



Understanding Maternal Violence Through Data Analysis

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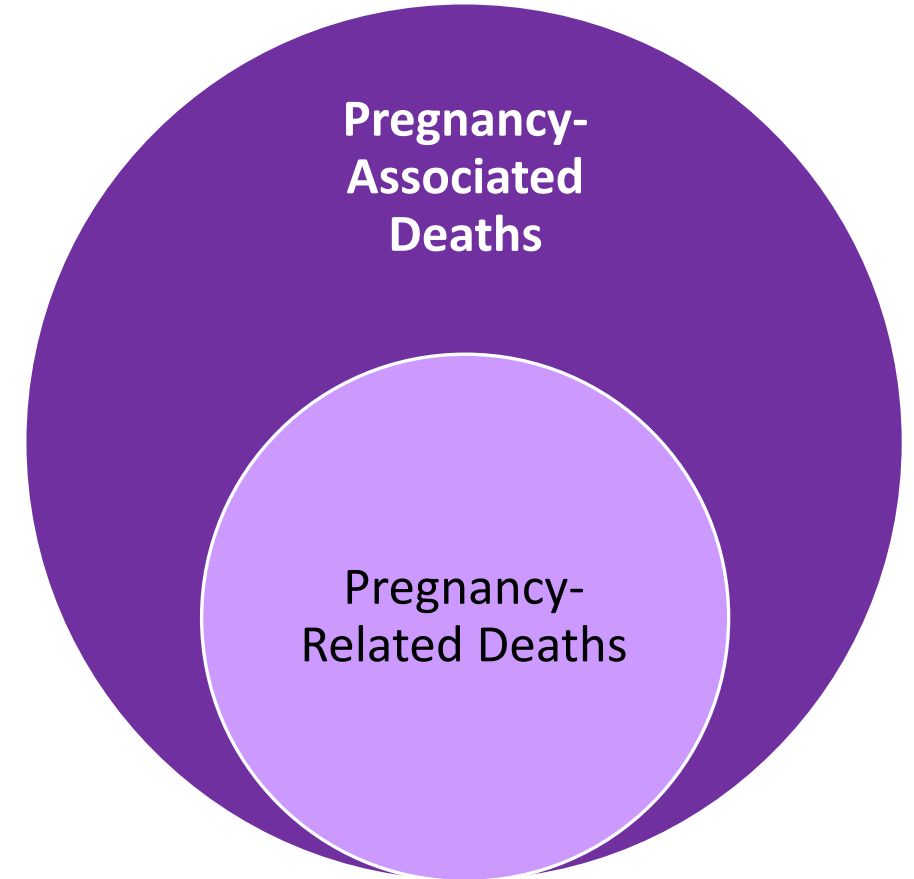


