MATERNAL HEALTH INNOVATIONS (MHI)

Data Snapshot Companion

Priority Area: Substance Use

Washington State Department of HEALTH

DOH 141-243 February 2026 CS

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Information About the Data Snapshots

The Maternal Health Innovation (MHI) Data Snapshots (DS) are designed to help each priority area workgroup focus attention on their specific main issues. Each snapshot offers a compact, updated summary of the current data for their respective MHI priority area: Substance Use and Mental Health, Obstetric Care Quality, Rural Access to Care, and Community-Based Perinatal Care and Support.

This companion document focuses on the **Substance Use Priority Area** and provides additional context and expanded definitions to support the priority area's actionable insights for decision-making and strategy development.

We grouped the data points into 3 categories for each MHI priority area:

- Maternal health outcomes
- Maternal health factors
- Additional considerations (qualitative data)

The DS tables reflect the most recent data available by March 31, 2025. Due to space limitations, they only include categories with notable values or those representing the range of values across groups. A complete list of available categories for each data point—along with additional indicators, is included in this companion document.

How Can I Use These Data Snapshots?

This companion document can support your project planning, evaluation, and decision-making. Here are some ways to apply the information:

- **Identify key outcomes and factors.**
  Review the data snapshots to find the maternal health outcomes and maternal health factors most relevant to your priority area work.
  - What initial insights do the data points offer?
  - Which indicators provide new information or confirm what you already know?

- **Tailor priority area project activities.**
  Use the data to shape your project activities.
  - Should some of your workgroup project activities focus on specific subpopulations?

- **Define evaluation and monitoring measures.**
  Discuss with your team if these data points can be adapted to measure progress on your priority area workgroup projects.
  - Is there any data not included in the DS that you would like access to?
  - If yes, consider whether your group project should include additional data collection activities.

Working Definitions

Race and Ethnicity Categories

The DS uses the following race and ethnicity categories:

- Hispanic: Anyone with Hispanic or Latino ethnicity, regardless of race
- Non-Hispanic (NH) single-race: Individuals who identify as one race. For example, AIAN means single-race NH American Indian/Alaska Native individuals, and NHPI means single-race NH Native Hawaiian/Pacific Islander.
- Non-Hispanic multiple races: Individuals reporting 2 or more races.

Significant Difference

When interpreting DS data points, we use the term significant difference to refer to statistically notable differences between groups.

To determine whether the differences between groups are meaningful or due to chance, we used both confidence intervals (CI) [1] and p-values[2] (1,2). Here's how we assessed the differences:

- Two-group comparisons: A difference is considered significant if the CIs of the comparison groups do not overlap. This suggests the two groups likely differ with a certain level of confidence (e.g., 95%).
- Multiple-group comparisons: In a statistical test comparing multiple groups, we considered differences between groups significant when the p-value associated with that test was below .05 ($p < .05$).

Important Note: We recognize that public health practice and policy decisions shouldn't solely be based on p-value thresholds or CI overlaps.

Desired Direction: Each indicator has a "desired direction" toward improvement and positive outcomes:

- Increase = Higher is better
- Decrease = Lower is better
- Neutral = Neither direction is better.

For example, a decrease is the desired direction for smoking during pregnancy meaning a lower percentage of this indicator would be considered an improvement.

1 A CI provides an interval estimate or range of values that acknowledge the uncertainty of the single number point estimate, particularly one that is based on a sample of the population

2 A p-value is the probability under a specified statistical model that a statistical summary of the data (e.g., the sample mean difference between two compared groups) would be equal to or more extreme than its observed value

Narrative Overview of Each Indicator

This section provides a narrative overview of all the indicators included in the DS tables, along with other related indicators. For each indicator, you will find:

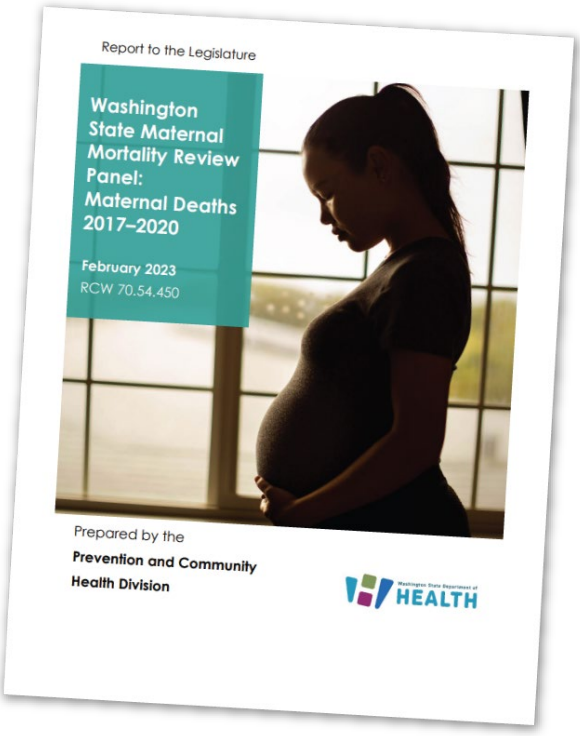
- Indicator name
- Year the data was obtained
- If appropriate, the desired indicator direction
- Indicator definition
- Original data source with a summary table or figure

