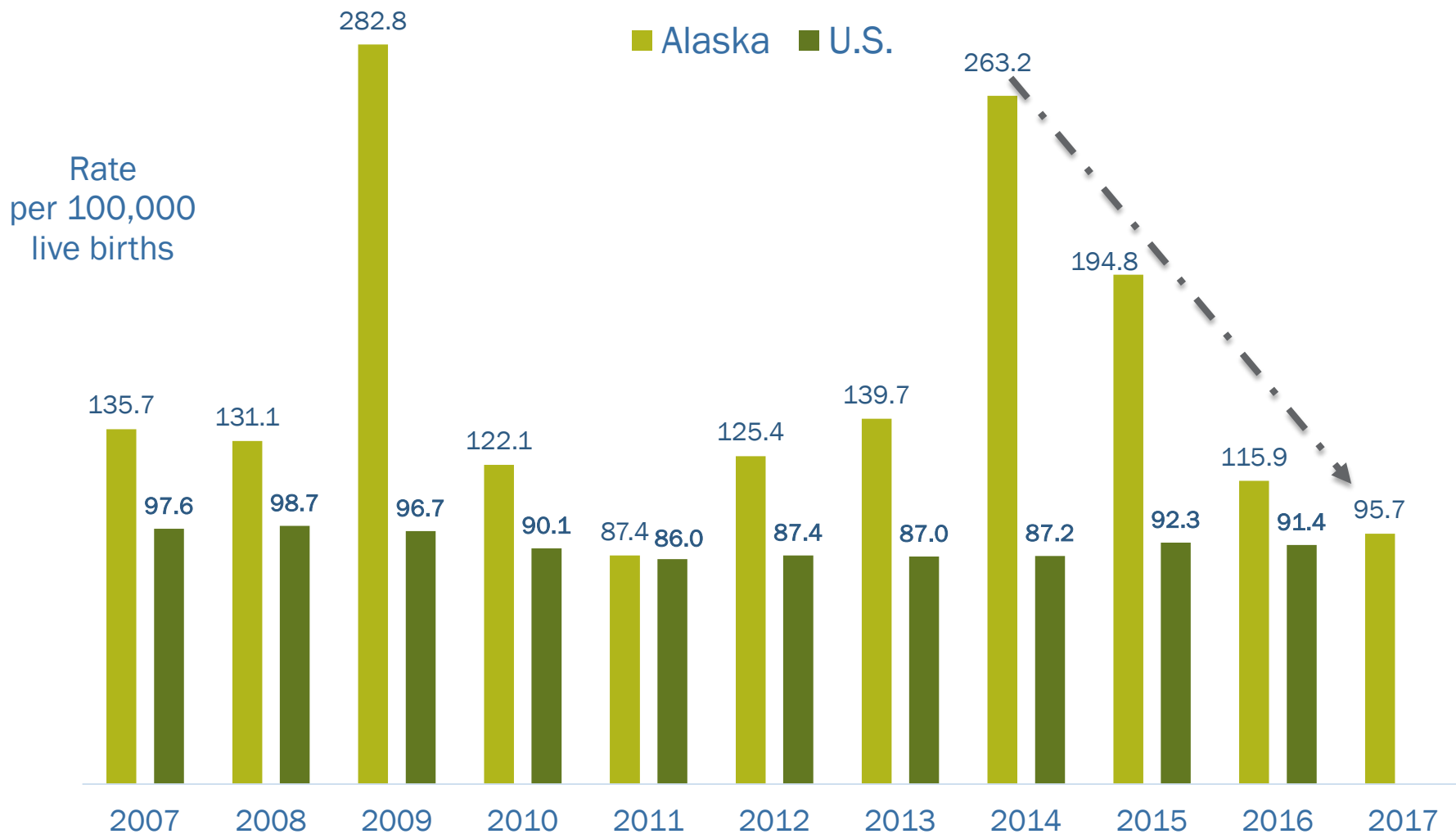
**Definitions:** The number of deaths among infants under 1 year, per 1,000 live births.

Region for denominator is determined by maternal residence. Region for numerator is child's place of residence

