A new study, led by RCSI researchers, has found that patients receiving methadone treatment are most at risk of overdosing in the month following the end of methadone treatment and during the first four weeks of treatment.

However, the study did not observe transfers between services as high risk periods, with no deaths occurring following a transfer. This suggests that the current structures in Ireland promote a smooth transition of patients between services.

The study, published in the current edition of *Addiction*, was funded by the Health Research Board and was a collaboration between the School of Pharmacy and Biomolecular Sciences in RCSI, HRB Centre for Primary Care Research in RCSI, the HSE Addiction Services, Trinity College Dublin and the HSE National Social Inclusion Office.

People with opioid dependence have more than 10 times the risk of premature death than the general population. The most effective treatment is the prescription of legal substitution drugs, most commonly methadone.

The researchers analysed data from 2,899 people who were prescribed and dispensed methadone in addiction services between January 2010 and December 2015. They observed 154 deaths, and 55 (35.7%) of those were identified as drug-related poisonings.

The rate of drug-related poisoning deaths was more than four times higher in the month following the end of treatment and over three times higher in the first four weeks of treatment when compared to the remaining time in treatment. These findings are consistent with growing evidence from other international studies.

"Identifying a higher risk at the beginning and immediately after the end of treatment highlights that retaining patients in treatment for longer periods will save lives. People often cycle in and out of treatment, thereby increasing their exposure to repeated periods of high risk," said Dr. Gráinne Cousins, senior lecturer at RCSI's School of Pharmacy and Biomolecular Sciences and the study's lead author.

"Close monitoring of opioid tolerance before starting treatment and more effective methods of preventing relapse during the induction period may reduce this risk. Additionally, increasing patient awareness of the risk of overdose and increasing the availability of take-home naloxone may mitigate the risk of overdose during the high risk periods, particularly following treatment cessation."

No deaths were observed in the first month following transfer between treatment providers. Transfers between addiction services and primary care are facilitated by GP Coordinators employed by the addiction services. The GP Coordinator provides all relevant clinical details on the patient being transferred to the new treatment provider. The provision of opioid substitution treatment is also available in Irish prisons; if a prisoner is in treatment prior to incarceration, their treatment is continued in prison.

"Any inferences regarding risk must be cautious as less than half our sample experienced a transfer, and among those who did, it was most frequently a transition to and from prison. Further investigation of the impact of transfers between services is warranted," said Louise Duran, an RCSI postdoctoral research Fellow in the School of Pharmacy and Biomolecular Sciences.

More information: Louise Durand et al, Do

Provided by RCSI

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