ANOKA COUNTY
OPIOID SOLUTIONS INITIATIVE

Opioid Advisory Council
Minutes

Friday, November 14, 2025
9:00-11:00 am
Blaine Human Service Center, Room 2402

Mission: *To improve health, save lives, and reduce the impact caused by opioids and other substances in Anoka County by managing opioid settlement funding and supporting strategic partnerships.*

Vision: *All Anoka County residents and partners are supported, engaged, and prepared to overcome the opioid crisis and meet the challenges related to substance use in the community.*

Called to Order by Patti Constant, Senior Program Specialist – Opioids, at 9:00 am

Present: Patti Constant, Susan Ferron, Miriam Ward, Peggy McNabb, Krista Johnson, Randi Prebil, Ryan George, Joe Amerman, Carrie Wood, Lori Lachner, Corey Kohan, Diana Hoffman, Jess VanKuyk, Megan Schueller, Troy Friesen, Amanda Amundson, Lacey Towe, Nicholas Warnke, Cassie Shaker

Absent: Molly Nee, George Borrell, Quita Curtis, Musab Adam, Sam Martinez, Melissa Olsen, Katherine Cole, Tim Kizer, Angela Barkdull, Lativea Wyatt, Derek Schuldt, Joshua VanHeuveln, Christina Lefkowich, Samantha Guthman, Nancy Norman

Guests: Bradley Ray, RTI International; and SUD Committee members Tessa Frantzen, Alex Blonigen, Annette Anderson, Jeanne Hoffman, Anna Alpern

1. Welcome, Introductions, Moment of Grounding, and Approvals

- Patti welcomed everyone to today's meeting of the Opioid Advisory Council.
- A moment of silence was observed to honor all the people that we have lost to deaths of despair (including suicide, drug overdose, & alcoholism), all of those currently struggling with behavioral health challenges (substance use disorders, mental illness), those who are bravely walking the recovery path, and all the families, friends, community members, and supports that are impacted. Thank you for helping us to remember why we are here.
- A reminder from Patti: Every single person in this room brings a unique piece of knowledge, information, and experience. Everyone has a unique role. Every perspective helps provide a piece of a bigger picture – no one is more important than another. That is what makes the magic of this group. Thank you each. You bring value to our group. Thank you for being here today.

- This is also a field FILLED with acronyms. We become comfortable in 'our little piece of the puzzle' and think everyone shares that knowledge. I invite and encourage each of you to question/ask when things are unclear. We do NOT, nor should we, all come with the same background information, so we need to feel comfortable questioning/asking.

  Please feel comfortable using AcroKnock… if you hear someone using an acronym or language that you are not familiar with, please knock three times – it's a gentle/friendly reminder to us all.

  Also, please always reach out with your thoughts, ideas, agenda items.

- Self-introductions were made, with Patti asking attendees to share: *HOW would you want to see our Faces of Hope website OR documentary promoted. Who really needs to see it?*

  - Randi Prebil – Schools -- to ground us in what is happening in our community.
  - Miriam Ward – Through the web and shown to jail and prison inmates at the time of their release back into the community.
  - Troy Friesen – All Anoka County staff need to see it.
  - Joe Amerman – Include as curriculum content in education.
  - Corey Kohan – Both residents and staff in our correctional facilities. Also anyone who does direct service work, i.e., case managers; whatever your role is in working with the public.
  - Carrie Wood – Jails; we are screening the film for our inmates.
  - Ryan George – Schools and organizations geared to youth, i.e., sports and church youth groups. Outreach to communities as well.
  - Nick Warnke – Treatment centers and clinics where families spend time with their kids during treatment and/or counseling sessions. Seeing the film in that setting would be helpful for parents.
  - Lacey Towe – Agree with Nick – treatment centers.
  - Lori Lachner – Lyric Arts. Community sponsored summer movie nights. Any family events.
  - Susan Ferron – Newspaper articles with the link would be great publicity – StarTribune, all local newspapers. A Minnesota Medical Association monthly magazine article with link.
  - Krista Johnson – Social media and the many Facebook recovery groups.
    I also like the idea of a premiere night.
  - Diana Hoffman – Community and school events.
  - Alex Blonnigen – Would launch great conversation among persons in our county treatment centers. Community events.
  - Jeanne Hoffman – Jails, institutions, detox facilities.
  - Annette Anderson – I would like to show the documentary to our kinship families – a large population that is impacted by addiction. Also libraries, chambers of commerce, and cities.
  - Tessa Frantzen – Anoka County staff.
  - Jess VanKuyk – The many service providers we contract with here in Anoka County.

- Amanda Amundson – Health classes may be a good place. In a loop on Anoka Courthouse monitors.
- Brad Ray – Important for frontline staff to see.
- Lacey Towe – Spring conference of the International Association of Coroners and Medical Examiners (IACM) by way of Shane Sheets, President. Our ME field investigators.

Patti will email the documentary link today.

- Motion to approve the October 10, 2025, Advisory Council meeting minutes by Ryan George. Second by Carrie Wood. Motion carried.

- Motion to approve the November 14, 2025, Advisory Council meeting agenda by Diana Hoffman. Second by Amanda Anundson. Motion carried.

2. Community and County Updates / Patti Constant

- Patti called on members to share on upcoming events, opportunities, trends or issues you are seeing, etc. What should this group be aware of? What do we need to know?
  - Carrie Wood – Our inmates need to be educated on Suboxone, as we continue to have diversion issues. Looking for suggestions on educating inmates..
  - Miriam Ward – I recently spent two weeks visiting my brother in a rural area of Ohio, an area with a large Amish population. We attended a family Halloween event with about 500 people / families in attendance. I spoke with the vendor of a local recovery center who acknowledged having several recovery centers in their rural area, with alcohol being the primary issue. Appreciate the idea of having a presence at events such as that.
  - Jeanne Hoffman – I am seeing a lot of kids coming into my weekly meeting who are going through withdrawal from 7OH/Kratum. It is getting to be a significant issue.
  - Kristy Johnson – There is currently a family sponsored digital billboard on Highways 10 and 65 with faces of people who have died by overdose. Nick Warnke offered his marketing company's six-foot electronic poster board for looping videos at any events we may have. Similar concept as a digital billboard.
  - Amanda Anundson – Our trunk-and-treat was awesome and a lot of fun. Details to come on a conference we will be hosting in April.

- Patti's Updates
  - <u>New 2026 Meeting Location</u>

    Beginning with our January 9th meeting and through calendar year 2026, we will meet at the Anoka County Government Center, Room 238. Our county parking ramp is just behind the building on the north side. Passes will be available at each meeting for you to exit the ramp at no cost. Most street parking nearby is two-hour parking.