**Data Source:** Alaska Section of Health Analytics and Vital Records, Kids Count Data Center

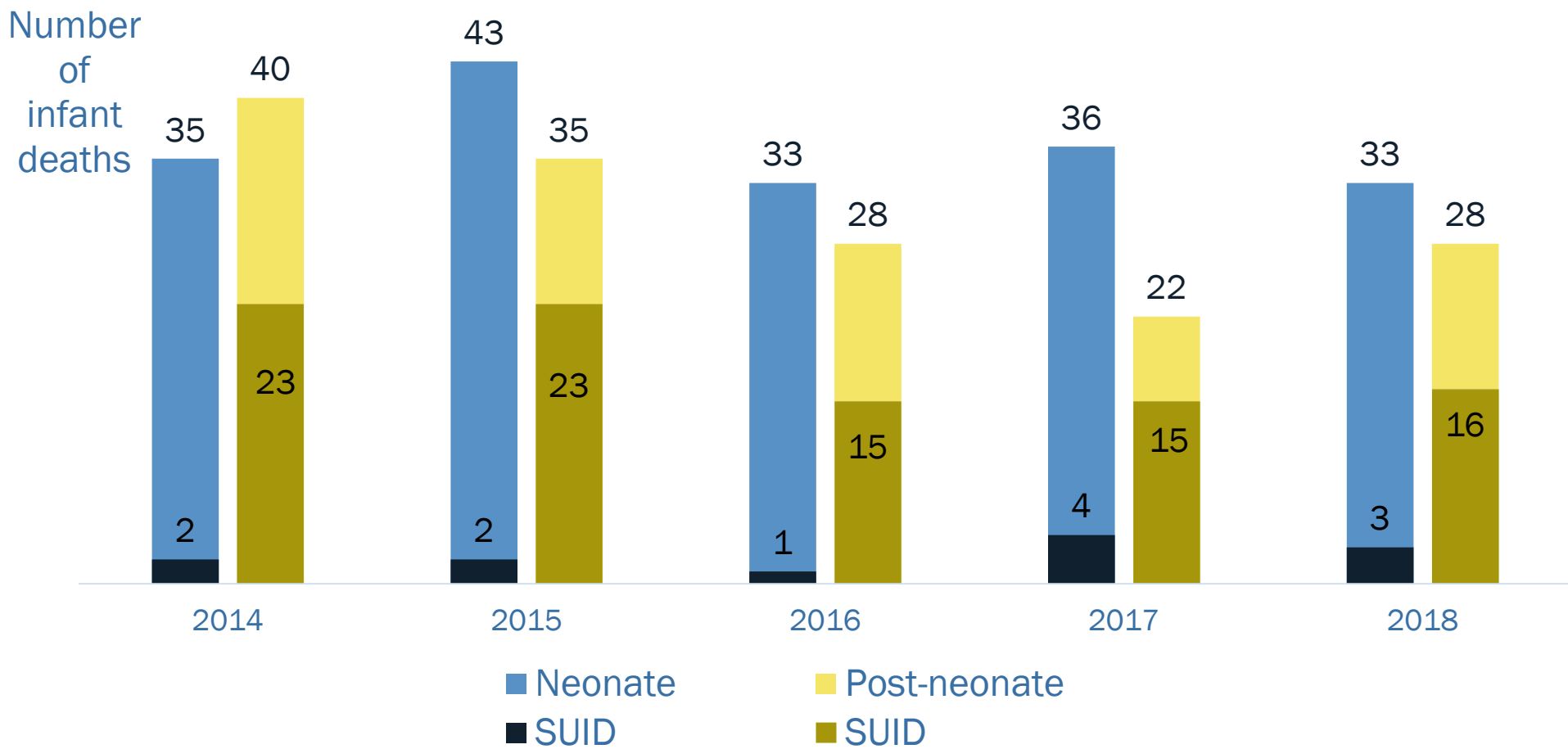
# SUDDEN UNEXPLAINED INFANT DEATH (SUID) RATES: ALASKA AND U.S., 2000-2017

DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS & U.S. CENTERS OF DISEASE CONTROL AND PREVENTION (CDC), NATIONAL CENTER FOR HEALTH STATISTICS (NCHS)



# SUDDEN UNEXPLAINED INFANT DEATH (SUID) IN ALASKA, 2014-2018

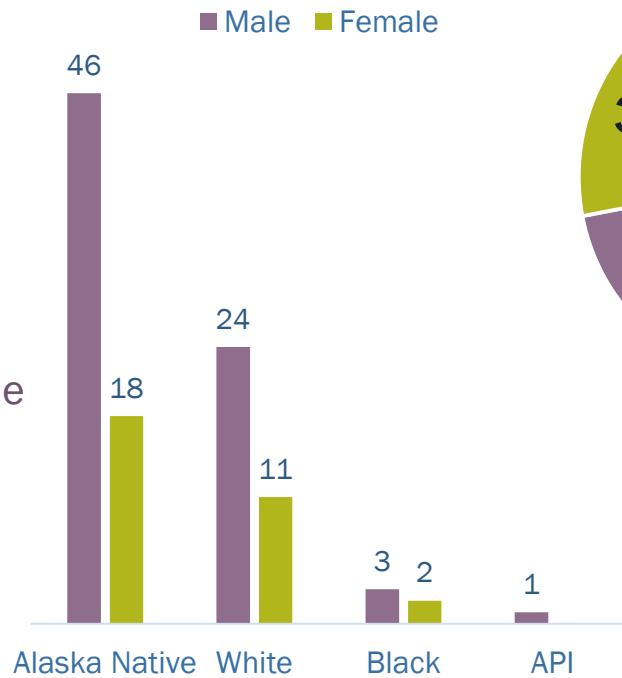
DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS & MATERNAL AND CHILD DEATH REVIEW (MCDR)



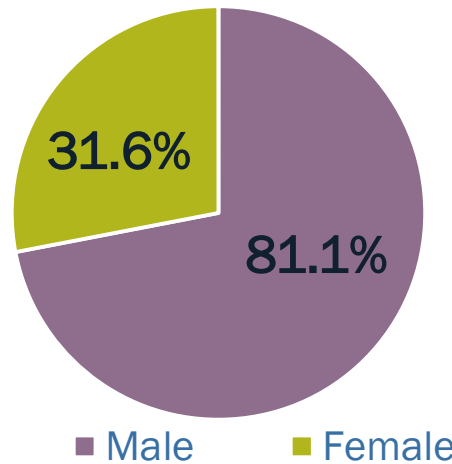
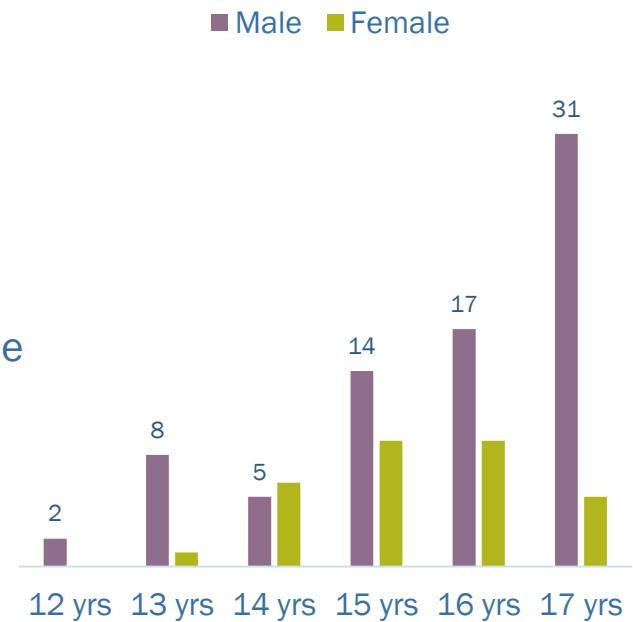
# CHILD SUICIDE IN ALASKA, 2007-2018