The definitions reflect those used by the original data source and can also be found below the DS tables.

Maternal Health Outcomes

Pregnancy-Related Deaths (2014–2020) – Lower Rates are Desirable

Pregnancy-related deaths per 100,000 live births refer to deaths that occur during pregnancy or within 1 year of the end of pregnancy from a pregnancy complication, a chain of events initiated by a pregnancy, or the aggravation of an unrelated condition by the physiological effects of pregnancy, as determined by the Washington Maternal Mortality Review Panel (MMRP) (3).



The table on the following page illustrates pregnancy-related deaths included in the 2023 WA MMRP Report (3). The table presents both frequencies and rates. Frequency, the total number of deaths in each subgroup, shows the magnitude of deaths. Rates, the number of deaths per 100,00 live births, highlight differences in outcomes across subgroups.

Table 1. Pregnancy-Related Deaths by Maternal Age, Race and Ethnicity, Coverage Type and County of Residence (2014–2020, Washington)

Maternal Mortality	Rate per 100,000	95% Confidence Interval
Statewide (n=97)	15.9	(12.9, 19.4)
*By Maternal Age**		
<25 Years (n=18)	14	(8, 21)
25-34 Years (n=48)	13	(10, 17)
≥ 35 Years (n=31)	26	(18, 36)
*By Maternal Race and Ethnicity**		
AIAN NH (n=7)	84	(34, 156)
NHPI NH (n=4)	48	(13, 106)
Black NH (n=10)	36	(17, 61)
Hispanic (n=21)	19	(12, 28)
White NH (n=46)	13	(9, 17)
*By Insurance Coverage Type**		
Medicaid (n=66)	28	(22, 35)
Private (n=24)	8	(5, 11)
By County of Residence		
Urban County (n=82)	15	(12, 19)
Rural County (n=15)	23	(13, 36)

Data Source: Washington State MMRP: Maternal Deaths 2014-2020

* = differences between certain categories of this indicator were statistically significant based on non-overlapping Confidence Intervals (CI)

Leading Causes of Pregnancy-Related Death with Average Time Between End of Pregnancy and Death (2014–2020)

The underlying cause of death refers to the disease or injury that initiated the chain of events leading to death, or the circumstances of the accident or violence which produced the fatal injury. This includes deaths that occurred during pregnancy or up to 1 year after the end of pregnancy.

Table 2 illustrates the average time between the end of pregnancy and death for the top 3 leading causes of 2014 to 2020 pregnancy-related deaths from the 2023 WA MMRP Report (3).

Table 2. Leading Causes of Pregnancy-Related Deaths and Average Time Between End of Pregnancy and Death (2014–2020 in Washington)

Cause of Pregnancy-Related Death	Number (Percent of Total)	Average Time (Range)
Behavioral Health	n=31 (32%)	115.4 days/16 weeks (0–344 days)
Hemorrhage	n=12 (12%)	11.5 days (0–124 days)
Infection	n=9 (9%)	10.2 days (0–41 days)

Data Source: Washington State MMRP: Maternal Deaths 2014–2020

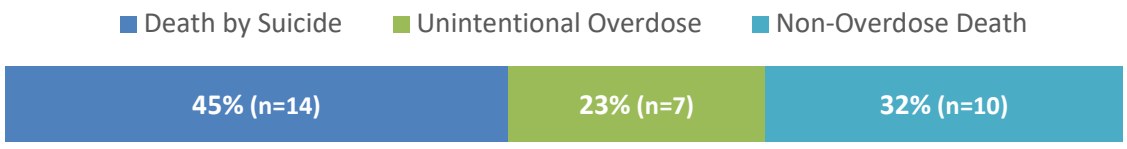
Notes on Leading Causes (Pregnancy-Related Deaths):

- Behavioral health conditions include mental health conditions and substance use. These deaths may involve suicides, unintentional substance overdose, and other non-overdose deaths related to substance use, such as infection, injury, cardiovascular conditions, or mental health conditions.
- Hemorrhage deaths include cervical laceration, ectopic pregnancy, uterine rupture, falling, and other non-specified hemorrhage.
- Infection deaths include COVID-19, sepsis due to infections of the amniotic sac and membranes, and sepsis due to an unknown cause.