Program History + Overview

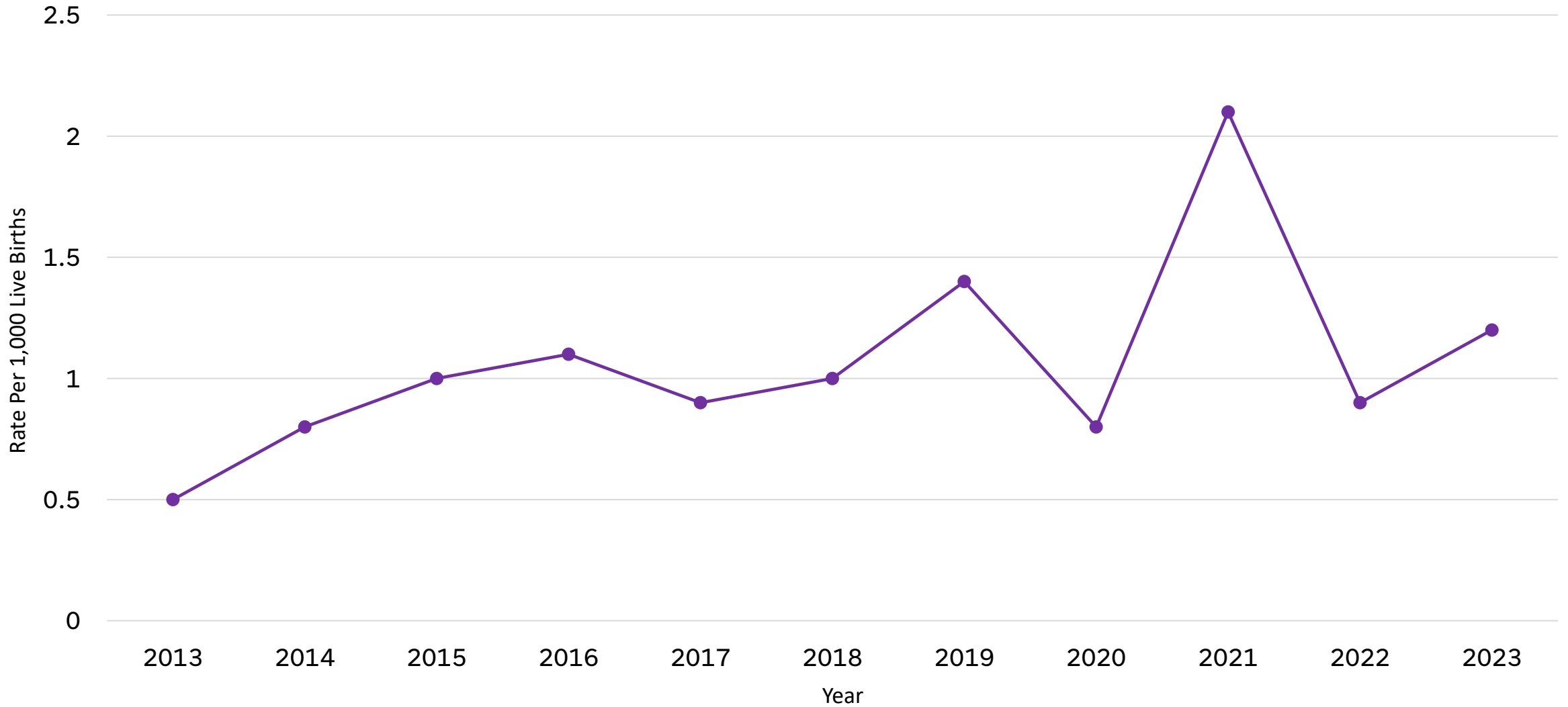
- Established in 1989 originally to review infant and maternal deaths
 - 2005: expanded to include child deaths, 0-14
 - 2016: expanded to include child deaths, 0-17
- Multi-disciplinary review committee
- Systematic case review model
- Identifies causes and contributing factors to maternal, infant and child deaths
- Develops recommendations to prevent future deaths

What are Pregnancy-Associated Deaths?

- Death from any cause during pregnancy and up to one-year post-partum
- Includes all pregnancy-related deaths
 - Pregnancy-related: Death while pregnant or within 1 year of the end of the pregnancy from any cause related to or aggravated by the pregnancy
- Violent deaths can be pregnancy-related
 - Suicide related to postpartum depression
 - Some homicides related to intimate partner violence/IPV (Austin et al., 2016)
- IPV can be a factor in pregnancy-related or pregnancy-associated deaths
 - Studies in four states found that pregnant and recently pregnant women are 2x more likely to die from homicide than non-pregnant/non-postpartum women (Campbell et al., 2021)