DATA SOURCE: ALASKA SECTION OF HEALTH ANALYTICS AND VITAL RECORDS

### Child Suicide by Race and Sex, 2007-2018



### Child Suicide by Age and Sex, 2007-2018



Number of child deaths by suicide

# Characteristics of these fatalities

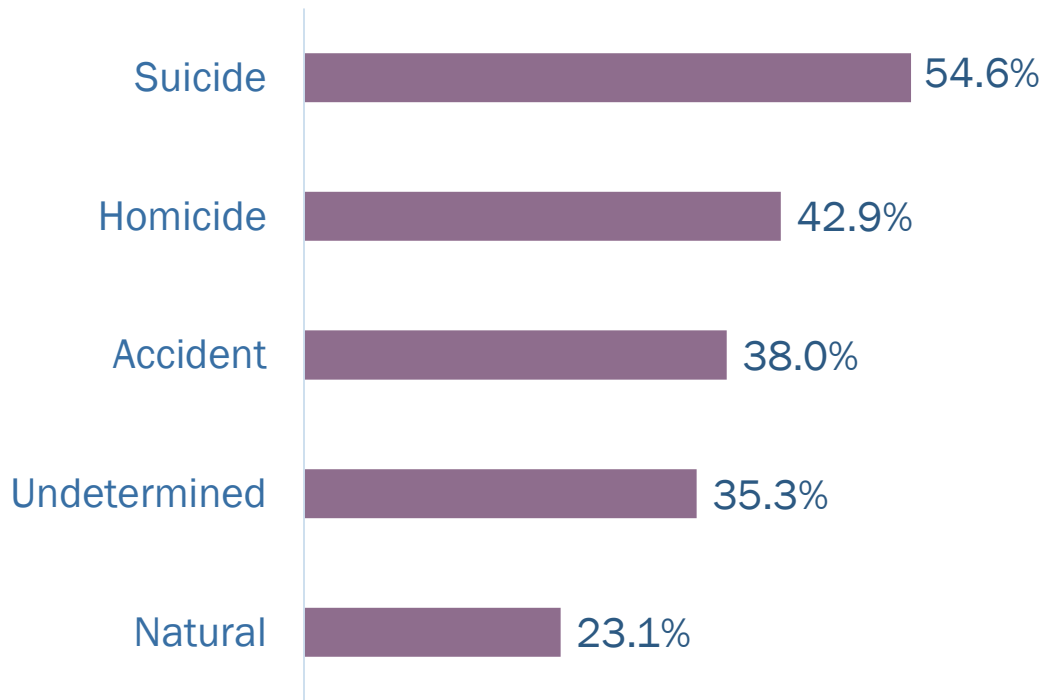
MCDR reviewed 500 deaths (2016 –2019)  
CRS data for reviewed cases



**\*\*\*Caution\*\*\***

All CRS estimates should be interpreted as a minimum as detection of specific elements through the available records may (likely) result in incomplete ascertainment

# Child had history of child maltreatment (as victim)

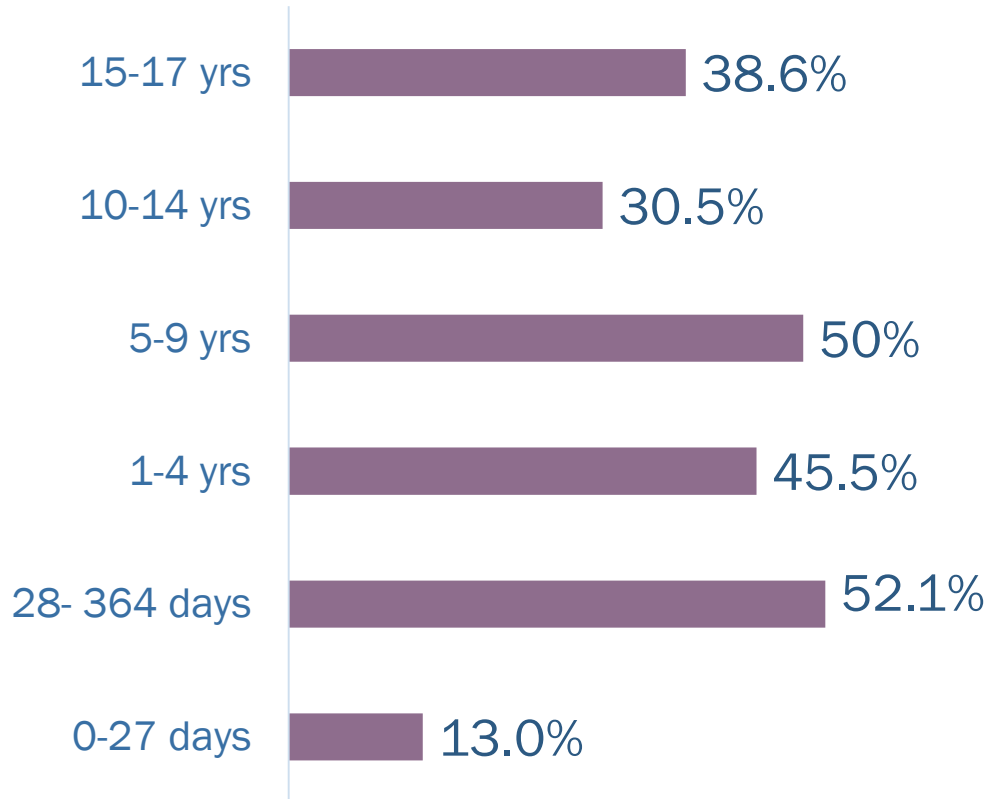


Maltreatment  
31.4% total  
(n=157)

