Introduction and Aims: Drug users, have a higher risk of overdose and premature mortality compared to the general population. This study aims to 1) estimate typologies of substance use among a cohort of polysubstance users, 2) examine the association between latent classes and mortality risk factors, and 3) examine mortality and risk factors.

Design and Methods: Individuals, not in treatment, who had used opioids and/or stimulants in the previous four weeks before inclusion (n=527) were street-recruited and recruited from various low-threshold services in seven Norwegian cities (Sept-Nov 2013), and followed through the National Population Registry until 30.10.2015. Latent class analysis was applied. Latent class regression models and cox regression models were estimated.

Results: Three latent classes were identified. Class 1 (n=258) was characterized by alcohol, cannabis, and prescribed drug use. This class had the highest mean age. Class 2 (n=119) comprised of amphetamine injectors and prescribed drug users. This class had the lowest mean age, the highest probability of homelessness, the highest probability of illegal income sources and the highest probability of overdose. Class 3 (n=150) comprised of heroin injectors who had higher probability of homelessness, drug dealing and overdose compared to class 1, but lower than class 2. In the cox regression model, class 2 was not a significant risk factor among men, but among women there was a trend towards a significant association.

Discussions and Conclusions: These findings may indicate that overdose prevention should not only focus on opioid users, but should also target amphetamine users and illegal users of prescribed drugs.

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