3. RFP Updates / Patti

- Faces of Hope website has launched, with the documentary live now at https://FacesofHopeAnoka.org. We are beginning to plan promotions, media releases, and screenings. Please share with your agencies and circles. We want to send it out to as many people as possible, so please start thinking about ideas for promotion and connection. Think about how we can get it out into the community. Also note at the bottom of the video:
  - In addition to the 23-minute full video, there are short three- to four-minute segments available as well.
  - An area where people can share their stories. We are looking to expand with individual stories. Please share and promote.

  The education modules from Riverway should be complete / available next summer.

- Fentanyl Free Communities (FFC) and Empower (two of our funding recipients) are looking for options/locations for connecting with youth. Please contact Patti with any ideas you may have – community youth groups, church youth groups.

4. Guest Presentation / Brad Ray, RTI International

Patti introduced Brad Ray, a senior researcher with RTI International focusing on opioid prevention, noting his recent collaboration with the Midwest Medical Examiner's Office in studying data on fatalities throughout Minnesota. Investigating rural area overdose data had not previously been done. Brad's published article on rural overdoses "Examining trends in polydrug overdose deaths across rural Midwest counties in the United States, 2022-2024" was published in Drug and Alcohol Dependence – in August of this year.

Brad presented detailed slides outlining his 23-year interest and history of researching opioid overdoses that began in Chicago when he found his brother unresponsive in their living room. Unable to awaken him and after finding small bags of white powder, Brad called 911, certain his brother would die. His brother had overdosed on heroin but was immediately revived as EMS arrived and injected him with naloxone that reversed the overdose.

It was the naloxone reversing his brother's overdose that led Brad on a journey to learn more about it. Brad's slides were chronological and highlighted areas of his work such as:

- Indiana's Overdose Fatality Review Teams Real-Time Dashboard developed with NIH funding. https://www.in.gov/mph/projects/fortress/
- Training and convincing Indianapolis law enforcement to carry naloxone. Started with just one precinct, but quickly rolled out across the state.
- Impact of drug supply disruption – significant increase in overdoses, with fatalities more than doubling.
- Medications for opioid use disorder and syringe service programs.
- Preventing overdose and promoting recovery through court navigation and peer support.
- Community-based drug checking services.
- Community Mitigation Against Xylazine (CMAX) Study.
- Data specific to Brad's Minnesota research findings.
- Iron Law of Prohibition wherein increasing law enforcement and increasing the cost of illegality results in increasing potency of the substance by the makers.
- Substance use vs. substance use disorder.

Please consider me a resource for you, email bradleyray@rti.org.

Brad noted more to come on an upcoming series of three webinars starting in February that will address drug checking services, including what Minnesota is doing.

Thank you so much to Brad.

5. Member Presentation
Jess VanKuyk, Senior Manager, Anoka County Children and Family Services

Jess presented an overview of our Child Protection services with slides covering:

- Mission: To Keep Children Safe through Proactive Prevention, Intentional Protection, and Meaningful Partnerships with Families and Communities.
- Primary Goals.
- Structure of the eight Child Protection upfront and case management units.
- Child Protection Flow Chart
  - Screening
  - Family Investigations
  - Family Assessments
  - Ongoing Family Services
- Juvenile Court / CHIPS Cases
- Children and Family Services Data
- Tessa Frantzen, senior social worker, provided an overview of our Safe Plan of Care services that are designed specifically to work with women who are pregnant and struggling with substance use issues. The goal is to help mothers have healthy pregnancies and healthy

babies by providing quality resources and timely services that address their health, well-being, and substance use and ensures a safe, stable home environment for them and their children. It is a priority for babies to remain with their mothers/families whenever safely possible.

- Process Overview.

Thank you to Jess and Tessa for presenting.

6. Closing

- Thank you to all. I appreciate you being here.
- Next Meeting -- Friday, December 12, 2025, 9-11:00 am, Blaine Human Service Center, Room 2402.

Adjourn 11:03 am.

Patti Constant
Senior Program Specialist

Randi Prebil
Health Promotion and Planning Manager
PHES

Peggy McNabb
Administrative Services Supervisor

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Examining trends in polydrug overdose deaths across rural Midwest counties in the United States, 2022 through 2024

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ABSTRACT

Purpose: To examine trends in overdose deaths and the presence of xylazine in postmortem toxicology in a highly rural region of northern Minnesota with a significant American Indian/Alaska Native (AI/AN) population, using real-time local surveillance data.

Methods: We analyzed drug overdose death data from the Midwest Medical Examiner's Office, covering 36 counties from January 1, 2022 to December 31, 2024. Data included demographic characteristics, place of death, and substances detected in toxicology results. Age-adjusted mortality rates and disparities across racial/ethnic groups were calculated, and polydrug combinations were explored using network analysis.

Findings: Among 967 overdose deaths, most decedents were white (71.7 %), AI/AN (13.4 %), or Black/African American (10.3 %) with an overall mortality rate of 76.1. Mortality rates declined during the study period for white and AI/AN populations and increased slightly for Black/African American populations. However, rates remained disproportionately high for AI/AN populations, who were 6.19 times more likely to die of overdose than non-AI/AN in 2024. Xylazine was detected only in combination with fentanyl, with no racial/ethnic differences in its presence. Distinct polydrug patterns were observed by race: fentanyl-cocaine combinations were more prevalent among Black/African Americans, while fentanyl-methamphetamine combinations predominated among AI/AN and White decedents.

Conclusions: Local surveillance in rural areas can detect emerging threats like xylazine and illuminate racial disparities obscured in national datasets. Findings highlight the urgent need for real-time, locally driven data to inform targeted prevention and harm reduction, particularly for AI/AN populations in rural communities.

1. Introduction

The United States Centers for Disease Control and Prevention's (CDC) National Vital Statistics System (NVSS) reported more than 100,000 accidental drug overdose deaths in 2022 with more than one million deaths in the past two decades, underscoring an ongoing and rapidly evolving public health crisis (CDC, 2021, 2024). A majority of overdose deaths, in both rural and urban areas of the United States, are attributed to fentanyl, an illicitly manufactured synthetic opioid with a growing myriad of analogs (i.e., chemical variants) (Armenian et al., 2018; Park et al., 2021). Fentanyl first appeared in the Northeast around 2012, then proliferated across the Midwest around 2014, and finally dominated the West Coast market by late 2019 (Hedegaard et al., 2019; Kolak et al., 2020; Lopez et al., 2024; Peters et al., 2020; Ruhm, 2017; Victor et al., 2023). Notably, the early identification of fentanyl in these regions were not provided by national surveillance data, but rather from local surveillance systems that examined toxicology results and death certificates from death investigation agencies (Algren et al., 2013; Krinsky et al., 2011; Martin et al., 2006; Ogilvie et al., 2013; Okic et al., 2013). Before 2013, fentanyl was grouped under broader drug categories in the NVSS, leading to frequent misclassification and underreporting (Peppin and Coleman, 2021; Ruhm, 2016; Seth et al., 2023). It was not until 2013 that fentanyl was categorized separately in national mortality data, enabling more accurate tracking of its role in overdose deaths.

