

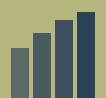


Methamphetamine Use in the Great Lakes and South Southwest October 2021

Methamphetamine use is a large and growing problem across much of the United States. In fact, data reveals that methamphetamine (and stimulants in general) may be the next major epidemic facing the country. In some regions, methamphetamine has been endemic since previous waves of use. But the newest wave is different in important ways. This brief explores methamphetamine use in the **Great Lakes (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin)** and the **South Southwest (Arkansas, Louisiana, Oklahoma, New Mexico, and Texas)** regions, highlighting use and overdose patterns, risk and protective factors, and the current state of prevention research.

New Trends in Use

Since 2017, methamphetamine use has increased nationally and in 7 of the 11 states in the Great Lakes and South Southwest regions (see Figures 1 and 2).ⁱ Although use remains relatively low compared with opioid use, and the year-over-year increases are not always statistically significant, prevention professionals should prepare to address these trends before they potentially worsen. Due to methodological changes in national data collection, direct comparisons to prevalence rates from prior waves of methamphetamine use are not possible, but it appears that overall use may already be higher than previous peaks. In addition, methamphetamine use is above the national average in 8 of the 11 states in the Great Lakes and South Southwest regions.

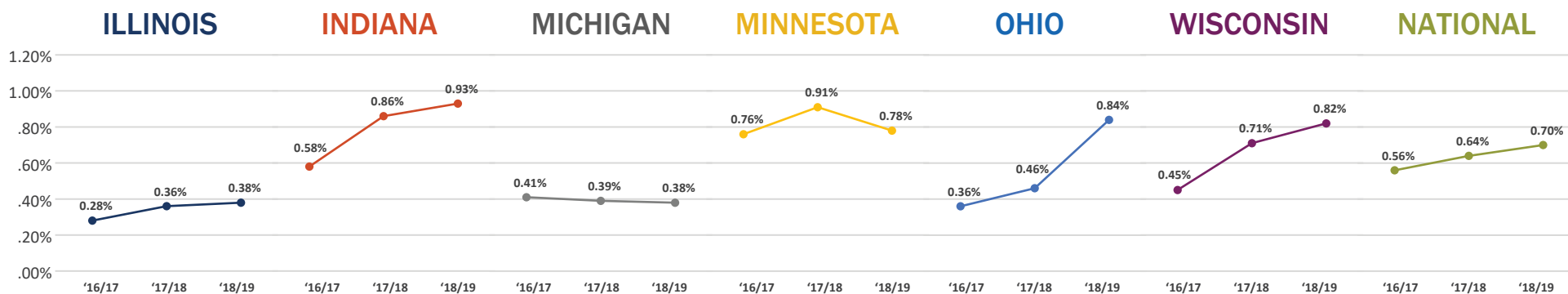


In 8 of 11 States,
Methamphetamine
Use is Above the
National Average

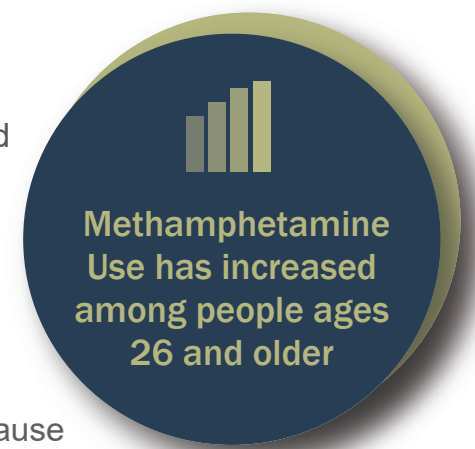
Methamphetamine Use

Great Lakes Past Year Methamphetamine Use Among People Ages 12+

Figure 1 shows the percentage of methamphetamine use by state in the Great Lakes region. Because the data represents a small percent of the population, the chart scale is from zero to 1.2%.