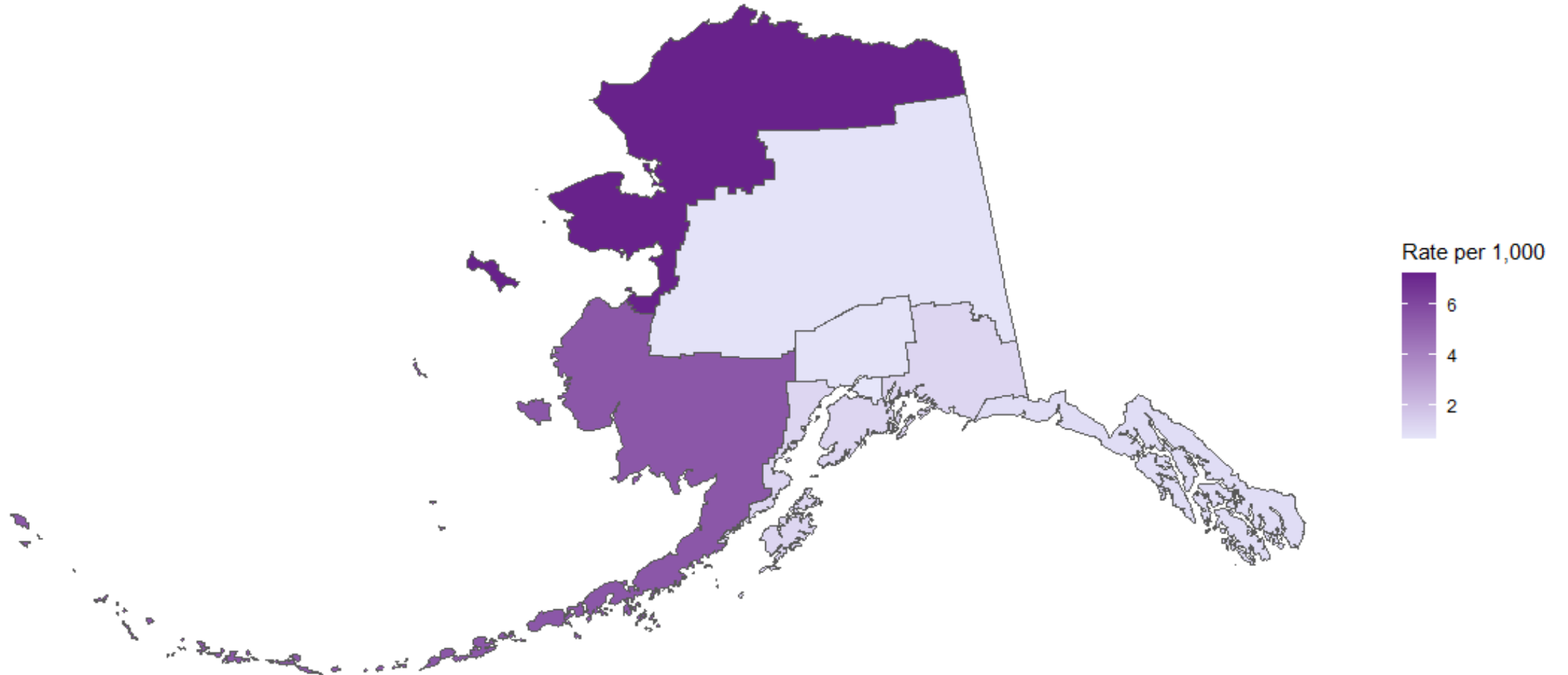


Alaska Pregnancy-Associated Mortality Rates, 2013-2023



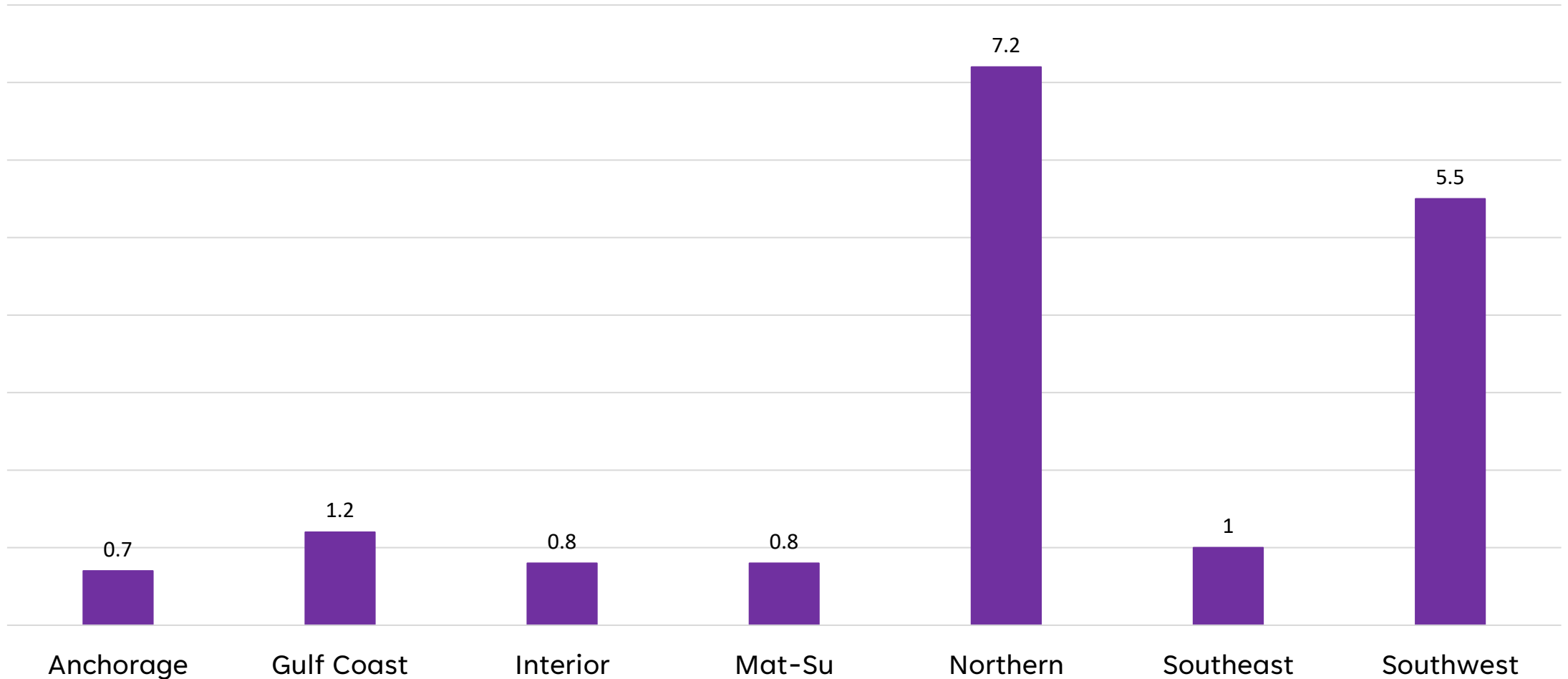
Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Alaska Pregnancy-Associated Death Rates Per 1,000 by Public Health Region, 2013-2023