Local surveillance systems have proved critical for identifying

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emerging adulterants in the North and South American drug supply, such as xylazine, a veterinary sedative not approved for use by humans that has increasingly been detected in the illicit fentanyl supply (Alexander et al., 2022; Meyer et al., 2023). Xylazine use has been linked to negative health consequences, including more severe and altered overdose and withdrawal symptoms, as well as skin ulcers and tissue wounds, some of which have required amputation (Quijano et al., 2023; Zagorski et al., 2023). Like fentanyl, xylazine has primarily been tracked through local surveillance systems and monitoring efforts have largely been limited to urban areas (Johnson et al., 2021; Kariisa, 2023; Nunez et al., 2021; Reyes et al., 2012; M. Spencer et al., 2023; Wong et al., 2008). Moreover, national mortality data systems rely on International Classification of Diseases (ICD) codes for cause-of-death reporting, but there is currently no specific ICD code for xylazine limiting national tracking. Limitations with these data are further compounded by significant delays in data availability as national mortality data are typically released 12–18 months are the end of the calendar year (CDC, 2025; Slavova et al., 2019). For example, while provisional data suggest a potential decline in overdose deaths in 2023, official statistics will not be released until well into 2025. Similarly, data for 2024 will not become available until 2026.

As trends in illicit drug markets have shifted, so too have racial demographics of the overdose population. Prior to widespread emergence of fentanyl, overdose deaths were predominantly associated with as white rural populations; however, over the past decade, overdose mortality have increasingly affected Black and African American communities along with American Indian and Alaska Native (AI/AN) populations (Bauer et al., 2024; Friedman and Shover, 2023; Furr-Holden et al., 2021; Hedegaard and Spencer, 2021; A. Jones et al., 2023; Phalen et al., 2018; Smith et al., 2024; Townsend et al., 2022). A recent analysis of CDC data from2019 to 2022 found that opioid-related overdose deaths increased most rapidly in Black, AI/AN, and Hispanic/Latino Americans, with Minnesota exhibiting the highest rates of overdose deaths among AI/AN individuals (Smith et al., 2024). The authors note that to conduct this analysis, the data were pooled across 5 years due to guidelines related to data-suppression. Due to concerns of re-identification, county-level overdose counts below 10 are suppressed (Tiwari et al., 2014). While this policy protects individual privacy, it poses challenges for analyzing overdose trends among racial and ethnic minority groups in less populated areas, such as rural communities (Stone, 2025).

In this study, we analyzed near real-time mortality data collected from multiple US counties in northern Minnesota, an area characterized by extremely rurality, as part of overdose surveillance efforts funded from opioid remediation initiatives. These counties have a high proportion of AI/AN residents, so we examined population-adjusted overdose trends across racial and ethnic groups from January 1, 2022, to December 31, 2024. Additionally, we conducted a polydrug network analysis across these groups using toxicology results to explore patterns of substance co-use and assess the prevalence of xylazine use.

2. Data and Methods

Information on overdose deaths in this study comes from a partnership in Minnesota between the Midwest Medical Examiner's Office (MMEO) and the Anoka County Public Health and Environmental Services. This collaboration aims to improve overdose surveillance efforts and inform targeted overdose prevention efforts (Anoka County, 2025; CDC Foundation, 2024). The MMEO is the largest medical examiner's office for the state and provides death investigation services for 36 counties, covering approximately 1.8 million people and half of Minnesota's geographic area. Three-quarters of the counties (75 %; n = 27) are considered completely rural, coded as non-metropolitan and rural, with an average Rural-Urban Continuum Code of 7.5. The RUCC ranges from 1 (most urban) to 9 (most rural), with higher values indicating greater rurality (Fig. 1) (Butler, 1990; Rennison and Mondragon, 2022).

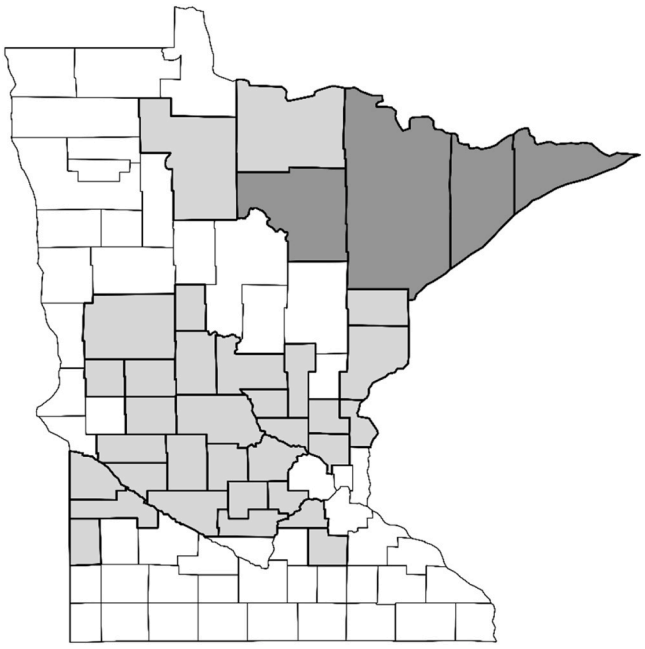

Fig. 1. Minnesota catchment counties where the Midwest Medical Examiner's Office investigate overdose death, January 1, 2022 through December 31, 2024. Notes: Rural-Urban Continuum Code (RUCC) from 1 to 9 with higher numbers indicating more rural areas. Darker gray and asterisks indicates catchment counties on the Iron Range. The catchment counties and corresponding RUCC include Cook (9), Grant (9), Lac Qui Parle (9), Lincoln (9), Swift (9), Pope (8), Chippewa (7), Renville (7), Yellow Medicine (7), Douglas (6), Itasca (6),* Koochiching (6), Lake (6),* McLeod (6), Meeker (6), Morrison (6), Otter Tail (6), Pine (6), Todd (6), Wadena (6), Kandiyohi (4), Beltrami (3), Rice (3), Stearns (3), Carlton (2),* St. Louis (2),* Anoka (1), Benton (1), Carver (1), Chisago (1), Isanti (1), Mille Lacs (1), Sherburne (1), Sibley (1), Wright (1).