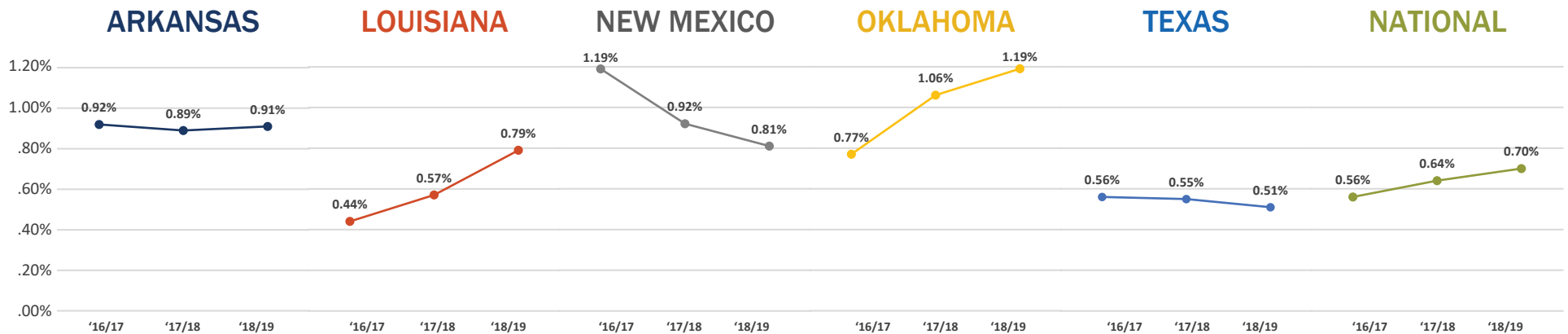


In a potentially important change from prior waves, increased use appears to be driven by new initiations among people ages 26 and older. Historically, methamphetamine use has been concentrated among people ages 18 to 25. However, use in that age group appears to have started declining nationally and in 8 of the 11 states. Further illustrating this, in 2019, use rates were almost identical between the 18 to 25 age group and the 26 and older age group, whereas in 2005, use among the 18 to 25 age group was almost five times higher than use among the 26 and older age group.ⁱⁱ



South Southwest Past Year Methamphetamine Use Among People Ages 12+

Figure 2 shows the percentage of methamphetamine use by state in the South Southwest region. Because the data represents a small percent of the population, the chart scale is from zero to 1.2%.



Some of this change may be due to people who already use methamphetamine aging into the older group. However, the data shows that new initiations among the older group are also occurring. This could signify a potential change in risk patterns of methamphetamine use or indicate that it is a specific age cohort at elevated risk. More data is needed to confirm these trends and their causes, and more research is needed to identify effective prevention for adults already at risk for use.

What Can Drive Use?

In substance use prevention, aspects of peoples' lives associated with the likelihood of substance use are referred to as "Risk and Protective Factors." Each factor can increase (risk) or decrease (protective) the likelihood that someone will engage in substance use. Substance use professionals use several models to understand these factors and their interconnections.

As with any drug, methamphetamine use is driven by substance-specific factors and more general factors. Substance-specific factors include perceptions of harm of methamphetamine use, peer pressure to use methamphetamine, and the local price and availability of methamphetamine. Specific factors can also vary across groups. For instance, having a positive perception of

methamphetamine use – specifically, that it can increase energy, decrease exhaustion, or help with weight loss – is a major risk factor among women.ⁱⁱⁱ Data on specific factors is not always readily available. But when it is, prevention professionals should try to determine whether a causal link can be drawn between the factor and use.

Prevention professionals should also examine whether previously identified factors are still relevant. If methamphetamine use patterns in their communities are different from those in previous waves, risk factors for use may also have also changed. Notably, methamphetamine has become more readily available as domestic production has been replaced by transnational criminal organizations.^{iv}

Previously Identified Risk Factors for Methamphetamine Use Include:

Genetic predisposition^v

Personal history of opioid, alcohol, or tobacco use^{vi,vii}

Family history of substance use, alcohol use disorder, or criminal behavior^{vi}

Engaging in risky sexual behavior^{vi}

Lower educational attainment^{vi,vii}

Low annual income^{viii}

Living in non-metro or small metro communities^{viii}

Co-occurring mental health disorder^{vi,viii}

Unemployment^{vii}



Social Determinants of Health

General factors can range from a person’s problem-solving skills to access to quality education. These are often most important for prevention, as they can represent root causes of substance use – potentially addressing a greater set of problems and thereby preventing broader use (e.g., opioids). Of course, general factors can include some really big aspects of people’s lives and environments. When talking about these big picture factors, the Social Determinants of Health (SDOH) paradigm can be helpful.