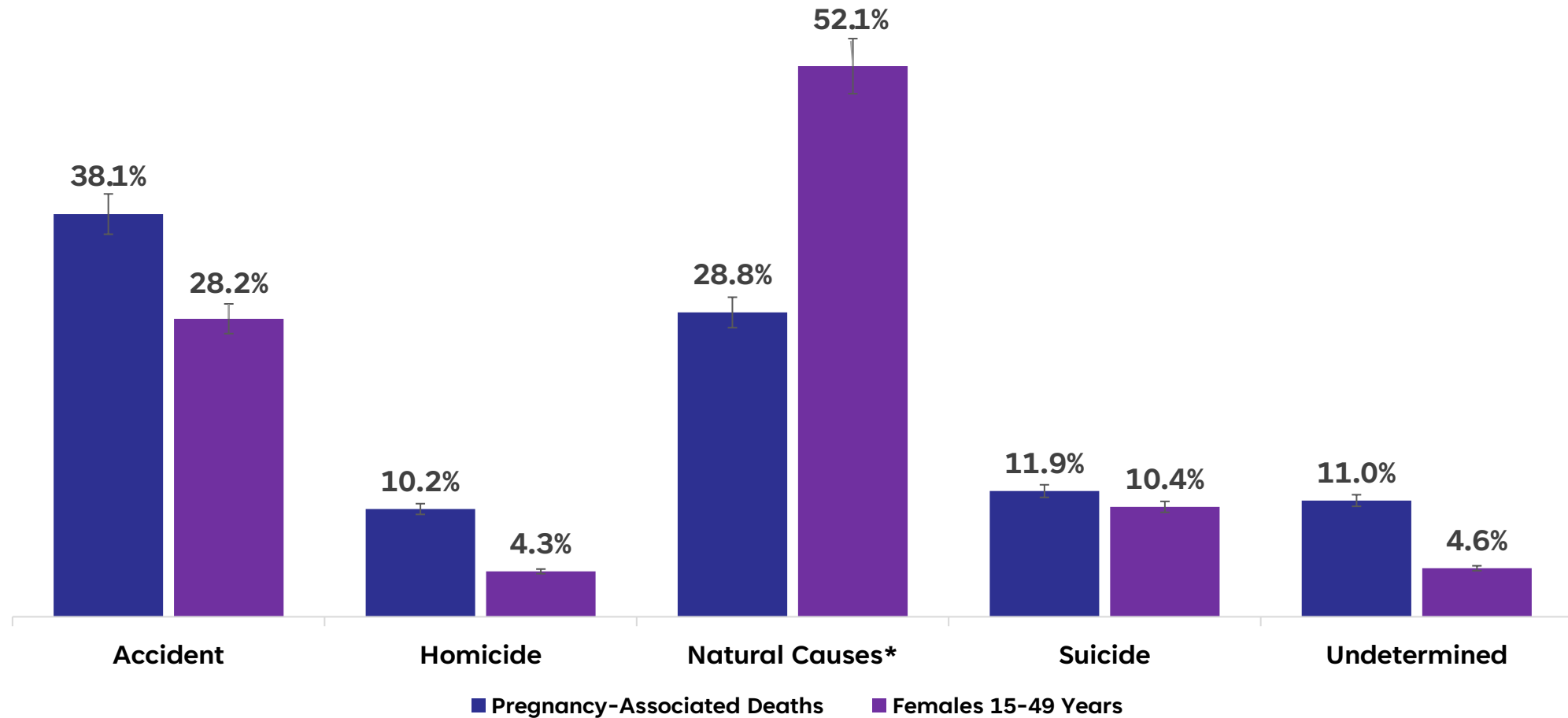
Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Alaska Pregnancy-Associated Death Rates Per 1,000 Births by Public Health Region, 2013-2023



Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Manner of Death Among Pregnancy-Associated Deaths and Other Females Aged 15-49, Alaska, 2013-2023



Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Alaska: Pregnancy-Associated Deaths vs. All Females Aged 15-49, 2013-2023 – Demographics

Demographic	Non-Maternal (% or Mean)	Maternal (% or Mean)	p-value
Alaska Native vs. Non-Alaska Native	57.6	44.2	<0.05*
Rural (Off Main Road) vs. Non-Rural (Off Main Road) Residence	38.1	27.9	<0.05*
Age	29	37	<0.05*

+ = Fisher’s Exact Test for Counts or Wilcoxon Rank Sum; Pregnancy-Associated Deaths = 1; *p<0.05 = statistically significant association

Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Alaska: Pregnancy-Associated Deaths vs. All Females Aged 15-49, 2013-2023 – Demographics

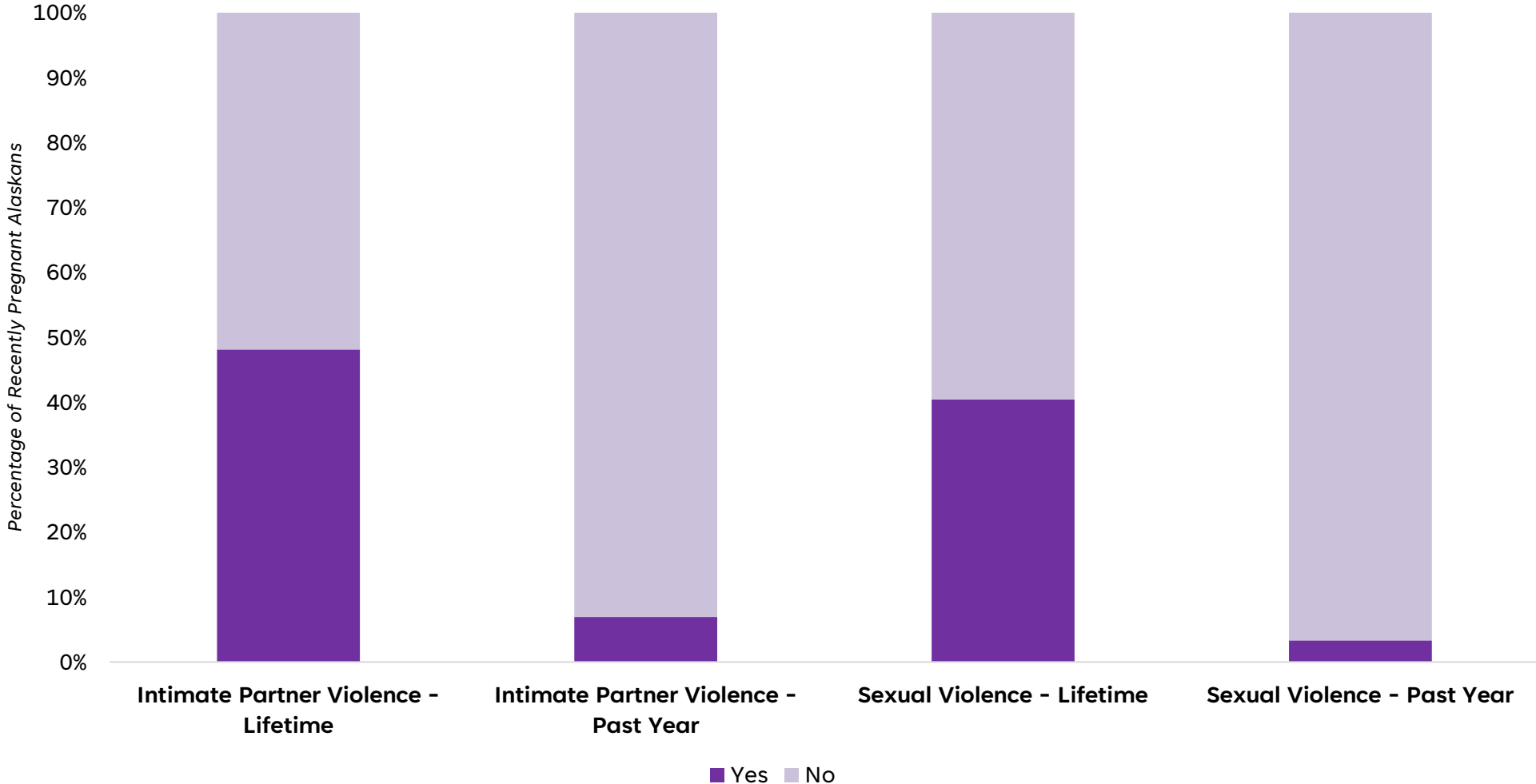
- When compared to all female deaths between the ages of 15 and 49 in Alaska between 2013 and 2023, women who died while pregnant or within a year of their pregnancy were:
 - More likely to be younger at the time of their death (29 vs. 37 years old)
 - 1.7 times as likely to be Alaska Native (57.6% vs. 44.2%)
 - 1.6 times as likely to live in a rural area without main road access (38.1% vs. 27.9%)