The catchment area includes the Iron Range, a geographically and historically distinct rural region characterized by low population density, dispersed settlements, and a history of iron ore mining that has been shaped by cycles of industrial development and decline (Homans and Ackerman, 2025; Nelson, 2025; Whitson, 2019).

The Anoka County Public Health and Environmental Services implemented a data collection system for extracting information from death certificates used in prior research (Lowder et al., 2018; Ray et al., 2017, 2020; Victor et al., 2023). The MMEO collects investigative information from deaths that are sudden, unexpected, unnatural, or suspicious to ensure accurate determination of cause and manner of death. This includes publicly available data on all suspected unintentional poisoning deaths, classified under ICD-10 codeX40-X44 (Sec. 144.225 MN Statutes, 2024). Throughout the data collection process, an abstractor coded information from investigation reports, with a senior reviewer conducting random checks for accuracy. The collected information included location of the fatality, decedent demographics (age, race/ethnicity, sex, and marital status), military status (active duty, veteran, reserves or non-military) and indicators for select substances detected in post-mortem toxicology screenings. In this analysis we focus on those implicated in rising overdose rates (particularly in rural areas) (Carpenedo Mun et al., 2023; Hedegaard and Spencer, 2021; Peters et al., 2020), opioids (fentanyl, heroin, and prescription opioids) and stimulants (cocaine, methamphetamine), as well as xylazine as an emerging drug in the illicit supply (Alexander et al., 2022; Quijano et al., 2023; Zagorski et al., 2023).

Analysis of these data were conducted as part of a broader analysis into the detection of xylazine in the illicit drug supply (R21DA060954) with this portion of the study not involving human subjects (RTI IRB#

STUDY00022831). We begin with descriptive and bivariate statistics of the overdose events in the catchment area, followed by the calculation of age-adjusted overdose mortality rates (annual and quarterly) and rate ratios to compare prevalence odds ratios (Supplemental Table 1) by racial groups (United States Census Bureau, 2024) using Z-tests with a Bonferroni correction. Following this trend analysis, we examine poly-drug combinations in toxicology findings using network analysis techniques for relational structures in text data (Carley, 1997; Ray et al., 2020). Statistical analyses were conducted in R version 4.4.2.

3. Results

3.1. Demographic patterns in overdose

Over the 3-year study period (January 1, 2022, to December 31, 2024), data were collected from 967 drug overdose deaths in 36 counties (Table 1). The average age was 42.8 years (standard deviation [SD]= 14.0), and more than two-thirds of deaths were among males (70.0 %). To avoid the risk of re-identification (counts that would indicate a single person) we use the following race-ethnicity categories in presenting our results, white (71.7 %), AI/AN (13.4 %), Black/African American (10.3 %), and Other, Unknown and Multi-Race-Ethnicity (4.6 %). More than two-thirds of the events took place in the persons residence (66.4 %), 25.3 % were recorded as having military status, and 61.5 % of decedents were never married (Table 1).

We examined patterns between race-ethnicity categories, substances detected in toxicology results, and social factors. Among substances detected in toxicology results, 85.3 % contained opioids or stimulants; 61.2 % were opioid-related, with 55.2 % as fentanyl, 1.7 % as heroin, and 11.7 % as prescription or other opioids. We found that AI/AN (67.7 % vs. 53.3 %; $\chi2 = 8.87$, Cramer's V=.15, $p < .01$) and Black/African American (74.0 % vs. 53.1 %; $\chi2 = 15.07$, Cramer's V=.2, $p < .01$) decedents were significantly more likely to have fentanyl detected than other race-ethnicity categories. Additionally, AI/AN decedents were less likely to die at their residence (55.4 % vs. 68.1 %; $\chi2 = 8.59$, Cramer's V=.09, $p = .01$), and more likely to have never been married (75.4 % vs. 59.4 %; $\chi2 = 15.71$, Cramer's V=.13, $p < .01$).

3.2. Demographic trends in overdose over time

Overall, the age-adjusted overdose mortality rate among the catchment area was 76.1 per 100,000. This is higher than the state average of 24.8 from 2022, and higher than the national average of 32.6 for the same year (CDC, 2020; M. R. Spencer et al., 2024). In looking across the study period, overdose deaths showed a decrease that is consistent with provisional national trends from 2022 to 2023 (Kiang and Humphreys, 2025; Post et al., 2025). We found a reduction in overdose deaths, from 377in 2022–254 in 2024, and examined quarterly trends in age-adjusted overdose mortality rates by race-ethnicity categories (Fig. 2). Overall,

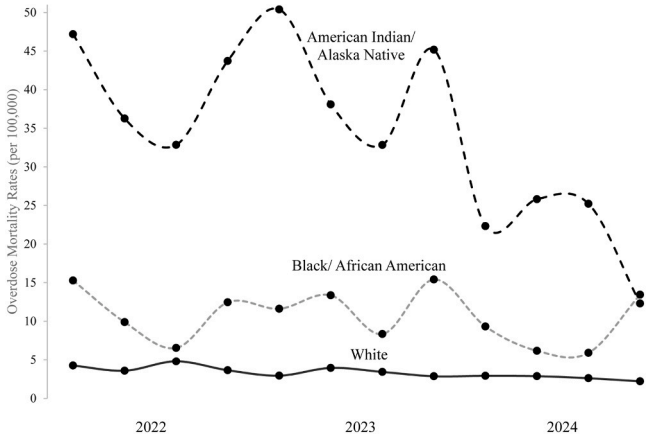

Fig. 2. Overdose mortality rates among American Indian/Alaska Native, Black /African American, and White Populations in Minnesota catchment counties, January 1, 2022 through December 31, 2024. Notes: Rates were age-adjusted using quarterly overdose mortality rates per 100,000 population from the US Census Bureau, with underlying quarterly rates detailed in Supplemental Table 1. The 2023 US Census Bureau population estimate was used for both 2023 and 2024.

Table 1
Sociodemographic characteristics of overdose deaths in Minnesota catchment counties, January 1, 2022, to December 31, 2024.