The U.S. Department of Health and Human Services defines the SDOH as “the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.”^{ix} The Healthy People 2030 initiative, created by HHS, organizes the SDOH into five domains: Economic Stability, Education Access and Quality, Health Care Access and Quality, Neighborhood and Built Environment, and Social and Community Context. Trying to address the SDOH can be intimidating, but they are among the key influencers of substance use, including methamphetamine use. Prevention professionals should look for ways to address the SDOH by supporting public health initiatives or other broad approaches, as part of comprehensive prevention efforts.

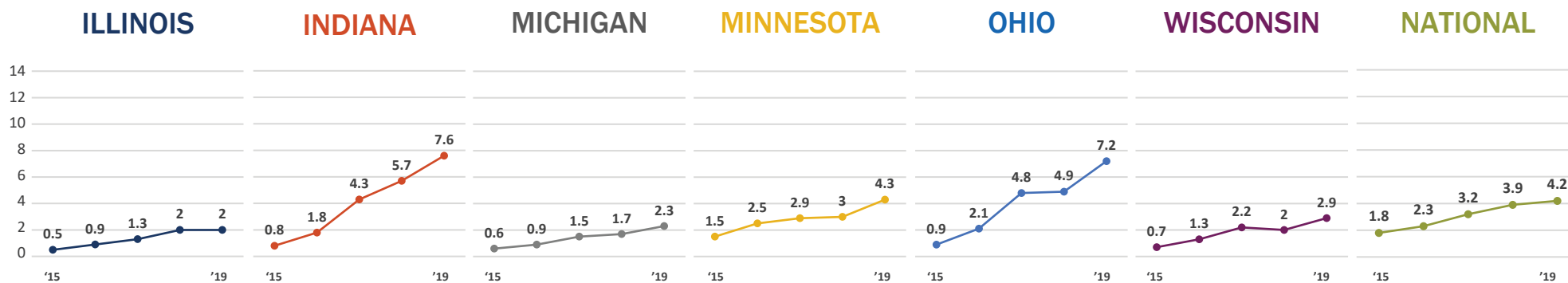
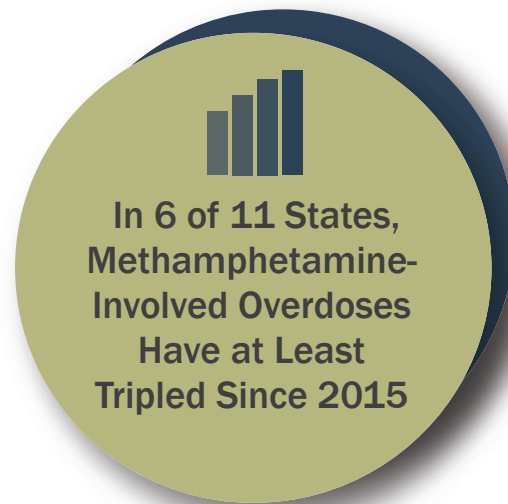
Rise in Fatal Overdoses

Methamphetamine use presents serious physical and behavioral health risks, including death, and fatal methamphetamine-involved overdoses have increased along with use. Since 2015, methamphetamine overdoses have more than doubled in 10 out of the 11 states in the Great Lakes and South Southwest regions (Figures 4 and 5).^x In fact, in six states, those overdoses have at least tripled.

Methamphetamine-Involved Overdoses

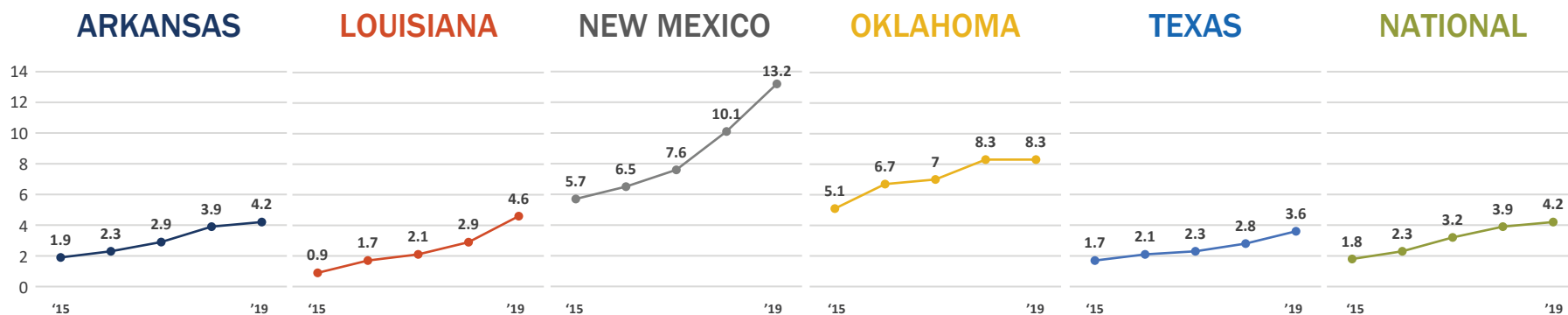
Great Lakes Fatal Methamphetamine-Involved Overdoses Per 100,000 People

