

## AN EVALUATION OF OPIOID SUBSTITUTION TREATMENT (OST) IN PRISON ON RISK OF MORTALITY IN PERIOD IMMEDIATELY AFTER PRISON: DOES LEAVING PRISON ON OST REDUCE THE RISK OF DEATH?

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**Background:** The risk of death in the first month leaving prison can be 4-12 times higher compared to later periods, and 20-40 times higher than expected compared to the general population. We test whether leaving prison on OST compared to leaving drug free can reduce the risk of death in the period immediately after prison release for opioid dependent prisoners.

**Methods:** Prospective cohort of opioid dependent adult prisoners recruited from 39 prisons in England from September 2010 to August 2013, released and followed up until September 2015. Information on the outcome (mortality), date of prison release, confounders and other exposures (OST in the community) were obtained through record linkage.

**Results:** We recruited 22,000 incarcerations, 6859 (31%) were excluded because of missing data, leaving 15,141 prison releases from 12,260 individuals. 8645 (57%) of cases were exposed to OST intervention on release, and 6286 (42%) of people released from prison entered treatment programmes in the community within four weeks of prison release. People released on OST were more likely to enter treatment programmes in the community compared to the unexposed population (OR 2.48 95%CI 2.3-2.65). 158 deaths occurred within 1 year of prison release and 24 in the first month. After imputation for missing covariates and adjustment for all drug use confounders the mortality hazard ratio in the first four weeks of leaving prison on OST vs leaving drug free was 0.24 (95%CI 0.09-0.64) and after adjustment also for community OST the hazard ratio was 0.27 (95%CI 0.11-0.71).

**Conclusions:** Opioid dependent people leaving prison on opioid substitution treatment (OST) had a mortality risk approximately 75% lower than if they had left prison drug free. Leaving prison on OST also increased the likelihood of entering drug treatment in the community – with both interventions having independent beneficial effects on reducing mortality risk.