## Risk factors for overdose among clients entering residential rehabilitation for opioid use

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**Introduction:** Opioid agonist treatment (OAT) is the 'gold standard' treatment for opioid use disorder, though some clients opt for residential rehabilitation (with/without OAT). The period following residential treatment is associated with increased risk of opioid overdose. Identifying risk factors early in a treatment episode may inform targeted overdose prevention strategies.

**Method:** 2994 (29.6% women) clients attending residential treatment for primary opioid use were drawn from the NADAbase (a system for non-government data collection/reporting). Latent Class Analysis was conducted to examine polydrug use profiles based on opioid, sedative and stimulant use. A multinomial logistic regression examined associations between class membership and sociodemographic risk factors for overdose (e.g., age, living arrangements, region), including interactions with gender.

**Results:** The following five classes had distinct patterns of polydrug use prior to treatment: 'heroin and stimulants' (n=1565, 52.3%), 'heroin, other opioids, sedatives and stimulants' (n=665, 22.2%), 'fentanyl, other opioids and stimulants' (n=53, 1.8%), 'pharmaceutical opioids, other opioids, sedatives and stimulants' (n=452, 15.1%), and 'methadone/buprenorphine, other opioids, sedatives and stimulants' (n=259, 8.7%). Compared to the 'heroin and stimulants' group, the 'fentanyl, other opioid and stimulants' group were more likely to be women; the 'methadone/buprenorphine, other opioids, sedatives and stimulants' group were more likely to be men under 35 and men living alone; and the 'pharmaceutical opioid, other opioid, sedative and stimulants' group were more likely to be men living in regional areas.

**Conclusions:** We identified distinct subgroups of people attending residential rehabilitation for opioid use based on their patterns of primary opioid and polydrug use, who differed in sociodemographic and overdose risk profiles.

**Implications for Practice or Policy:** A comprehensive opioid overdose risk assessment is important in targeting individualised and effective overdose-prevention interventions during and post residential treatment. Expanding provision of overdose education, take-home naloxone and OAT in residential rehabilitation settings is warranted.

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