

Factors Associated with Risk of Opioid (Prescription and Non-Prescription) Misuse and Overdose

Many factors influence a person's chance of misusing opioids, developing an opioid use disorder, and/or experiencing an opioid overdose. Effective prevention focuses on reducing those risk factors, and strengthening protective factors, that are most closely related to opioids. Understanding these factors can help us assess, plan for, and select interventions designed to address them. This material describes some of the risk and protective factors that are associated with opioid (prescription and non-prescription) misuse and overdose.

FACTORS ASSOCIATED WITH THE NON-MEDICAL USE OF PRESCRIPTION DRUGS

The non-medical use of prescription drugs (NMUPD)—which includes prescription opioids—is defined as the use of prescription drugs for reasons or in ways other than as prescribed, or without a prescription. Select risk and protective factors associated with increased (and decreased) risk of NMUPD include:

Risk Factors

- History of mental illness (i.e., history of depression¹, posttraumatic stress disorder², anxiety³)
- Acute and chronic pain (i.e., having a current painful physical disorder⁴, chronic pain⁵, past-year back pain⁶)

¹ Boscarino, J. A., Rukstalis, M., Hoffman, S. N., Han, J. J., Erlich, P. M., Gerhard, G. S., & Stewart, W. F. (2010). Risk factors for drug dependence among out patients on opioid therapy in a large US healthcare system. *Addiction*, 105(10), 1776–1782. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/20712819>

² Mackesy-Amiti, M. E., Donenberg, G. R., & Ouellet, L. J. (2015). Prescription opioid misuse and mental health among young injection drug users. *The American Journal of Drug and Alcohol Abuse*, 41(1), 100–106. Retrieved from <http://doi.org/10.3109/00952990.2014.940424>

³ Koyalagunta, D., Bruera, E., Aigner, C., Nusrat, H., Driver, L., & Novy, D. (2013). Risk stratification of opioid misuse among patients with cancer pain using the SOAPP-SF. *Pain Medicine* (Malden, Mass.), 14(5), 667–675. Retrieved from <http://doi.org/10.1111/pme.12100>

⁴ Edlund, M. J., Steffick, D., Hudson, T., Harris, K. M., & Sullivan, M. (2007). Risk factors for clinically recognized opioid abuse and dependence among veterans using opioids for chronic non-cancer pain. *Pain*, 129(3), 355–362. Retrieved from <http://doi.org/10.1016/j.pain.2007.02.014>

⁵ Rosenblum, A., Parrino, M., Schnoll, S. H., Fong, C., Maxwell, C., Cleland, C. M., . . . Haddox, J. D. (2007). Prescription opioid abuse among enrollees into methadone maintenance treatment. *Drug and Alcohol Dependence*, 90(1), 64–71. Retrieved from <http://doi.org/10.1016/j.drugalcdep.2007.02.012>

⁶ Cepeda, M. S., Fife, D., Kihm, M. A., Mastrogiovanni, G., & Yuan, Y. (2014). Comparison of the risks of shopping behavior and opioid abuse between tapentadol and oxycodone and association of shopping behavior and opioid abuse. *The Clinical Journal of Pain*, 30(12), 1051–1056. Retrieved from <http://doi.org/10.1097/AJP.0000000000000067>

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- Physical health problems (i.e. fatigue⁷, headaches⁸)
- History of other substance use or misuse⁹

Protective Factors

- Committing to doing well¹⁰ and/or finishing school¹¹
- Perception that prescription drugs can be harmful¹⁰
- Strong bonds to parents¹²
- Community norms that disapprove of NMUPD¹⁰

For more information about the factors associated with NMUPD, see *Preventing Prescription Drug Misuse: Understanding Who is at Risk* (available at <https://www.samhsa.gov/capt/tools-learning-resources/preventing-prescription-drug-misuse-understanding-who-risk>).