Behavioral Health Pregnancy-Related Deaths (2014–2020)

Among the 31 behavioral health pregnancy-related deaths from 2014 to 2020 (3), causes of death vary and include deaths by suicide, unintentional overdose, and non-overdose deaths in which substance use contributed (e.g., infection related to intravenous substance use).

Figure 1. Causes of Death for Behavioral Health Pregnancy-Related Deaths (2014–2020, Washington) (n=31)

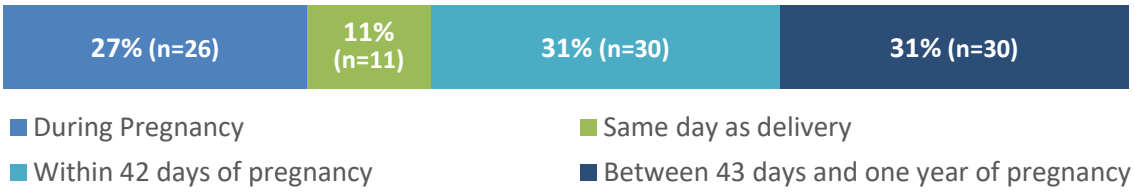


Data Source: Washington State MMRP: Maternal Deaths 2014–2020

Average Time Between Pregnancy and Death for Pregnancy-Related Deaths (2014–2020)

- More than one-quarter (27%) of the pregnancy-related deaths in 2014 to 2020 occurred during pregnancy.
- 11% occurred within 24 hours of delivery.
- Almost one-third (31%) of pregnancy-related deaths occurred within 42 days after the end of pregnancy.
- 31% occurred beyond 43 days after the end of pregnancy (3).

Figure 2. Average time between Pregnancy and Pregnancy-Related Death for Pregnancy-Related deaths (2014–2020 in Washington) (n=97)



Data Source: Washington State MMRP: Maternal Deaths 2014–2020

Severe Maternal Morbidity (2022) – Lower Rates Are Desirable

Severe Maternal Morbidity (SMM) is defined as unexpected outcomes of labor and delivery that can result in significant short- and long-term health consequences (4).

SMM events are identified as in-hospital deliveries of female patients aged 12–55 years with a diagnosis or procedure indicating SMM documented in their discharge record. This indicator includes SMM by maternal age, maternal race and ethnicity, hospital delivery volume, and expected payer.

Hospital delivery volume is the number of deliveries at an individual facility each year. Expected payer is the type of payer that the hospital expects to be the source of payment for the hospital bill.

SMM deliveries are identified among all in-hospital deliveries of patients treated in community hospitals in Washington[3]. The data includes deliveries of both people living in Washington state and people living outside of Washington who gave birth at Washington facilities (5).

From 2016 to 2022, the overall rate of SMM in the US increased from 72 to 93.1 per 10,000 in-hospital deliveries. In the same period, the SMM rates increased in WA from 58.3 in 2016 to 100.0 in 2022.

3 Community hospitals include short-term, non-Federal, general, and other hospitals excluding hospital units of other institutions (e.g. prisons) or community hospitals that are also long-term care facilities.

Table 3. SMM Rates per 10,000 In-Hospital Deliveries (2022, Washington)

SMM	Rate per 10,000
Statewide	100.0
By Maternal Age	
< 20 Years	86.1
20-24 Years	86.4
25-34 Years	92.6
≥ 35 Years	128.3
By Maternal Race and Ethnicity †	
Black NH	170.1
Hispanic	105.8
White NH	86.8
Other, NH‡	132.1
By Hospital Delivery Volume	
<500 Deliveries	60.4
500-1,000 Deliveries	54.1
>1,000 Deliveries	108.0
By Expected Payer	
Medicaid and Medicare§	105.5
Private Insurance	98.0

Data Source: HCUP Fast Stats, Severe Maternal Morbidity (SMM) Among In-Hospital Deliveries in WA; †SMM rate by maternal race and ethnicity is from 2021; ‡The non-Hispanic Other category includes Asian or Pacific Islander, American Indian/Alaska Native, and other non-Hispanic race identified as "other". Discharges missing race/ ethnicity are excluded from results reported by race/ethnicity. §On average, Medicare represents fewer than 1% of in-hospital deliveries.