	Overall		**2022**		**2023**		**2024**	
Characteristics	967		377		336		254	
Age	M	SD	M	SD	M	SD	M	SD
	42.81	13/98	41.36	13.61	43.00	13.96	44.70	14.38
Race	N	%	N	%	N	%	N	%
American Indian/ Alaska Native	130	13.44	51	5.29	52	5.39	27	2.8
Black/ African American	100	10.34	33	3.42	40	4.15	27	2.8
White	693	71.66	274	28.42	229	23.76	190	19.7
Other, Unknown and Multi-Race-Ethnicity	44	4.55	19	1.97	15	1.56	10	1.03
Sex								
Male	664	68.7	264	70	231	68.8	169	66.5
Female	303	31.3	113	30	105	31.3	85	33.5
Marital Status								
Married	128	13.2	50	13.3	46	13.7	32	12.6
Divorced	200	20.7	76	20.2	67	19.9	57	22.44
Never married	595	61.5	240	63.7	204	60.7	151	59.45
Widowed	17	1.8	4	1.1	5	1.5	8	3.2
Unknown	27	2.8	7	1.9	14	4.2	6	2.4
Place of Death								
Residence	642	66.4	258	68.4	215	64	169	66.5
Hospital Setting	168	17.4	64	17	58	17.3	46	18.1
Other Residence/Unknown	157	16.2	55	14.6	63	18.8	39	15.4
Military								
Non-Military	722	74.7	288	76.4	180	53.6	254	100.0
Military	245	25.3	89	23.6	156	46.4	0	0

Notes: Information based on death investigation records. As noted above, 71.66 % of decedents were coded as white, this was followed by 13.44 % AI/AN, 10.3 %, Black/African American, 1.1 % Asian and 1.0 % Hispanic. Race categories above avoid re-identification when presenting analysis by year.

rates declined for white, AI/AN, and Black/African American populations, with decreases of a 34.7 %, 46.5 %, and 21.1 % respectively. While AI/AN and Black/African American populations experienced a slight increase in 2023 (4.1 % and 10.3 %, respectively), rates declined in 2024. Rates among the White population declined steadily across all three years; however, year-to-year comparisons of rate ratios did not yield statistically significant changes for AI/AN or Black/African American populations. Over all years AI/AN individuals experienced higher mortality rates than white and Black/African American populations. In 2023, the overdose mortality rate among AI/AN individuals were 12.61 times higher than whites. Although rates decreased in 2024, the mortality rate among AI/AN people remained 8.04 times higher than White individuals. Furthermore, AI/AN individuals were still 6.2 times more likely to experience a fatal overdose as compared to non-AI/AN individuals (down from 8.6 in 2023 and 7.6 in 2022) (see Supplemental Table 1).

3.3. Polydrug analysis

We used the toxicology results to conduct polydrug analysis. Most overdose deaths contained multiple substances; 57.2 % of deaths with stimulants also included opioids and conversely, 52.7 % of deaths with opioids also contained stimulants. Xylazine was detected in 4.1 % of deaths overall (1.6 % in 2022, 0.9 % 2023, 1.8 % 2024) and consistently detected alongside fentanyl; 22 % of cases where xylazine was detected also involved cocaine, 56 % involved methamphetamine, 20 % involved alcohol, and 34 % involved non-fentanyl opioids, including heroin or prescription opioids. In addition, there were no statistically significant differences in detection of xylazine by race-ethnicity.

Fig. 3 provides a visual representation of polydrug combinations by race-ethnicity and year. For example, in 2022 there were 33 overdose deaths among Black/African Americans, 84.8 % (n = 28) of those contained fentanyl, and among those 32 % also contained cocaine and 25 % methamphetamine. In that same year there were 51 overdose deaths among AI/AN decedents, 70.1 % (n = 36) of which contained fentanyl, and among those 2.7 % also contained cocaine and 47.2 % methamphetamine. Among the 274 white decedents, 52.2 % (n = 143) contained fentanyl, and 9.7 % of those also contained cocaine and 39 % methamphetamine. Thus, as shown in Fig. 3, without notable change over time, cocaine and fentanyl were consistently more common in the polydrug pattern among those coded as Black/African American, while methamphetamine and fentanyl were more common among AI/AN and white race-ethnicity categories. We also include additional visualizations of polydrug patterns without xylazine (Supplemental Figure 1) and an UpSet plot that shows counts of specific polydrug use patters by race (Supplemental Figure 2).

4. Discussion

In this study we examined overdose data from northern rural Minnesota, which encompasses a uniquely rural region of the US (Nelson, 2025; Whitson, 2019). Consistent with provisional national counts from the CDC, we found a substantial decrease in overdose deaths between 2022 and 2024 (Ahmad et al., 2024). Despite these overall reductions, we found large disparities by race; for every overdose death among a white individual, there are six among AI/AN people, a disparity that highlights profound inequities in exposure, access to care, and structural determinants of health (D. Jones, 2006; Kruse et al., 2022). Despite reductions in overdose mortality for AI/AN and Black/African American populations, changes in age-adjusted rates were not statistically significant. Consistent with other research from the Midwest (Lopez et al., 2024; Smith et al., 2024; Victor et al., 2023), we found that in this study's catchment area, where Black/African American populations are under-represented, overdose mortality rates among Black/African American individuals remained consistently higher than whites. Additionally, in this region where about 6 % of the population are military veterans (United States Census Bureau, 2024), we found more than a quarter of overdose deaths were coded as having military status (Vakkalanka et al., 2025). In terms of toxicology results, fentanyl was detected in more than half of the overdose deaths and was more frequently detected among AI/AN and Black/African American individuals. There were discernable polydrug patterns by race-ethnicity categories; fentanyl was most often co-detected with methamphetamines among white and AI/AN individuals, and fentanyl was more