Intimate Partner Violence vs. Interpersonal Violence



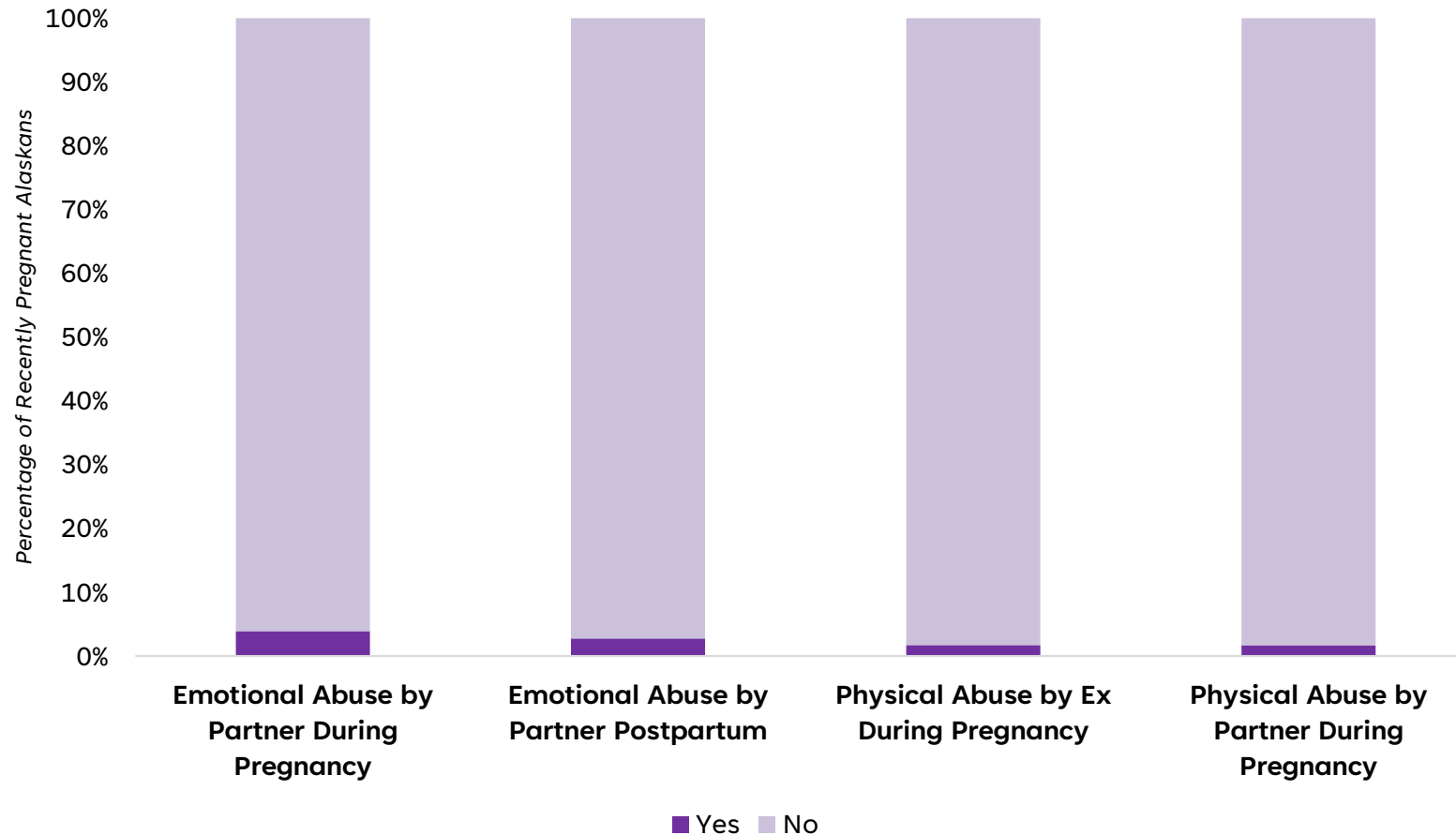
- Interpersonal Violence includes:
 - Intimate Partner Violence
 - Childhood abuse
 - Sexual assault
 - Emotional, sexual economic or social abuse
- Often occurs in the context of a relationship between victim and perpetrator, often an intimate and trusted relationship
- Intimate Partner Violence is a form of Interpersonal Violence
 - Also referred to as domestic violence