Manner of death	Total
Suicide	44
Homicide	14
Accident	100
Undetermined	85
Natural	256
<b>Total</b>	<b>500</b>



# Child abuse, neglect and/or exposure to hazard(s) caused or contributed to the death



**36.8% total**

(n=184)

- 37.7% Neglect
- 34.4% exposure to hazard
- 19.1% poor supervision
- 8.7% Abuse

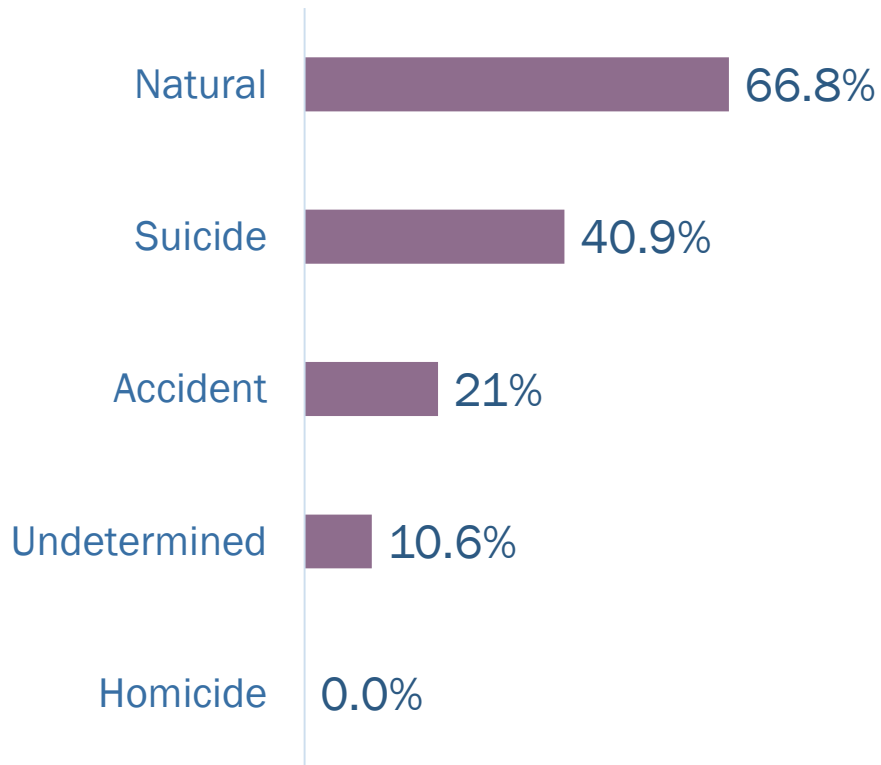
# Child exposed to hazards

Among the 63 deaths that indicated a specific hazard:

- 46 unsafe sleep environment
- 8 firearms
- 2 motor vehicle
- 2 substance abuse during pregnancy
- 1 medication/poison
- 4 others



# Child had disability OR chronic illness (physical, mental, cognitive, sensory, other)



Chronic illness  
44% total  
(n=220)

Manner of death	Total
Natural	256
Suicide	44
Accident	100
Undetermined	85
Homicide	14

# Primary caregiver history

	0-27 days (N=91)	28-364 days (N=85)	1-4 yrs (N=70)	5-9 yrs (N=25)	10-14 yrs (N=49)	15-17 yrs (N=51)
Hx of drug abuse	28.5%	41.9%	39.8%	26.2%	19.0%	27.1%
Hx of maltreatment (perpetrator)	22.8%	38.5%	40.9%	45.2%	34.5%	44.3%
Delinquent/criminal Hx	24.4%	43.6%	34.1%	27.1%	29.6%	26.2%

# Primary and secondary caregiver history

	0-27 days (N=123)	28-364 days (N=117)	1-4 yrs (N=88)	5-9 yrs (N=42)	10-14 yrs (N=59)	15-17 yrs (N=70)
Hx of drug abuse	37.4%	49.6%	59.1%	42.7%	28.9%	34.3%
Hx of maltreatment (perpetrator)	26.8%	47.9%	42.1%	54.8%	40.7%	48.6%
Hx of IPV	20.3%	36.8%	31.8%	35.7%	22.0%	32.9%
Delinquent/criminal Hx	88.6%	96.6%	92.1%	84.8%	91.4%	97.6%

# Supervision

MCDR determined that **371** children needed supervision

	0-27 days (N=66)	28-364 days (N=105)	1-4 yrs (N=88)	5-9 yrs (N=42)	10-14 yrs (N=43)	15-17 yrs (N=27)
Child supervised at time of incident	95.5%	93.3%	80.1%	78.6%	79.1%	74.1%
Supervisor Hx of drug abuse	18.7%	38.5%	42.1%	28.6%	11.6%	22.2%
Supervisor Impaired at time of incident*	6.1%	24.8%	26.1%	20.9%	22.2%	28.6%

\*Post neonates, 1-4yrs, and 5-9yrs caregiver impairment most often indicated as distraction and/or alcohol