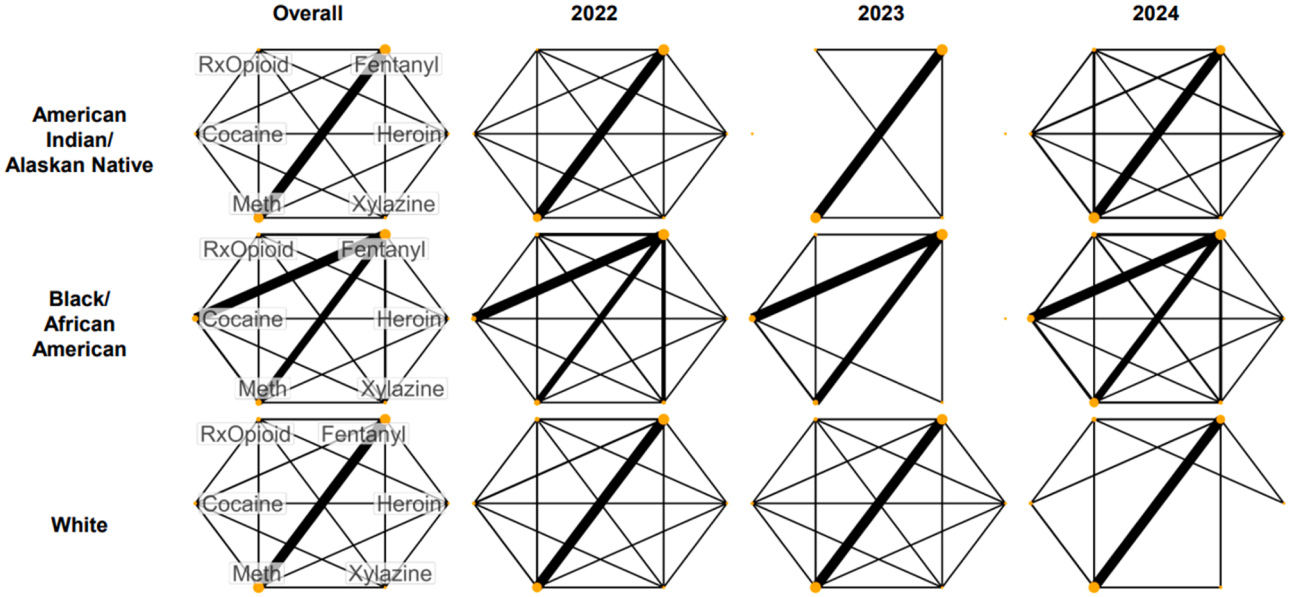

Fig. 3. Network of substances detected in overdose deaths by racial groups, January 1, 2022, to December 31, 2024. Notes: The weight (thickness) of each line indicates the frequency (count) of co-occurrences between the connecting nodes (i.e. substances) in a given year by race-ethnicity. The node size indicates the frequency (count) of each specific substance with larger nodes denoting more frequent polydrug occurrences. Missing nodes indicate that a given drug was not detected in a year, while missing edges indicate that two drugs did not co-occur in that year.

commonly co-detected with cocaine among Black/African American individuals. These findings align with previous studies suggesting co-use patterns with stimulants have manifested since the rise of fentanyl (Friedman and Shover, 2023) and further suggests cultural preferences and drug distribution patterns (Hoebert et al., 2017; May and and Hough, 2004). Finally, xylazine, a relatively new additive to the illicit drug supply (Alexander et al., 2022; Meyer et al., 2023), was detected in 4.3 % of overdose events, decreasing slightly in 2023 before increasing again in 2024, and was only detected along with fentanyl. There were no differences in the detection of xylazine by race-ethnicity categories (Supplemental Figure 1).

Some of these findings are highly novel, such as xylazine presence, because such data are currently unavailable from national surveillance systems. This novelty finding is further underscored due to drug detection rarely being reported from rural areas. These results are also timely and relevant, as data for Minnesota will not be available nationally for two more years. The most recent national data available for Minnesota only go through 2023 and do not provide nuance in toxicology to examine polydrug patterns (Kiang and Humphreys, 2025; Post et al., 2025). Despite these findings there are limitations, notably that the MMEO catchment area covers some, but not all of the state. Additionally, information about the concentration of substances detected in screening was unavailable and we were unable to detect all of the emerging fentanyl analogs with post-mortem toxicology results (Concheiro et al., 2018). Importantly, these results are not generalizable to the overall drug supply in the region as they represent only post-mortem toxicology from suspected overdose deaths and we cannot determine whether polydrug events were the result of co-use or contamination (Lockwood et al., 2021). Moreover, we cannot ascertain whether differences in polydrug use were the result of cultural preferences or drug distribution patterns (Hoebert et al., 2017; May and Hough, 2004). Researchers were also unable to confirm the information on the death certificates and toxicology (race-ethnicity, military and marital status) which was collected as part of the death investigation process (Vakkalanka et al., 2025). Despite these limitations this study provides insight into public health outcomes in a highly rural region that otherwise would not be examined as part of inquiry into the ongoing overdose epidemic (Bensley et al., 2022; Carpenedo Mun et al., 2023; Coffey et al., 2020; Nolte et al., 2023; Staton et al., 2018). Importantly, the information examined in this study can allow these rural counties to evaluate the effectiveness of overdose prevention strategies in near real-time.

Finally, while our analysis was not designed to investigate causes of overdose reduction, we would be remiss in not describing the policies and practices occurring in the region. Minnesota has taken steps to expand access to evidence-based substance use disorder treatment including Medicaid reform, integrating services into primary care, increasing the number of prescribers, and supporting culturally responsive care through initiatives to enhance delivery in tribal communities (*American Indian Team*, 2025; Minnesota Department of Human Services, 2025; Minnesota Opioid Response, 2025). Importantly, Minnesota's multifaceted public health approach emphasizes harm reduction as a core element, by supporting access to sterile syringes, widespread naloxone distribution, and the use of drug checking to reduce the health consequences of drug use (Minnesota Attorney General, 2025; Minnesota Department of Health, 2025a, 2025b). These efforts to expand treatment capacity and harm reduction services have targeted rural communities, where geographic isolation and limited provider availability present persistent barriers to care. For example, by funding mobile harm reduction units, the state enables organizations to travel into the Iron Range to provide overdose prevention tools and linkage to evidence-based treatment (Palayew et al., 2023), all of which likely played a role in overdose reductions. Importantly if reductions in overdoses are attributable to these policies and practices, continued efforts are needed, particularly with an emphasis on culturally tailored overdose prevention strategies.

5. Conclusions

Collaborations among community partners to collect information on overdose events have been a critically important resource for understanding and responding to the evolving overdose crisis in the US. This study represents such an effort within a rural region, providing valuable insights into trends occurring among the populations that reside there, particularly those indigenous to the region. Future work will bring these novel toxicology data into action by monitoring emerging substances and informing strategies to reduce racial disparities in overdose outcomes.

Declarations

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CRediT authorship contribution statement

Mia-Cara Christopher: Writing – review & editing, Writing – original draft, Visualization, Formal analysis. **Pranav Athimuthu:** Writing – review & editing, Writing – original draft, Visualization, Formal analysis. **Patti Constant:** Writing – review & editing, Writing – original draft, Data curation, Conceptualization. **Shane Sheets:** Writing – review & editing, Writing – original draft, Data curation. **Desjardins Monica M:** Writing – review & editing, Writing – original draft, Conceptualization. **Bradley R. Ray:** Writing – review & editing, Writing – original draft, Project administration, Funding acquisition, Data curation, Conceptualization.

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Declaration of Competing Interest

The authors declare no conflicts of interest.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.drugalcdep.2025.112832.