Intimate Partner Violence and Alaskan Women



Source: Alaska Victimization Survey, 2020

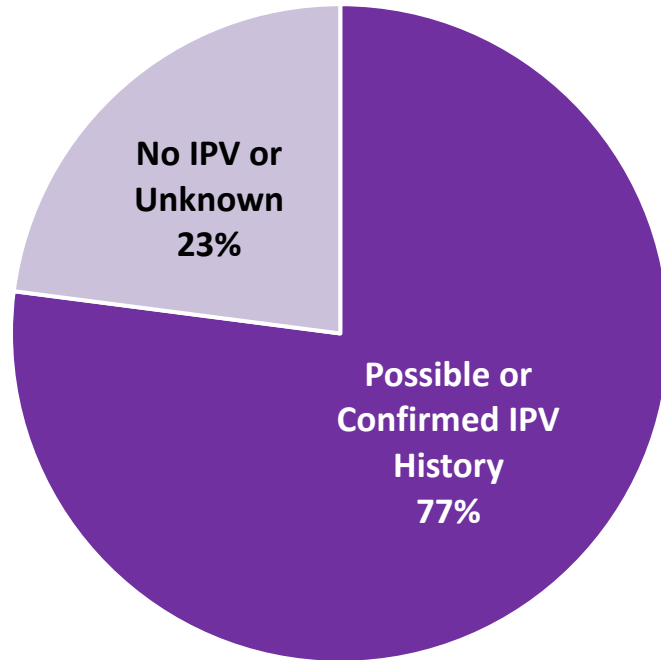
Intimate Partner Violence and Pregnancy in Alaska



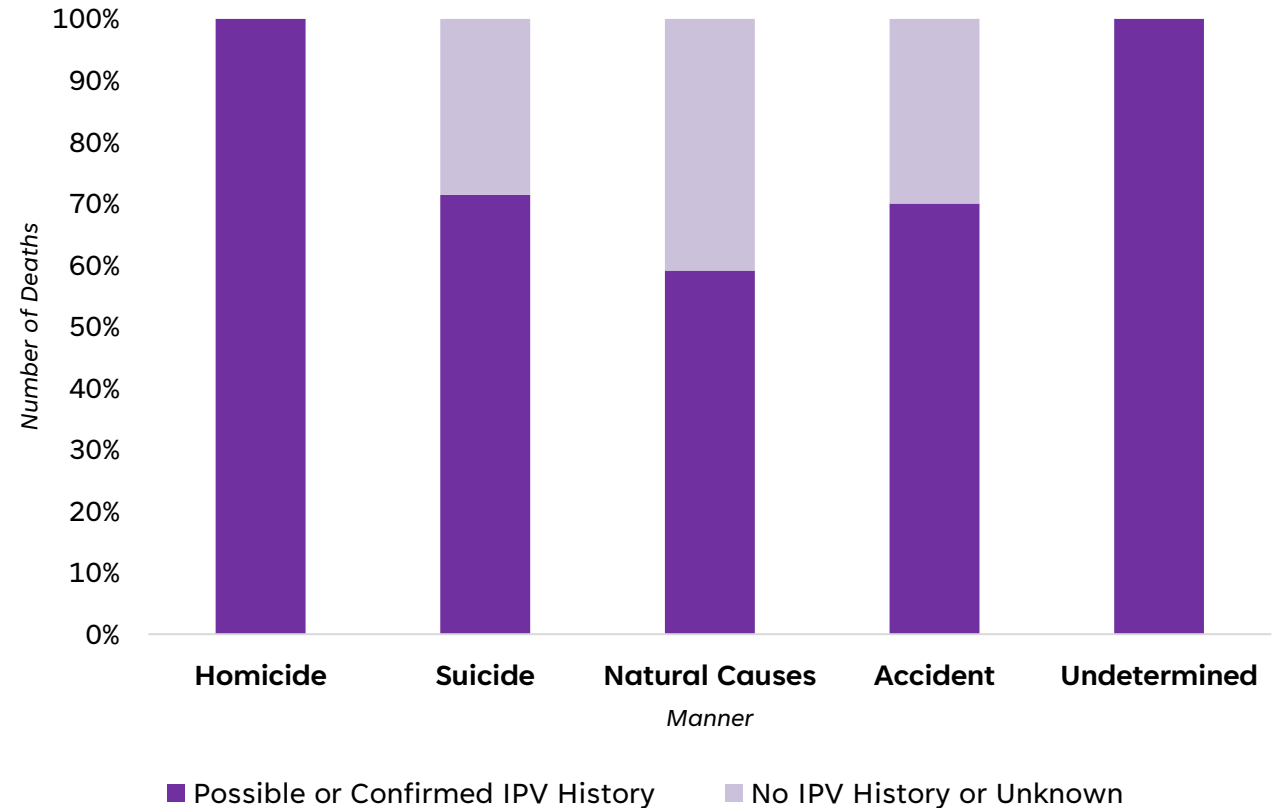
Source: Alaska PRAMS Data Visualization Tool: <https://alaska-dph.shinyapps.io/PRAMS/>