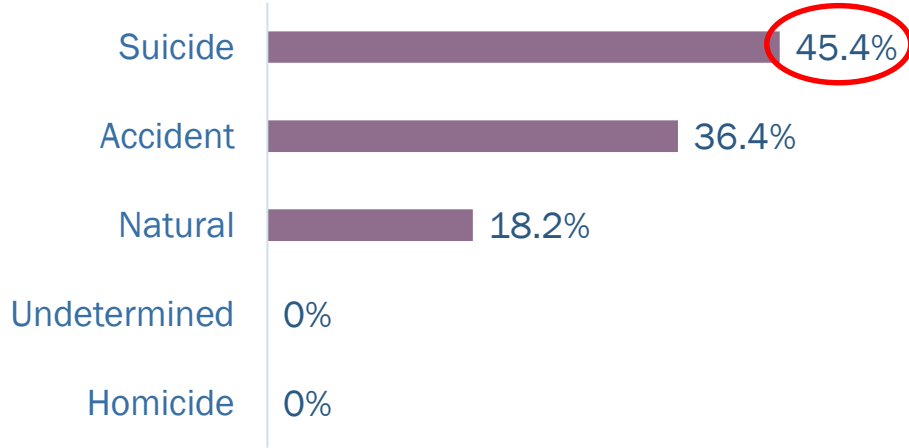
# Maternal and infant characteristics

	Neonatal Deaths (N=123)	Postneonatal Deaths (N=117)
Access or compliance issues with prenatal care	34.7%	31.6%
Infant born drug exposed	8.1%	12%
Mother smoked 3mo prior to pregnancy	26.0%	42.7%
Mother smoked during pregnancy	21.1%	41.0%
Abnormal metabolic newborn screen	14.6%	22%

# Child's mental health history

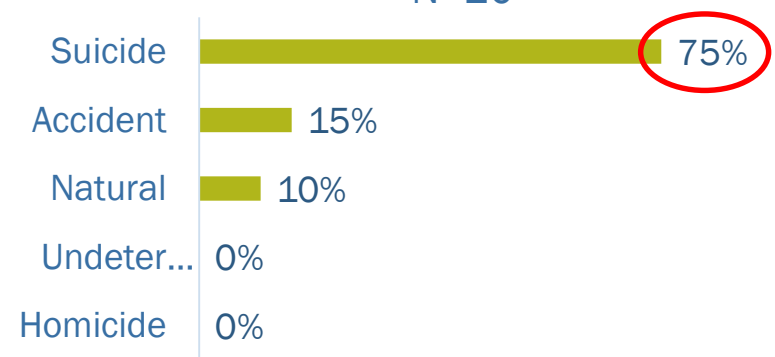
## Prior Mental Health Services (10-14 years)

N=11



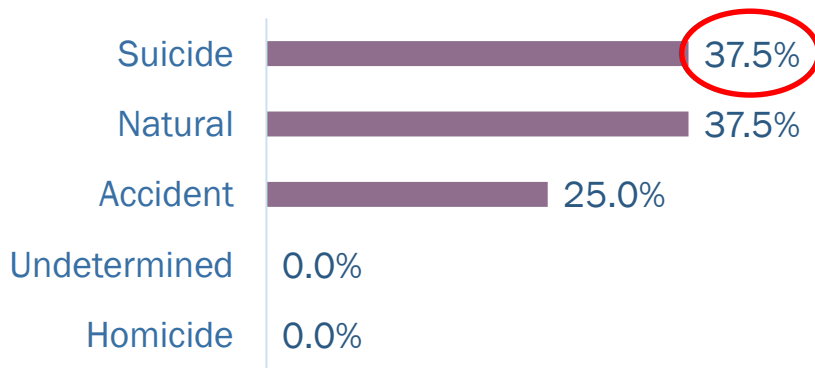
## Prior Mental Health Services (15-17 yrs)

N=20



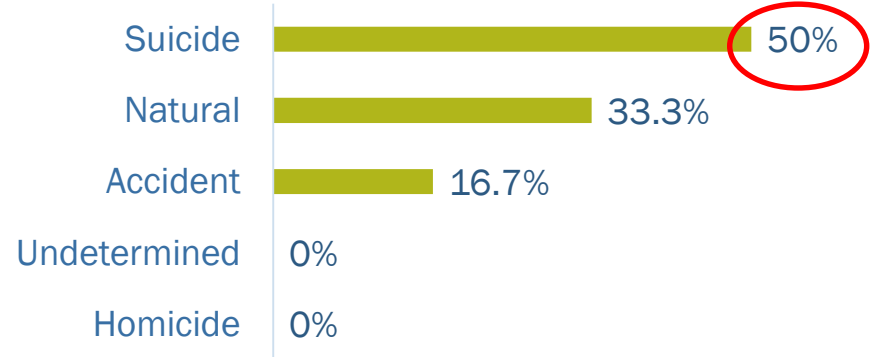
## Child receiving MHS (10-14 yrs)