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Anoka County Children & Family Services

Mission: To Keep Children Safe through Proactive Prevention, Intentional Protection, and Meaningful Partnerships with Families and Communities

Senior Manager: Jess VanKuyk
Senior Social Worker: Tessa Frantzen

Primary Goals:

- Engage and support families to improve their life circumstances.
- Partner with families to ensure child safety and wellbeing.
- Preserve family relationships and identify and develop supports for the child and parents – culturally responsive, community resources, support networks, relative/kinship search.
- Maintain child(ren) in the family home; or if a child is removed from the home to return the child to the family if it is safe and in the best interests of the child to do so.
- Collaborate with numerous community and systemic partners to assist in improving family circumstances.
- Permanency: All children should have stable and continuous family relationships and connections.
- Prevent reoccurrence of abuse and neglect.

Child Protection Units (8)

Upfront:

- Intake and Screening
  - PSOP
- Family Investigations
- Family Assessment
  - Collaborative Attendance Program
- Prevention Services and Supports
  - Voluntary Case Management
  - Family Preservation
  - Plan of Safe Care

Case Management:

- Family Services 1 – Ongoing Child Protection
- Family Services 2 – Ongoing Child Protection
- Family Services 3 – Specialty Unit
  - ICWA
  - Kinship Search
  - Opioid Specialist
  - CORE – Collaborative Reunification
- Permanency and Adoption
  - Minor Parent
  - Youth in Transition

Child Protection Flow Chart

SCREENING

Determine if case will be accepted for Family Investigation (FI) or Family Assessment (FA). 24 hours to make screening decision.

SCREEN OUTS

(Do Not Meet Criteria)

Possible Referrals

PSOP – Parent Support Outreach
POSC – Plan of Safe Care
CAP – Collaborative Attendance Prog.
Child Welfare Assessment

SCREENED IN

FAMILY INVESTIGATIONS (FI)

Typically, more egregious cases, ex. Sex or physical abuse, Facility Investigation, (Child Foster Care or Day Care), chronic substance use, and other cases that may have criminal charging. 24 or 120-hour response time.
Two Determinations:

1. Whether maltreatment occurred, and
2. Need for services

FAMILY ASSESSMENT (FA)

Typically, less egregious cases, ex. Minor physical abuse, neglect, educational neglect, substance use with impact (alcohol/marijuana). 120-hour response time.

No determination regarding maltreatment. Decision regarding need for services.

CLOSE
With or Without Referrals

Case Could Be Referred:

Family Preservation (6-month in-home counseling)
Voluntary Case Mgmt. (3 – 9 months)

ONGOING FAMILY SERVICES – CP

CHIPS cases and Long-Term Voluntary Program

- Court cases – Children in Need of Protection or Services petitions
- Children are placed outside of the home due to safety concerns
- Longer Term Voluntary Program
- Cases are assigned on a rotating basis

Case Could Be Referred:

Family Preservation (6-month in-home counseling)
Voluntary Case Mgmt. (3 – 9 months)

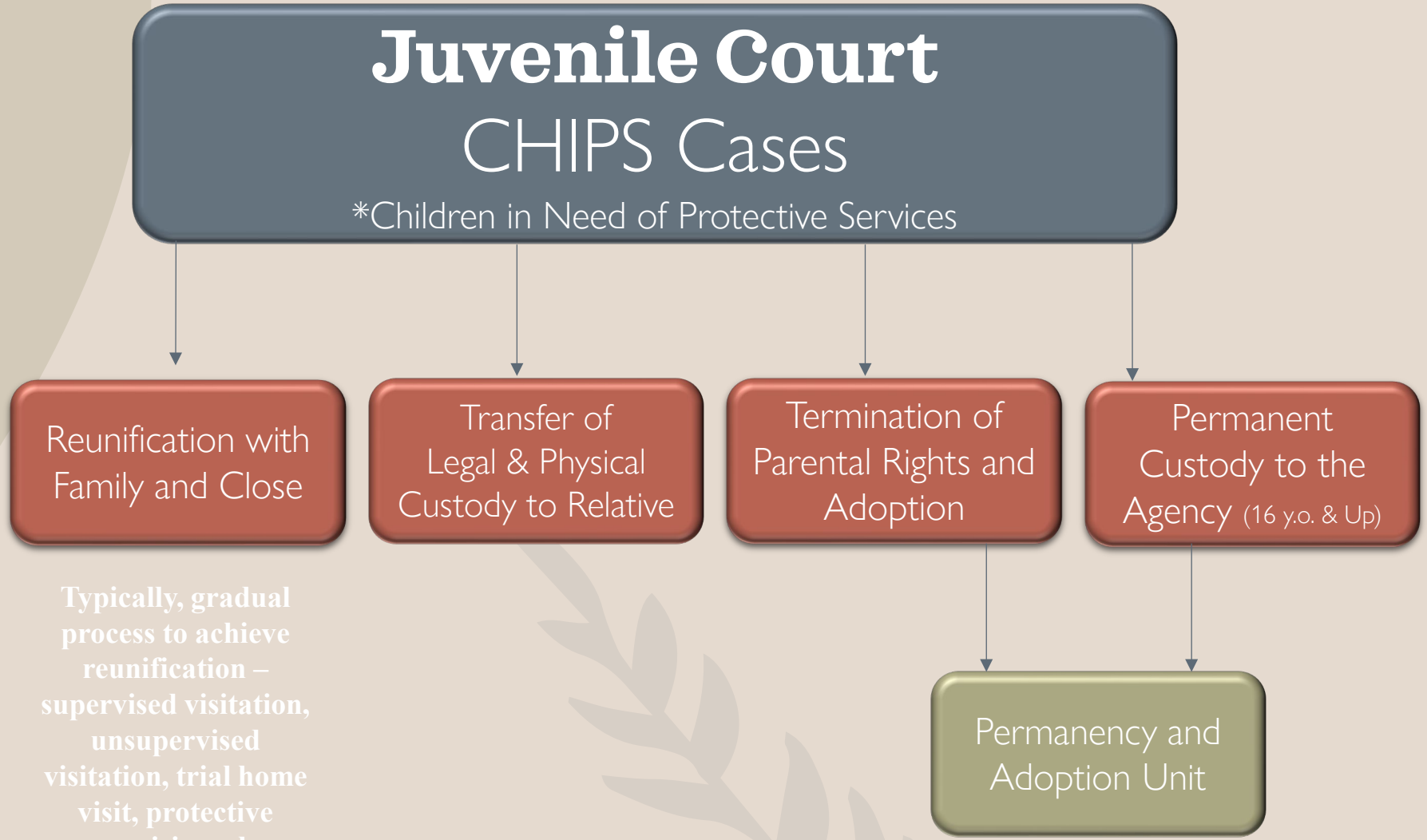
Time Frame

At Least, monthly face-to-face case worker visits

Permanency Progress Review Hearing
- 6 months in Out of Home Placement

Permanency Petition Filed – 12 months in Out of Home Placement

Finalize Adoption
- 24 months in Out of Home Placement



Typically, gradual process to achieve reunification – supervised visitation, unsupervised visitation, trial home visit, protective supervision, close

What is a Plan of Safe Care (POSC)?

