**Exploring mental well-being from prisoner casenotes using text mining**

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Evidence on people with mental health and substance misuse is costly to commission, yet these individuals are over-represented in the prison population.  The most recent Adult Psychiatric Morbidity Survey of prisoners, published almost 20 years ago (Singleton et al., 1998), found that over 90% had one or more of five studied psychiatric disorders (psychosis, neurosis, personality disorder, hazardous drinking, and drug dependence).

To address this gap in knowledge, text mining techniques were explored on prisoner casenotes, where prison officers enter free text to describe prisoners’ progress. The casenotes are written in an ad hoc fashion, recording interactions that range from formal interviews/meetings to chance encounters. The casenotes contain information about prisoner well-being which can be explored to determine mental health despite gaps in timelines for prisoners, a large variation in length or detail of case notes, and no pre-defined coding or structure of information.

Here, I will explore the challenges faced by handling such large datasets (5 million casenotes are recorded each year), and how to explore the relatively vague topic of mental health in text, as recorded by non-specialists. Mental well-being is not easily categorised, but if done properly can provide rich context for prisoners throughout their time in custody. Having encoded mental health issues from the casenotes, we are using them to improve predictive analytics (e.g., the risk of committing violent acts while in custody) and implementing an R Shiny application allowing operational staff to view a summary of issues logged across a prisoner’s case note history.

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