N=8



## Child receiving MHS (15-17 yrs)

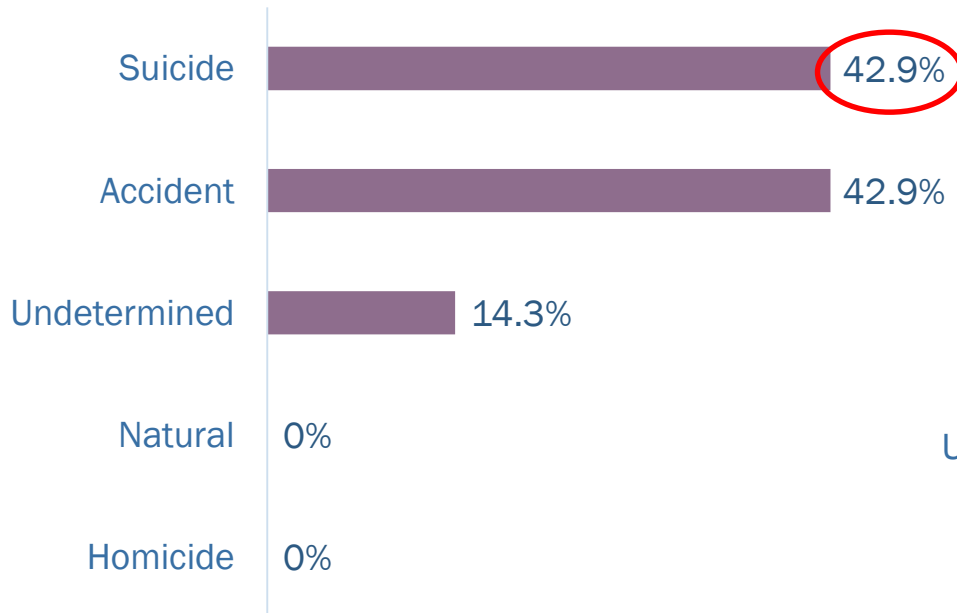
N=6



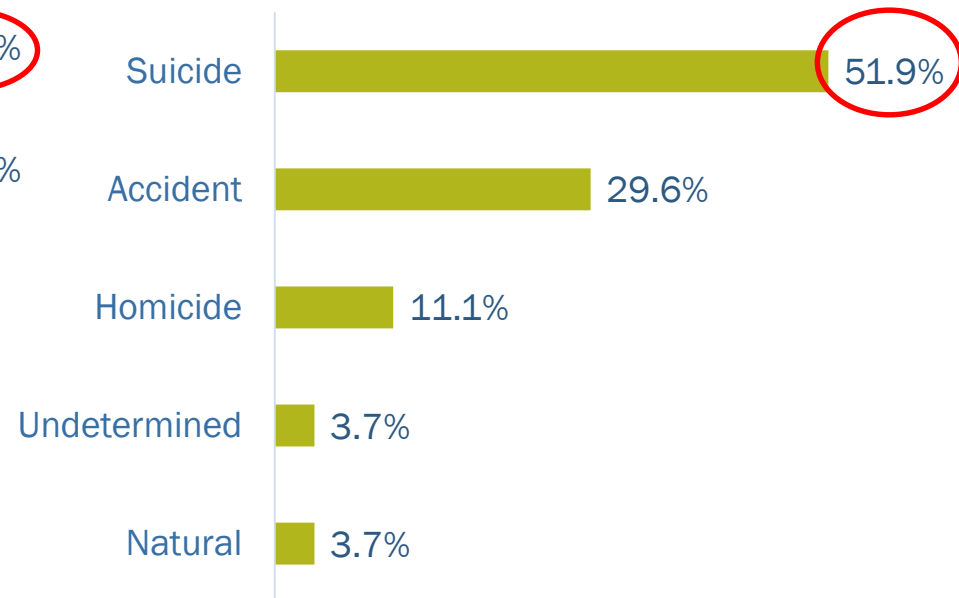


# Child history of substance abuse by age

10-14 Years  
N=7



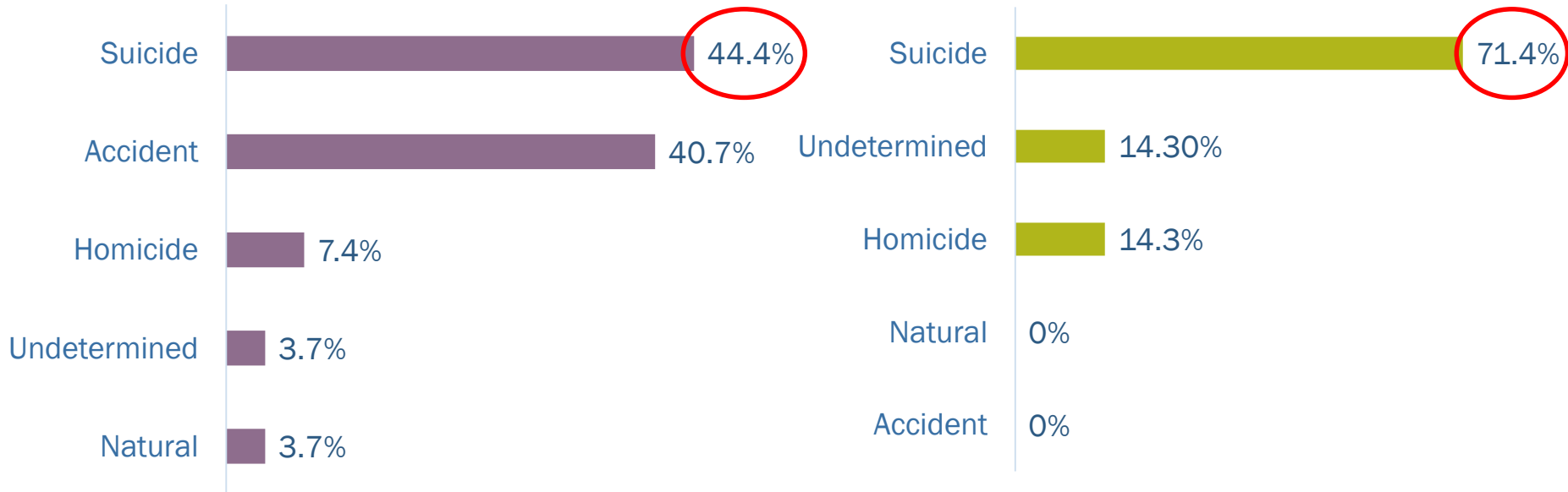
15-17 Years  
N=27



# Child history of substance abuse by gender

Male  
N=27

Female  
N=7



# Child history of suicidal behavior by gender

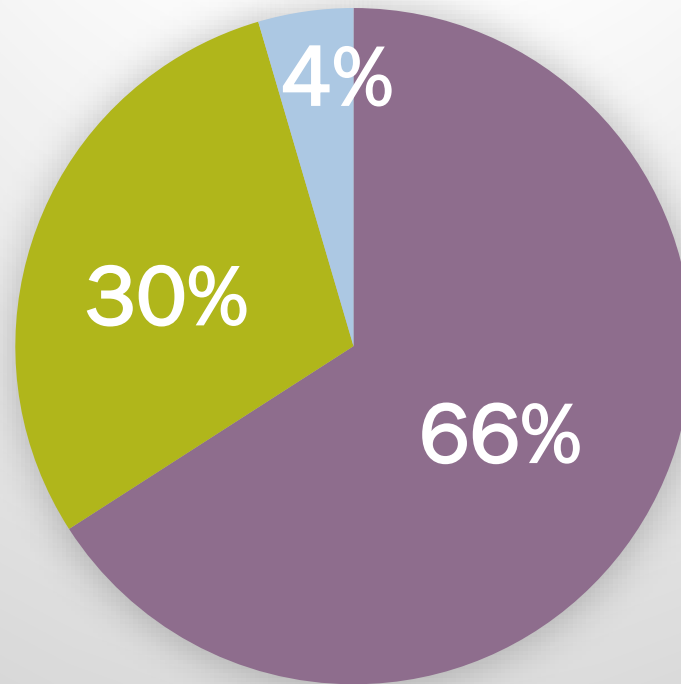
	Female (n=11)	Male (n=33)
Talked about suicide	81.8%	57.5%
Prior suicide threats	72.7%	36.4%
Left a note	54.6%	33.3%
Hx of self mutilation	63.7%	21.2%
Hx of being bullied	45.5%	15.2%
Recent break up with boyfriend/girlfriend	18.2%	18.2%
Recent argument with boyfriend/girlfriend	9.1%	9.1%
Prior attempts	27.3%	9.1%

# Method of suicide (n=44)

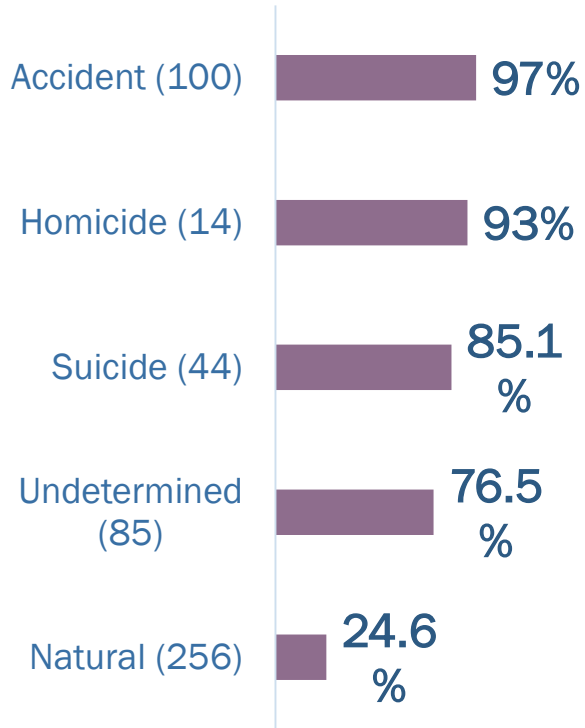