Figure 3 shows the number of methamphetamine-involved overdoses per 100,000 by state in the Great Lakes region. Because the data represents a small number of the population, the chart scale is from zero to 14.



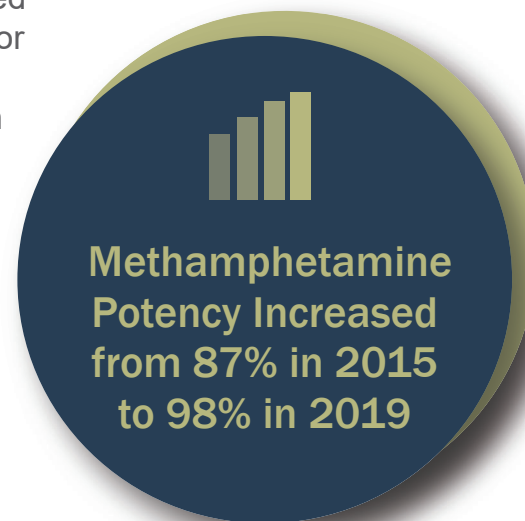
South Southwest Fatal Methamphetamine-Involved Overdoses Per 100,000 People

Figure 4 shows the number of methamphetamine-involved overdoses per 100,000 by state in the South Southwest region. Because the data represents a small number of the population, the chart scale is from zero to 14.



Methamphetamine overdoses are far higher than at any point since at least 1999 – in all 11 Great Lakes and South Southwest states and nationally. Combining the drug with other substances that have high overdose potential – particularly heroin and fentanyl – is also more common than before. This phenomenon partly explains the increased lethality, as more than half of fatal methamphetamine-involved overdoses involved opioids or other stimulants in 6 of the 11 states and nationally. But multi-drug overdoses cannot fully explain the rise in overdoses. Fatal overdoses remain significantly up, even for cases when only methamphetamine was present.

Greater prevalence of methamphetamine use could offer a partial explanation for increased overdoses – a larger number of users would predict a larger number of overdoses, even if the rate of overdose remained constant. Unfortunately, as mentioned previously, direct comparisons to earlier prevalence rates are not possible. Purity and potency offer another possible explanation for some of the change. Drug Enforcement Administration (DEA) data shows that present-day methamphetamine is more pure and more potent in the past – up from an average purity of 37% in 2006 to 97% in 2019.^{xi} Potency also increased from 87% in 2015 to 98% in 2019. Stronger methamphetamine could easily account for some of the additional overdoses in the current wave of use.



What About Prevention?

Research from other areas of substance use prevention suggests that best practices likely include media campaigns designed to raise community attention and awareness about the risks and dangers of methamphetamine use. Some prevention programs have demonstrated effectiveness at reducing methamphetamine use, however few programs target methamphetamine use specifically, and research on these programs is limited.

The Substance Abuse and Suicide Prevention (SASP) program (formerly known as the Methamphetamine and Suicide Prevention Initiative) is a rare example of an evidence-based prevention program that provides methamphetamine-specific content. The SASP program was developed for and is implemented among American Indian and Alaska Native communities, providing culturally appropriate prevention and treatment approaches for methamphetamine use and risk of suicide.^{xiii}



More commonly, programs without a methamphetamine focus have demonstrated some success. The Iowa Strengthening Families Project (now known as Strengthening Families Program) and the Life Skills Training program provided in combination with the Strengthening Family Program for Parents and Youth 10-14 have been effective at reducing risk of future methamphetamine use among rural youth.^{xiv,xv} Likewise, the Promoting School-Community-University Partnerships to Enhance Resilience (PROSPER) system has been shown to promote protective factors against methamphetamine use.^{xvi} But none of these programs specifically target methamphetamine use. They also focus on youth – not the adults and young adults at the highest risk of initiating methamphetamine use. More research is needed to determine if effective prevention programming can be created for the existing adults already at risk for methamphetamine use.