Substance Use Health Factors and Outcomes

Pregnancy Risk Assessment Monitoring System (2020–2022)

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a survey of new birthing parents conducted by the WA State Department of Health and the Centers for Disease Control and Prevention (CDC) (6). PRAMS gathers information from birthing people about their experiences before, during, and after their most recent pregnancy.

In the data snapshot, PRAMS data is reported as the percentage of people living in Washington who had a live birth in-state between 2020–2022.

Marijuana Use Before and During Pregnancy – Lower Percentages are Desirable

The table below summarizes self-reported marijuana use before, or during, pregnancy as a percentage of people living in Washington who had a live in-state birth between 2020 and 2022 (6).

Table 4. Marijuana Use Before and During Pregnancy (2020–2022, Washington)

Statewide Marijuana Use	**Percent**	**95% Confidence Interval**
Before Pregnancy	18%	(17%, 20%)
During Pregnancy	6%	(5%, 7%)

Marijuana Use During Pregnancy	Percent	95% Confidence Interval
*By Maternal Race and Ethnicity**		
AIAN NH	17%	(14%, 22%)
Multiracial NH	15%	(9%, 22%)
White NH	7%	(5%, 9%)
Black NH	6%	(4%, 9%)
Hispanic	3%	(2%, 5%)
Asian NH	Not Available	
NHPI NH	Not Available	
*By Maternal Age**		
< 20 Years	Not Available	
20-24 Years	10%	(7%, 14%)
25-29 Years	6%	(4%, 8%)
30-34 Years	5%	(4%, 7%)
35-39 Years	4%	(2%, 6%)
≥ 40 Years	Not Available	

Data Source: WA PRAMS (2020-2022); * = differences between categories were significant (p <.05).
Not Available = Relative Standard Error (RSE) is over 30%; estimates are excluded due to unreliability.

Alcohol Use Before and During Pregnancy – Lower Percentages are Desirable

The table below summarizes self-reported alcohol use before, or during, pregnancy as a percentage of people living in Washington who had a live in-state birth between 2020 and 2022 (6).

Table 5. Alcohol Use Before and During Pregnancy (2020–2022, Washington)

Statewide Alcohol Use	**Percent**	**95% Confidence Interval**
Before Pregnancy	58%	(56%, 60%)
During Pregnancy	7%	(6%, 8%)

Alcohol Use During Pregnancy	Percent	95% Confidence Interval
*By Maternal Race and Ethnicity**		
White NH	8%	(7%, 10%)
Multiracial	8% [NR]	(4%, 14%)
Hispanic	6%	(4%, 8%)
Asian NH	4%	(3%, 6%)
AIAN NH	4% [NR]	(2%, 6%)
Black NH	3%	(2%, 5%)
NHPI NH	Not Available	
*By Maternal Age**		
< 20 Years	Not Available	
20-24 Years	Not Available	
25-29 Years	5%	(4%, 7%)
30-34 Years	7%	(5%, 9%)
35-39 Years	11%	(9%, 15%)
≥ 40 Years	8% [NR]	(5%, 15%)

Data Source: WA PRAMS (2020–2022); * = differences between categories were significant (p <.05).

Not Available = Relative Standard Error (RSE) is over 30%; estimates are excluded due to unreliability.

NR (Not Reliable) = Relative Standard Error (RSE) is between 25–30%; estimates may be unreliable and should be interpreted with caution.

Cigarette Use Before and During Pregnancy – Lower Percentages are Desirable

The table below summarizes self-reported cigarette use before, or during, pregnancy as a percentage of people living in Washington who had a live in-state birth between 2020 and 2022 (6).

Table 6. Cigarette Use Before and During Pregnancy (2020–2022, Washington)

Statewide Cigarette Use	Percent	95% Confidence Interval
Before Pregnancy	8%	(7%, 10%)
During Pregnancy	4%	(3%, 5%)

Cigarette Use During Pregnancy	Percent	95% Confidence Interval
*By Maternal Race and Ethnicity**		
AIAN NH	14%	(11%, 18%)
White NH	5%	(4%, 7%)
Black NH	4%	(2%, 6%)
Asian NH	Not Available	
Hispanic	Not Available	
Multiracial NH	Not Available	
NHPI NH	Not Available	
By Maternal Age		
< 20 Years	Not Available	
20-24 Years	Not Available	
25-29 Years	5%	(3%, 7%)
30-34 Years	3%	(2%, 5%)
35-39 Years	3% [NR]	(2%, 5%)
≥ 40 Years	Not Available	

Data Source: WA PRAMS (2020-2022); * = differences between categories were significant (p <.05).