■ Firearm

■ Hanging

■ Other

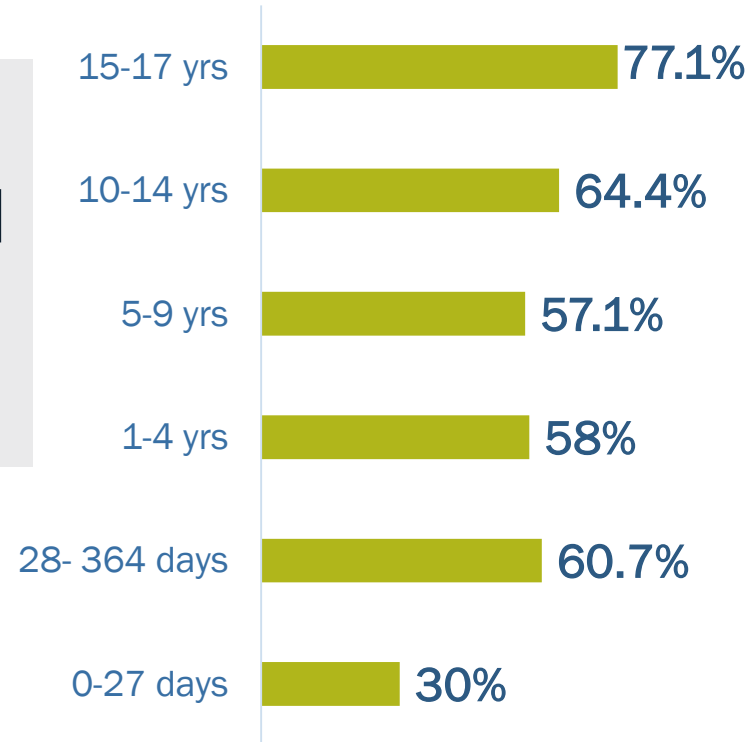


## Preventable death by manner of death




159 (55%)  
deaths could  
have been  
prevented

## Preventable death by age group




# HOW DO WE MOVE DATA TO ACTION?

# MCDR COMMITTEE RECOMMENDATIONS: INFANT DEATHS


- ❑ Treat lethargic children with abnormal blood cultures for *H. influenzae* until it is ruled out.
  - ❑ Identify and reduce the barriers that prevent women from accessing prenatal care and following recommendations to seek a higher level of care.
  - ❑ Delivery facilities should have protocols in place for supporting women experiencing domestic violence that includes contraceptive counseling and referrals to resources.
  - ❑ Complete umbilical cord toxicology testing in all instances of placental abruptions.
- 