Finally, the treatment community has had greater success identifying effective treatment programs for methamphetamine use, including a potential medication assisted treatment for methamphetamine use disorder.^{xvii} Prevention professionals could coordinate with substance use treatment and recovery support service providers to expand relapse prevention efforts as well as epidemiological surveillance systems.

Overdose Prevention: Barriers and Harm Reduction

The field currently lacks solid evidence-based programs to address many challenges for methamphetamine overdose prevention – mostly because successful opioid approaches cannot be easily applied. The successes of opioid overdose programs have stemmed from (1) non-professionals ability to recognize an opioid overdose and (2) the relative simplicity of training and equipping members of the public to administer reversal medication (naloxone). In contrast with an opioid overdose, the signs and symptoms of a methamphetamine overdose can vary widely. Some can even be difficult to distinguish from the ordinary effects of methamphetamine use.^{xviii,xix} Prevention professionals could consider working with researchers to pilot new education programs aimed at layperson identification – but the short-term challenge remains. And identification of methamphetamine overdoses is not the biggest barrier.

Biologically, there is no singular overdose reversal medication for methamphetamine. Depending on symptoms, methamphetamine overdoses are treated with a combination of benzodiazepines, antipsychotics, antihistamines, and beta blockers.^{xx} Determining the appropriate combination and dosage of those medications requires medical training. This stands in contrast with opioids – where overdose prevention programs have had great success with naloxone distribution and training. Presently, methamphetamine overdoses cannot be addressed by well-trained lay people.

Despite these barriers, there are still strategies available for prevention. Prevention professionals can support methamphetamine overdose prevention by focusing on harm reduction messaging campaigns – for example, by providing information on the risk of methamphetamine laced with fentanyl.^{xxi} Prevention professionals could also encourage people who use methamphetamine (and those who know them) to obtain naloxone even if they do not knowingly use opioids – to guard against the possibility of an opioid overdose from a laced supply. Prevention professionals may also consider supporting expanding “Good Samaritan” laws, which can provide criminal immunity for opioid possession when contacting emergency medical services about an overdose. Those laws could be expanded^{xxii} to include methamphetamine possession – which could be especially important given that laypeople cannot treat overdoses. Though these strategies are unlikely to be sufficient on their own, they may prove useful until the larger barriers can be better addressed.



The Importance of Collaboration

Substance use prevention efforts usually benefit from collaboration across diverse stakeholders. By engaging with additional community, state, or federal partners, prevention professionals may gain access to resources, expertise, data, or other supports that would otherwise not be available. Some of the many challenges facing methamphetamine prevention may be overcome through collaboration. For instance, prevention professionals could collaborate with university scientists to pilot new prevention programs, with a state corrections agency to include methamphetamine overdose education as part of community re-entry, or with substance use treatment services to understand how often methamphetamine is used with opioids in the community.

Examples of potential collaborative partners include:^{xxiii}

- Criminal Justice and Law Enforcement Agencies**
- Health and Public Health Agencies**
- Local or State Government Leaders**
- Harm Reduction Programs**
- Health Care Systems**
- Substance Use Treatment or Recovery Service Providers**
- Mental Health Service Providers**
- Schools, Teachers, and Parents**
- Faith-Based Organizations**
- Organizations Serving People Who are Unemployed or Without Housing**



Great Lakes (HHS Region 5) South Southwest (HHS Region 6)

PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

- ⁱ Substance Abuse and Mental Health Services Administration (2018, 2019, & 2020). National Survey on Drug Use and Health: State Data Tables and Reports. Available at <https://www.samhsa.gov/data/nsduh/state-reports-NSDUH-2017>, <https://www.samhsa.gov/data/nsduh/state-reports-NSDUH-2018>, & <https://www.samhsa.gov/data/nsduh/state-reports-NSDUH-2019>
- ⁱⁱ Substance Abuse and Mental Health Services Administration (2006). National Survey on Drug Use and Health: Detailed Tables. Available at <https://www.samhsa.gov/data/report/2005-nsduh-detailed-tables>
- ⁱⁱⁱ National Institute on Drug Abuse (2020). Sex and Gender Differences in Substance Use. Available at <https://www.drugabuse.gov/publications/research-reports/substance-use-in-women/sex-gender-differences-in-substance-use>
- ^{iv} Drug Enforcement Administration (2011). 2010 National Drug Threat Assessment. Available at <https://www.justice.gov/archive/ndic/pubs38/38661/38661p.pdf>
- ^v Barr et al. (2006). The Need for Speed: An Update on Methamphetamine Addiction. *Journal of Psychiatry & Neuroscience*, 31(5), 301-313. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1557685/>
- ^{vi} Russell et. al. (2008). Risk factors for methamphetamine use in youth: a systematic review. *BMC Pediatrics* 8; 48. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2588572/>
- ^{vii} Herman-Stahl, M. A. et al. (2008). Risk and protective factors for methamphetamine use and nonmedical use of prescription stimulants among young adults aged 18 to 25. *Addictive Behaviors*, 32, 1003-1015.
- ^{viii} Jones et. al. (2020). Patterns and Characteristics of Methamphetamine Use Among Adults — United States, 2015–2018. *MMWR Morb Mortal Wkly Rep* 2020;69:317–323. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912a1>
- ^{ix} HHS (2021). Social Determinants of Health. Healthy People 2030. Available at <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>
- ^x Centers for Disease Control and Prevention (2021). Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released in 2020. Available at <https://wonder.cdc.gov/>
- ^{xi} Drug Enforcement Administration (2011). 2010 National Drug Threat Assessment. Available at <https://www.justice.gov/archive/ndic/pubs38/38661/38661p.pdf>
- ^{xii} Birckmayer et. al. (2008). Prevention of Methamphetamine Abuse; Can Existing Evidence Inform Community Prevention? *Journal of Drug Education*, 38(2) 147-165. Available at <https://www.theathenaforum.org/sites/default/files/Environmental%20Strategies%20-%20Meth%20Prevention.pdf>

- ^{xiii} Indian Health Service. (2021). Substance Abuse and Suicide Prevention. Available at <https://www.ihs.gov/sasp/>
- ^{xiv} Spoth et. al. (2006). Long-term Effects of Universal Preventive Interventions on Methamphetamine Use Among Adolescents. Arch Pediatr Adolesc Med. 160(9):876–882. doi:10.1001/archpedi.160.9.876 <https://jamanetwork.com/journals/jamapediatrics/article-abstract/205447>
- ^{xv} National Institute on Drug Abuse. (2006). Prevention Programs for Young Rural Teens Can Reduce Methamphetamine Abuse Years Later. <https://www.nih.gov/news-events/news-releases/prevention-programs-young-rural-teens-can-reduce-methamphetamine-abuse-years-later>
- ^{xvi} Blueprints for Healthy Youth Development (n/d). PROSPER. Available at <https://www.blueprintsprograms.org/programs/408999999/prosper/>
- ^{xvii} Trivedi et. al. (2021) Bupropion and Naltrexone in Methamphetamine Use Disorder. New England Journal of Medicine, 384, 140-153. DOI: 10.1056/NEJMoa2020214
- ^{xviii} Vasan, S. & Olango, G. (2021). Amphetamine Toxicity. StatePearls Publishing. Available at <https://www.ncbi.nlm.nih.gov/books/NBK470276/>
- ^{xix} National Institute on Drug Abuse (2019). Methamphetamine Research Report. Available at <https://www.drugabuse.gov/publications/research-reports/methamphetamine/what-are-immediate-short-term-effects-methamphetamine-misuse>
- ^{xx} Richards, J. & Laurin, E. (2021). Methamphetamine Toxicity. StatPearls Publishing. Available at <https://www.ncbi.nlm.nih.gov/books/NBK430895/>
- ^{xxi} Harm Reduction Ohio (2020). Ohio launches new anti-overdose media campaign. Available at <https://www.harmreductionohio.org/state-of-ohio-launches-controversial-new-anti-overdose-media-campaign/>
- ^{xxii} National Conference of State Legislatures (2017). Drug Overdose Immunity and Good Samaritan Laws. Available at <https://www.ncsl.org/research/civil-and-criminal-justice/drug-overdose-immunity-good-samaritan-laws.aspx>
- ^{xxiii} Substance Abuse Mental Health Services Administration (n/d). Prevention Collaboration in Action: Engaging the Right Partners. Available at https://pscollaboration.edc.org/sites/default/files/attachments/Opportunities-For-Engaging-Partners-To-Prevent-Opioid-Overdose-RelatedDeaths_508Compliant.pdf