Factors Associated with Opioid-Related Fatal and Non-fatal Overdose

Understanding the factors associated with opioid-related fatal and non-fatal overdose and can help practitioners assess, plan for, and select interventions to address them. Researchers have identified a variety of factors that place individuals at increased risk for opioid overdose (and death in the event of an overdose). These can be organized into the following categories:

- Opioid Use and Misuse
- Ability to Process Opioids
- Chronic Pain and Mental Health
- Opioid Access and Supply
- Opioid Knowledge and Perceptions
- Non-fatal Overdose

OPIOID USE AND MISUSE

Both medical and illicit use of opioids can place individuals a risk of fatal and non-fatal overdose.

- Risk factors associated with the **medical use** of prescription opioids include:
  - Prescriptions that are long-term, or for high doses or long-acting opioids
  - Having concurrent prescriptions (for example, for multiple opioids or for both opioids and benzodiazepines)

- Risk factors associated with the **illicit use** of any opioids include:
  - Non-medical use of prescription opioids
  - Use of heroin and other non-prescription opioids
  - Illicit use of opioids in combination with other controlled substances (similar to medical use)
• **Finally, use of opioids alone** (without other individuals around to respond) is associated with increased risk of death in the event of an overdose.

### ABILITY TO PROCESS OPIOIDS

An individual’s ability to physically process an opioid is influenced by several factors that can increase one’s risk for fatal or non-fatal overdose: opioid dependence, changes in opioid tolerance, and compromised physical health.

- **Opioid dependence**, a physical adaptation to opioids that produces withdrawal symptoms when opioid use stops, may lead to opioid misuse or addition, which is associated with increased overdose risk.

- Risk factors associated with **opioid tolerance** (the body’s ability to process and experience the effects of a certain amount of a substance) include:
  - An increase in tolerance (needing more of a drug in order to experience the same effect)
  - Decrease in tolerance with time away from use (due to hospitalization, treatment, or incarceration)

- Risk factors associated with **physical health problems** include:
  - A compromised immune system
  - Pulmonary dysfunction (including lung damage and disorders such as asthma, emphysema, or sleep apnea)
  - Liver dysfunction

### CHRONIC PAIN AND MENTAL HEALTH

In addition to the physical health factors that may influence an individual’s ability to process opioids, several other physical and mental health issues are associated with an increased risk for opioid-related fatal and non-fatal overdose.

- **Chronic pain**, defined as “pain that lasts longer than 3 months or past the time an injury is expected to heal”

- **Mental health disorders**, including depression, anxiety, and/or substance use disorders

- Risk factors associated with **adverse life experiences** include:
  - Having witnessed a family member overdose
  - Financial struggles, including unemployment
  - Homelessness
OPIOID ACCESS AND SUPPLY

Factors that increase the availability of prescription and non-prescription opioids—such as opioid prescribing practices, diversion of prescription opioids, and changes in the local drug supply—as associated with increased risk for fatal and non-fatal overdose.

- Risk factors associated with opioid prescribing practices include:
  - Increases in opioid dosage and/or duration of use, and number of pills prescribed (that is, days supply)
  - Increases in the number of opioid prescriptions written

- The diversion of prescription opioids—or redirection of controlled substances from their lawful purpose to illicit use—is associated with increased risk for opioid-related overdose. Prescription drugs can be diverted through people such as:
  - Friends or relatives
  - Healthcare providers
  - Drug dealers

- Risk factors associated with changes in the local drug supply include:
  - Increases in the availability and decreases in the cost of heroin
  - Increases in the purity of heroin
  - Increases in the number of street drugs, including heroin, testing positive for fentanyl and other potent opioids

OPIOID KNOWLEDGE AND PERCEPTIONS

An individual’s lack of knowledge about opioids and risks associated with their misuse, including overdose, and their perceptions towards these drugs can place them at increased risk for overdose.

- Risk factors associated with opioid knowledge and perceptions include:
  - A lack of understanding or awareness of overdose risks (such as the risks associated with using opioids and other substances concurrently)
  - A low perception of the harms associated with opioids, specifically prescription opioids

NON-FATAL OVERDOSE

Experiencing a non-fatal opioid overdose in the past increases people’s risk of suffering a fatal overdose in the future.
Risk factors associated with non-fatal overdose include:

- The **specific factors that caused the initial overdose**, including high-risk opioid misuse.
- Any **physical health problems caused by the overdose itself**, which may include damage to the brain, heart, liver, or kidneys.

**REFERENCES**