Not Available = Relative Standard Error (RSE) is over 30%; estimates are excluded due to unreliability.

NR (Not Reliable) = Relative Standard Error (RSE) is between 25-30%; estimates may be unreliable and should be interpreted with caution.

Outcomes of Substance Use Overdose (2022–2023)

Although no specific data is available for substance use outcomes during pregnancy, delivery or postpartum, the DS includes available data on substance use overdoses among women of reproductive age (15–45 years old).

The data on overdoses among females of reproductive age include:

- Non-fatal Emergency Department (ED) visits (7)
- Non-fatal hospitalizations (8)
- Overdose deaths involving all types of drugs or biologic substances, including narcotics and psychodysleptics (hallucinogens) (9)

This information can serve as proxy indicator as it reflects the broader environment of substance use that birthing parents exist within.

Non-Fatal Emergency Department (ED) Visits for Suspected Overdoses of Any Drug – Lower Rates are Desirable

The rate of non-fatal ED visits for overdoses among women of reproductive age is defined as the number of non-fatal ED visits of females ages 15–45 years related to suspected drug overdose events, per 100,000 population (7).

Table 7: Non-fatal ED Visits for Suspected Overdose among Females Ages 15–45 (2023, Washington)

Non-Fatal ED Visits for Any Drug among Females of Reproductive Age (15-45 Years)	Rate per 100,000 Population
Statewide (n=6,626)	403.1
By Race and Ethnicity	
AIAN NH (n=263)	1,349.9
Black N (n=585)	824.8
Hispanic (n=713)	250.3
White NH (n=4,108)	445.9

Data Source: Washington Rapid Health Information Network (RHINO) 2023. Visit rates are based on the total number of visits each year (if an individual seeks care multiple times in a given year, they will be counted multiple times in the total number of visits).

Non-Fatal Hospitalizations for Overdoses of Any Drug – Lower Rates are Desirable

The rate of non-fatal hospitalizations for drug overdoses among women of reproductive age is the number of non-fatal overdose hospitalizations of females ages 15–45, per 100,000 population (8). These include all hospitalizations for overdoses involving any substance, regardless of overdose intent (e.g., suicide, unintentional overdose, assault).

Table 8. Non-Fatal Hospitalizations for Drug Overdose Among Females Ages 15–45 (2022–2023, Washington)

Non-Fatal Hospitalizations for Any Drug among Females of Reproductive Age (15-45 Years)	Rate per 100,000 Population
Statewide (n=2,272)	69.5
By Race and Ethnicity	
AIAN NH (n=61)	156.2
Black N (n=197)	140.4
Hispanic (n=236)	42.0
White NH (n=1,444)	78.4

Data Source: Comprehensive Hospital Abstract Reporting System (CHARS) 2022–2023. Hospitalization rates are based on the total number of hospitalizations each year (if an individual is hospitalized multiple times in a given year, they will be counted multiple times in the total number of hospitalizations).

Deaths by Overdose of Any Drug – Lower Rates are Desirable

The overdose death rate for females of reproductive age is the number of drug overdose deaths caused by acute poisonings among females ages 15–45 years, regardless of intent or type of substance, per 100,000 population (9). This does not include deaths due to chronic drug use, alcohol, and tobacco.

Table 9. Deaths by Drug Overdose among Females Ages 15–45 (2022–2023, Washington)

Overdose Deaths from Any Drug among Females of Reproductive Age (15–45 Years)	Rate per 100,000 Population
Statewide (n=796)	24.4
By Race and Ethnicity	
AIAN NH (n=53)	135.7
Black N (n=67)	47.8
Hispanic (n=90)	16.0
White NH (n=501)	27.2

Data Source: WA Death Certificates (2022-2023).

Acknowledgments

These **Data Snapshots** were prepared by epidemiologists in the Perinatal through Early Childhood Assessment & Reporting (PEAR) and Surveillance & Evaluation (SE) sections in the Office of Family and Community Health Improvements (OFCHI). The data included in these snapshots was provided by teams across the Washington State Department of Health.

We would like to thank our colleagues who supported this work, especially the epidemiologists from PEAR and SE in OFCHI. We also want to thank our colleagues in the Center for Analytics, Informatics, and Modernizations Surveillance Team and from the Office of Healthy and Safe Communities from the Division of Prevention and Community Health, who provided substance use data for women of reproductive age.

Data Sources

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