Interpersonal Violence and Maternal Deaths

MCDR Reviewed Deaths, 2015-2024



All Deaths Reviewed by MCDR, 2015-2024



Source: Alaska Maternal Child Death Review

Alaska: Pregnancy-Associated Deaths vs. All Females Aged 15-49, 2013-2023 – Manner of Death

Manner	Odds Ratio (Fisher's Exact for Counts)	p-value
Violent Death (Homicide, Suicide or Accident)	2.0	<0.05*
Homicide	2.6	<0.05*
Accident	1.6	<0.05*
Suicide	0.12	0.730

Pregnancy-Associated Deaths = 1; *p<0.05 = statistically significant association

Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Alaska: Pregnancy-Associated Deaths vs. All Females Aged 15-49, 2013-2023 – Manner of Death

- When compared to all female deaths between the ages of 15 and 49 in Alaska between 2013 and 2023, women who died while pregnant or within a year of their pregnancy were:
 - Twice as likely to have a Violent Death (Accident or Homicide) recorded as a manner of death
 - 2.6 times as likely to die of Homicides
 - 1.6 times as likely to die of Accidents
 - No more or less as likely to die of Suicide

Alaska: Pregnancy-Associated Deaths vs. All Females Aged 15-49, 2013-2023 – Underlying and Multiple Causes of Death

ICD-10 Codes	Odds Ratio (Fisher's Exact for Counts)	p-value
Assault	2.6	<0.05*
Head Injuries	2.1	<0.05*
Firearm-Related	1.8	<0.05*
Intentional Self-Injury	1.3	0.50

Pregnancy-Associated Deaths = 1; *p<0.05 = statistically significant association

Source: Alaska Maternal Child Death Review Identification and Alaska Health Analytics and Vital Statistics, Birth and Death Certificates 2013-2023.

Alaska: Pregnancy-Associated Deaths vs. All Females Aged 15-49, 2013-2023 – Underlying and Multiple Causes of Death

- When compared to all female deaths between the ages of 15 and 49 in Alaska between 2013 and 2023, women who died while pregnant or within a year of their pregnancy were:
 - 2.6 times as likely to have an Assault-related ICD-10 code recorded for an underlying or multiple cause of death
 - 2.1 times as likely to have a Head Injury-related ICD-10 code recorded for an underlying or multiple cause of death
 - 1.8 times as likely to have a Firearm-related ICD-10 code recorded for an underlying or multiple cause of death
 - No more or less likely to have an Intentional Self-Injury-related ICD-10 code recorded for an underlying or multiple cause of death

Selected Alaska MCDR Recommendations

- Facilities with integrated medical and behavioral health care should implement policies and practices that support an immediate, on-site response by a behavioral health professional to the clinical setting to support communication with patients who may be likely to decline care due to stigma, including when there is a positive screening for mental health concerns or interpersonal violence, or significant financial or social stress.
- Providers should ensure that all patients receive universal comprehensive screening including IPV screening.
- The State of Alaska (i.e. ANDVSA) should make training available for providers to support conversations with perinatal patients about relationship safety and make appropriate referrals for support following any disclosures of domestic violence. Training should provide CE/CME credits.

Sources

Austin, A. E., Vladutiu, C. J., Jones-Vessey, K. A., Norwood, T. S., Proescholdbell, S. K., & Menard, M. K. (2016). Improved ascertainment of pregnancy-associated suicides and homicides in North Carolina. *American journal of preventive medicine*, 51(5), S234-S240.

Campbell, J., Matoff-Stepp, S., Velez, M. L., Cox, H. H., & Laughon, K. (2021). Pregnancy-associated deaths from homicide, suicide, and drug overdose: review of research and the intersection with intimate partner violence. *Journal of women's health*, 30(2), 236-244.

Johnson, I. (2021). *2020 Statewide Alaska Victimization Survey Final Report*. Justice Center, University of Alaska Anchorage.