Plan of Safe Care Overview:

Family-centered support program for pregnant individuals with substance use challenges

Connects families to timely, high-quality services and community supports

Promotes:

- Healthy pregnancies
- Safe and stable home environments
- Long-term family stability
- Safety planning
- Communication among care providers

Prioritizes keeping babies with their mothers whenever safely possible

Who Qualifies:

Pregnant Anoka County residents struggling with substance use

Substances may include:

- Alcohol
- Marijuana
- Misuse of prescribed medications
- Other non-prescribed substances
- Recent history of substance use

Willing to voluntarily work with a social worker

Open to creating a plan that:

- Addresses personal needs
- Reduces barriers
- Supports a healthier, substance-free pregnancy and baby

Process Overview:

- **Referral & Notification** – Referral received to County
- **Assessment & Engagement** – Social worker meets with family to assess needs.
- **Plan Development** – Collaborative creation of a POSC with input from all providers.
- **Service Coordination** – Linkage to treatment, parenting support, housing, etc.
- **Monitoring & Follow-Up** – Ongoing support and updates to the plan as needed.
- **Goal:**
  To support family stability, reduce risk, and promote healthy development for fetus and infants.

thank you

PLAN OF SAFE CARE:

Tessa Frantzen, Senior Social Worker

Tessa.Frantzen@anokacountymn.gov

763-324-1293

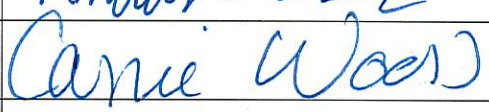
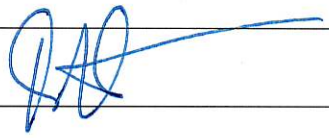
CHILDREN AND FAMILY SERVICES:

Jess VanKuyk, Senior Manager

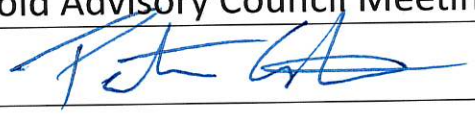
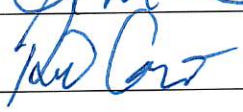
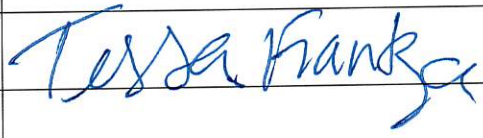
Jess.Vankuyk@anokacountymn.gov

763-324-1493

Anoka County Opioid Advisory Council Meeting Sign-In / November 14, 2025

Name	Signature	Representing
Amanda Amundson		Recovery Navigator, Begin Anew Recovery
Carrie Wood		Operations Lieutenant, Anoka County Jail / Sheriff's Office
Christina Lefkowich		Director of Treatment Service, Riverplace Counseling Center
Corey Kohan		Senior Manager. Rum River Campus Anoka County Community Corrections
Derek Schuldt		Narcotics and Violent Crime Lieutenant, Anoka County Sheriff's Office
Diana Hoffman		Senior Social Worker, Anoka County Social Services and Behavioral Health
George Borrell		Director, Anoka County Social Services and Behavioral Health
Jess VanKuyk		Senior Manager, Anoka County Children and Family Services
Joshua VanHeuveln		Chemical Health Professional, Anoka-Hennepin Schools
Joe Amerman		Cannabis Planner / Anoka County Public Health
Katherine Cole		Supervisor, Anoka County Public Health Budget and Technology
Krista Johnson		Owner/Operator, Meraki Recovery Housing
Lacey Towe		Forensic Technician, Midwest Medical Examiner's Office
Lativea Wyatt		Harm Reduction LPN, Neighborhood Health Source
Lori Lachner		Community Member
Megan Schueller		Supervisor, Anoka County Behavioral Health and Substance Use Disorder
Melissa Olsen		Treatment Director Specialized Treatment Services, Inc.
Miriam Ward		Community Member
Molly Nee		Senior Communications Specialist, Anoka County
Musab Adam		Director of Community Relations, Access Healing Center
Nancy Norman		Anoka County Attorney's Office
Nicholas Warnke		Community Member
	CONTINUED	

Anoka County Opioid Advisory Council Meeting Sign-In / November 14, 2025

Patti Constant		Opioid Prevention Specialist, Anoka County Public Health
Quita Curtis		Street Outreach Caseworker Salvation Army -- Anoka
Randi Prebil		Assistant Director, Anoka County Public Health
Ryan George		Public Safety Director, City of Fridley
Sam Martinez		Manager, Health Promotion and Planning Anoka County Public Health
Samantha Guthman		Mental Health and Addiction Dir. Allina Health
Susan Ferron		Physician, NW Alliance Riverway Pain Clinic
Tim Kizer		Captain, St. Francis Fire Department
Troy Friesen		Associate Health Education Specialist / Anoka County Public Health & AmeriCorps
Nick Warnke		
Bradley Ray		
Tessa Frantzen		
Alex Blonigen		
Anna Alpern		
Christina Lutchen		
Annette Anderson		

ANOKA COUNTY
OPIOID SOLUTIONS INITIATIVE

Opioid Advisory Council
Agenda

Friday, November 14, 2025
9:00-11:00 am
Blaine Human Service Center, Room 2402

Mission: *To improve health, save lives, and reduce the impact caused by opioids and other substances in Anoka County by managing opioid settlement funding and supporting strategic partnerships.*

Vision: *All Anoka County residents and partners are supported, engaged, and prepared to overcome the opioid crisis and meet the challenges related to substance use in the community.*

Call to Order

1. **Welcome, Moment of Grounding, Introductions, and Approvals**
   - 10-10-2025 Meeting Minutes
   - 11-14-2025 Meeting Agenda

2. **Community and County Updates**

3. **RFP Updates**

4. **Guest Presentation**
   Bradley Ray "Every Overdose Death is Preventable"
   Sharing his findings from his research of data findings from a partnership with the Midwest Medical Examiner's Office – Article Attached

5. **Member Presentation**
   Jess VanKuyk, Anoka County Child Protection

   Presentation
   Tessa Frantzen, Anoka County Plan of Safe Care