Introduction. The challenge of personalised medicine is to identify components of addiction that are relevant to an individual in a way that treatment and drug overdose preventions can be tailored. Opioid misusers continue to have recognised extremely high mortality but the influence of psychiatric co-morbidity in excess all-cause and cause-specific mortality is questionable.

Methods. Opioid-dependent (OD) patients were identified in London-based patient register, which contains records on over 220,000 cases linked to national mortality tracing. We used Cox regression to model the effect of psychiatric co-morbidity on mortality, controlling for a broad range of potential confounders.

Results. We identified 4837 OD patients with 176 deaths. The presence of comorbid personality disorder (PD) and alcohol use disorder (AUD) was found to be associated with increased all-cause mortality in all models, including the fully adjusted model. AUD was associated with two-fold increased risk of fatal overdose and seven-fold risk for liver-related deaths. Individuals with OUD and comorbid PD had almost four-times greater risk of liver related deaths compared to those without PD.

Conclusions. The study highlights the importance of assessment for PD and alcohol misuse among opioid addicts in order to identify individuals at substantially elevated mortality risk for a more personalised approach to their medical care. This research is part of a larger project, which focuses on electronic-based personalised medicine in drug addiction. The complete research plan as well as research October ’14 research update will also be provided.