# MCDR COMMITTEE RECOMMENDATIONS: SUID

- ❑ Provide safe sleep education during prenatal care visits, home visits and well child visits for at least the first 6 months of life.
  - ❑ Provide proactive referrals to resources and supports to low income and struggling families. Proactively intervene to protect infants at high risk of experiencing harm (e.g. those in families with multiple OCS reports).
  - ❑ Require toxicology testing for all caregivers directly involved in a sudden unexpected infant death.
- 



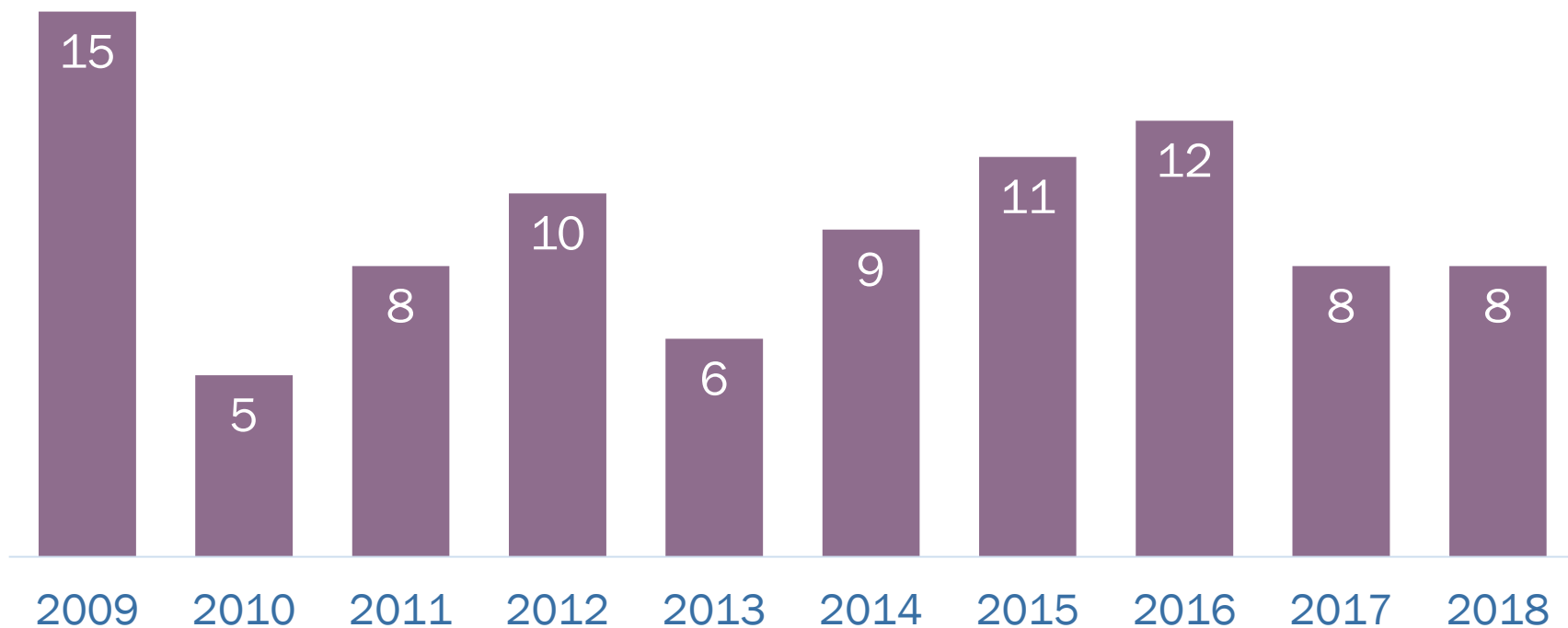
# MCDR COMMITTEE RECOMMENDATIONS: SUICIDE

- ❑ Improve community education and family response to adolescent suicidal indicators and risk factors such as prior attempts, bullying, social isolation, etc.
  - ❑ OCS should conduct depression screening (PHQ-4) when visiting with adolescents.
  - ❑ Provide parents with education on securing firearms, especially if child is experiencing suicidal ideation or acute mental health issues.
  - ❑ Support and improve peer to peer connections in adolescents.
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# MATERNAL MORTALITY

SECTION OF WOMEN'S, CHILDREN'S, AND FAMILY HEALTH, MCH-  
EPIDEMIOLOGY UNIT

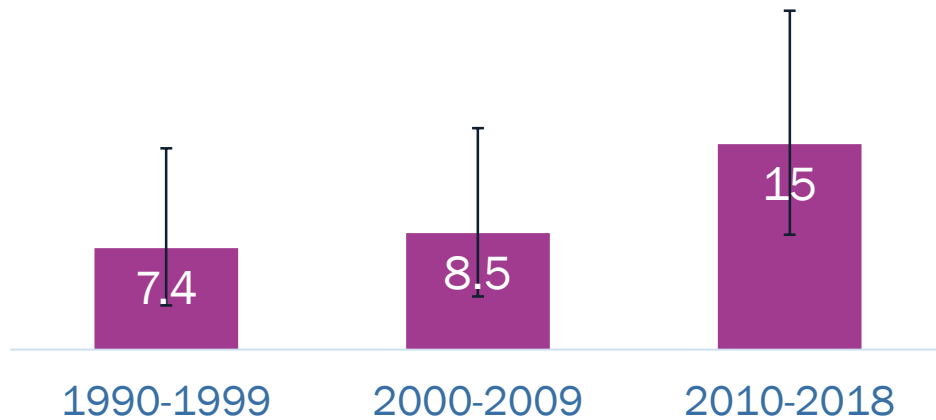
# ALASKA PREGNANCY-ASSOCIATED DEATHS





# PREGNANCY-RELATED DEATHS

Pregnancy-related mortality rates  
per 100,000 births



1990-1999: 8 deaths

2000-2009: 9 deaths

2010-2018: 15 deaths



# Thank You



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