FACTORS ASSOCIATED WITH NON-PRESCRIPTION OPIOID USE

The use of non-prescription opioids includes heroin, illegally-made fentanyl, and other non-prescription opioids. Select risk and protective factors associated with increased (and decreased) risk of NMUPD include:

Risk Factors

- History of poly-drug use, especially combined inhalant and marijuana use¹³
- Having ever been in jail or a detention center¹³

⁷ Koyalagunta, D., Bruera, E., Aigner, C., Nusrat, H., Driver, L., & Novy, D. (2013). Risk stratification of opioid misuse among patients with cancer pain using the SOAPP-SF. *Pain Medicine* (Malden, Mass.), 14(5), 667–675. Retrieved from <http://doi.org/10.1111/pme.12100>

⁸ Edlund, M. J., Martin, B. C., Fan, M.-Y., Devries, A., Braden, J. B., & Sullivan, M. D. (2010). Risks for opioid abuse and dependence among recipients of chronic opioid therapy: Results from the TROUP study. *Drug and Alcohol Dependence*, 112(1-2), 90–98. Retrieved from <http://doi.org/10.1016/j.drugalcdep.2010.05.017>

⁹ McCabe, S. E., & Teter, C. J. (2007). Drug use related problems among nonmedical users of prescription stimulants: A web-based survey of college students from a Midwestern university. *Drug and alcohol dependence*, 91(1), 69-76.

¹⁰ Collins, D., Abadi, M. H., Johnson, K., Shamblen, S., & Thompson, K. (2011). Non-medical use of prescription drugs among youth in an Appalachian population: Prevalence, predictors, and implications for prevention. *Journal of Drug Education*, 41(3), 309–326

¹¹ Arkes, J., & Iguchi, M. Y. (2008). How predictors of prescription drug abuse vary by age. *Journal of Drug Issues*, 38(4), 1027–1043. Retrieved from <http://doi.org/10.1177/002204260803800405>

¹² Schroeder, R. D., & Ford, J. A. (2012). Prescription drug misuse: A test of three competing criminological theories. *Journal of Drug Issues*, 42(1), 4–27. Retrieved from <http://doi.org/10.1177/0022042612436654>

¹³ Wu, L. T. & Howard, M.O. (2007). Is inhalant use a risk factor for heroin and injection drug use among adolescents in the United States? *Addictive Behaviors*, 32(2), 265-281.

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- Having experienced a history of child abuse (sexual, physical or emotional)¹⁴

Protective Factors

- Having high IQ scores¹⁵
- Having high socioeconomic status¹⁵

For more information about the factors associated with non-prescription opioids, see *Issues Brief: Preventing Heroin Use — Facts, Factors, and Strategies* (available at <https://www.samhsa.gov/capt/tools-learning-resources/issues-brief-preventing-heroin-use-facts-factors-strategies>).

FACTORS ASSOCIATED WITH OPIOID OVERDOSE

An overdose is bodily harm that occurs when a person takes an excessive amount of a substance or a dangerous combination of substances. During an opioid overdose, a person's breathing slows down and may stop. An overdose can be fatal or non-fatal. Select risk and protective factors associated with opioid overdose include:

Risk Factors

- Adverse life experiences—including witnessing a family member overdose, financial struggles such as unemployment, and homelessness.¹⁶
- Having experienced a prior opioid overdose¹⁷

While the research is limited, there is practice-based evidence to suggest that certain “preventative behaviors” are associated with reduced risk for opioid overdose. These include:

- Not using opioids alone (in other words, using with other individuals who can call for help in the event of an overdose emergency)
- Using in small doses, and injecting slowly

¹⁴ Nomura, Y., et al. (2012). Life-time risk for substance use among offspring of abusive family environment from the community. *Substance Use & Misuse*, 47(12), 1281-1292.

¹⁵ White, J., et al. (2012). Cognitive ability in early adulthood as a predictor of habitual drug use during later military service and civilian life: The Vietnam Experience Study. *Drug and Alcohol Dependence* 125(1-2), 164-168.

¹⁶ Silva, K., Schrage, S. M., Kecojevic, A., & Lankenau, S. E. (2013). Factors associated with history of nonfatal overdose among young nonmedical users of prescription drugs. *Drug and Alcohol Dependence*, 128(1-2), 104–110. Retrieved from <http://doi.org/10.1016/j.drugalcdep.2012.08.014>

¹⁷ Kinner, S. A., Milloy, M. J., Wood, E., Qi, J., Zhang, R., & Kerr, T. (2012). Incidence and risk factors for non-fatal overdose among a cohort of recently incarcerated illicit drug users. *Addictive behaviors*, 37(6), 691-696.