DRUG USE BEHAVIOURAL TRAJECTORIES AND HCV INCIDENCE AMONG PEOPLE WHO ARE INCARCERATED

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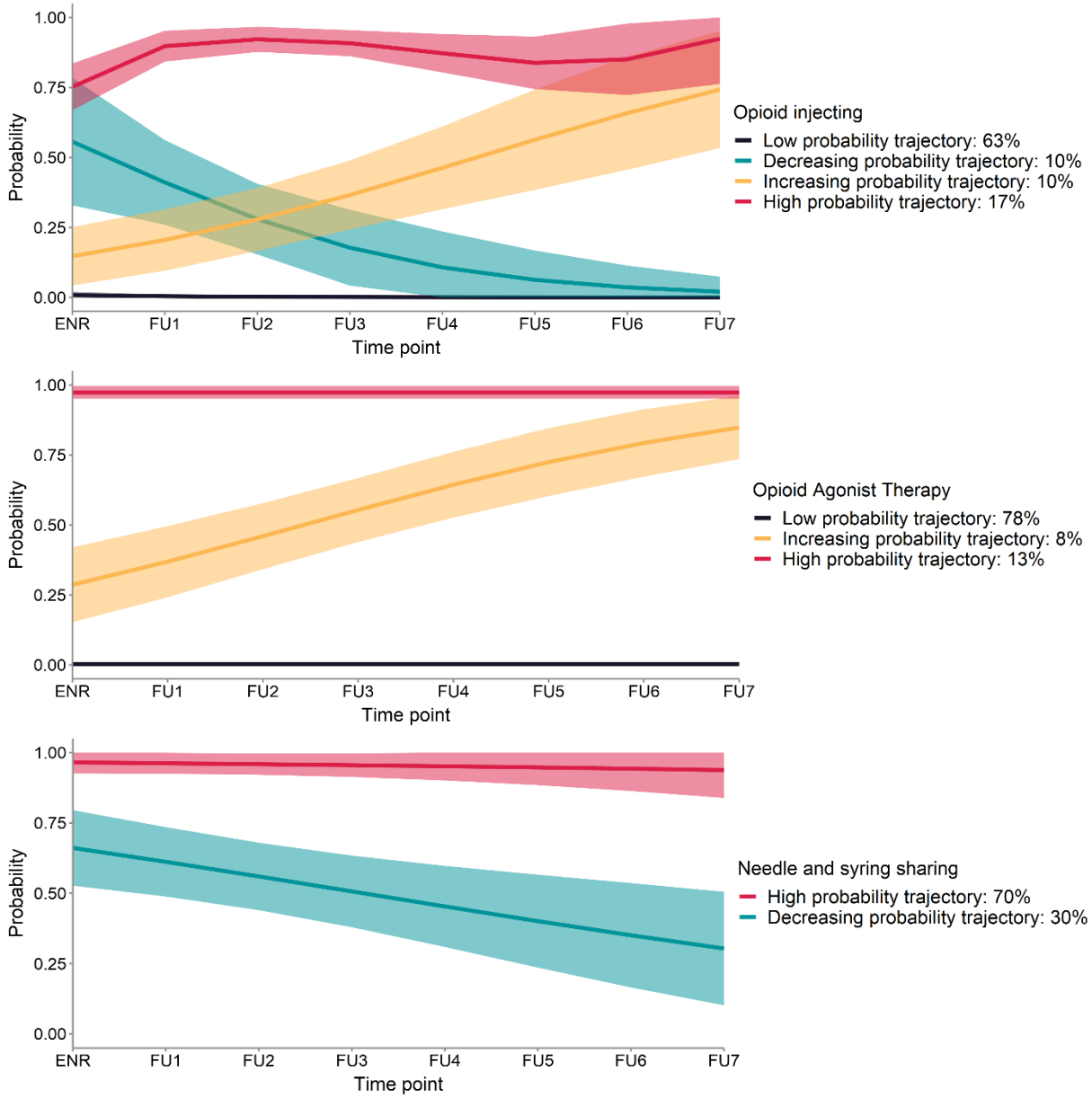
Background:
There has been limited exploration of longitudinal trends in drug-use behaviours among incarcerated people. This analysis modelled behaviours following enrolment in the Surveillance and Treatment of Prisoners with hepatitis C (SToP-C) study.

Methods:
Participants enrolled at four Australian prisons were followed at 3-6 monthly intervals (minimum three study visits) for up to 4-years to assess drug-use behaviours and HCV incidence. Population averaged behavioural changes were estimated using generalized estimating equations. As population averaged behaviours may mask distinct behavioural trajectories within a population, group-based trajectory modelling was used to identify groups if individuals with similar longitudinal risk behaviour profiles. HCV incidence rates were calculated using person-years (PY) of observation.

Results:
Of 985 participants (median age 33 years; 84% male; 60% maximum security prisons 23% injecting drug use [IDU] in the past month; 16% current opioid agonist treatment [OAT]), 18% had previous HCV exposure and 26% had current HCV infection at enrolment. Among those with recent IDU, 83% were injecting opioids and 87% reported receptive needle/syringe sharing. Population averaged increases in the likelihood of opioid IDU (AOR 1.09; 95%CI 1.04, 1.14) at each visit were observed. However, in trajectory modelling, four distinct trajectories of increasing (10%), decreasing (10%), stable high (17%) and low (63%) probabilities of opioid IDU were observed (**Figure**). Population averaged increases in OAT (AOR 1.06; 95%CI 1.02, 1.10) were also evident in trajectory modelling. Population averaged declines in needle/syringe sharing were observed (AOR 0.90; 95%CI 0.81, 0.99), although in trajectory modelling 70% of those with recent IDU retained a high probability of needle/syringe sharing. HCV incidence was greatest for those with high probability of opioid IDU (22.2/100 PY; 95%CI 16.3, 30.3) or daily IDU (20.1/100 PY; 95%CI 15.2, 26.7).

Conclusions:
These findings identify longitudinal risk profiles for targeted harm reduction and regular HCV surveillance and (re)treatment within prisons.

Figure. Group based trajectory modelling of drug use behavioural outcomes among people who are incarcerated. Behavioural trajectories for (A) opioid injecting drug use, (B) opioid agonist therapy and (C) sharing of needles or syringes in the past month following enrolment in the SToP-C study. The legend includes the proportion of the population assigned to each trajectory.



Abbreviations: ENR, enrolment; FU, follow-up