

## “Neighborhood Crime and Psychotropic Medications: A Longitudinal Data Linkage Study of 130,000 Scottish Adults” [SLS Project 2015\_015]

Gergő Baranyi, Mark Cherrie, Sarah Curtis, Chris Dibben, Jamie R Pearce

### Research Summary

This study examines how local crime is associated with newly prescribed psychotropic medications in a large longitudinal sample of Scottish adults. It explores how area-level socioeconomic disadvantage changes this relationship and tests whether different types of psychiatric conditions were more sensitive to varying crime levels.

Data from the Scottish Longitudinal Study, a 5.3% sample of the population, were linked with police-recorded crime in 2011 for residential locality and with psychotropic medications from 2009 to 2014, extracted from the prescription data set of National Health Service Scotland. After excluding individuals with ongoing medication, new (or restarting) prescriptions for 3 main types of psychotropic drugs: antidepressants, antipsychotics and anxiolytics were linked to the SLS members in the study (129,945 adults) and the sample was followed for 5.5 years.

In the main analyses, 3 models were presented for the 3 medication groups with crime as the main predictor of interest. Model 1 controlled for sex and age; Model 2: individual covariates (ethnicity, social status etc); and Model 3: area level income deprivation.

### Underpinning Research

Mental disorders are major contributors to global disease burden, affecting approximately 30% of the population at least once during their lifetime. Although neighborhood crime has been associated with mental health problems, longitudinal research utilizing objective measures of small-area crime and mental health service use is lacking.

Research has shown that the urban environment is linked with common mental disorders and psychotic illnesses. Evidence is more limited regarding the causal pathways linking neighborhood deprivation to mental disorders. A

### Key findings

Local crime is an important predictor of mental health, independent of individual and other contextual risk factors. The study suggests that crime in the residential area increases the risk for initiation of prescriptions for psychotropic medications.

Place-based crime prevention and targeting vulnerable groups may have benefits for population mental health. It may also be prudent for healthcare planners to enhance mental health services in the vicinity of violent areas.

The research has the potential to impact policy for health, social care and crime prevention strategies in Scotland.

possible mediator may be the elevated levels of crime in disadvantaged areas.

The available evidence suggests that victimization and witnessing violence directly affects psychiatric disorders. Indirectly, crime and violence in the community may increase the threat of victimization, inducing chronic stress and fear of crime, making residents more vulnerable to psychiatric conditions.

In the study, individuals living in neighborhoods with moderate or high crime showed a significantly higher risk of having a new prescription for antidepressants during follow-up. Anti-depressant medication was more common among female participants (aged 24–53 years).

There were higher risks of new antipsychotic medications in high crime areas. In the fully controlled model, the risk of antipsychotic

prescription was higher among men (aged 44–53 years).

Living in high-crime neighborhoods increased the odds of new medication by 20%, which was attributable to the male subsample, but income deprivation was not associated with antipsychotic prescription.

In supplementary analysis the odds of being prescribed at least 6 antipsychotics tripled in high crime areas in comparison with the main results and were similarly pronounced between males and females.

New anxiolytic medication was associated with moderate and high crime rates in the model with age and sex controlled. However, this association was not significant after further model adjustments, leaving only income deprivation as an area-level predictor.

Models indicated higher risk of new medications in high-crime neighborhoods for individuals in middle social grades: for antidepressants among “skilled manual workers” and for antipsychotics among those belonging to the “supervisory, clerical, and junior managerial, administrative, and professional” group.

The study suggests that crime in the residential area increases the risk for initiation of prescriptions for psychotropic medications. In addition to the relatively strong link to income deprivation, higher local crime rate slightly increased the likelihood of having antidepressant prescriptions. Only crime levels and not income deprivation predicted the risk of antipsychotic prescriptions. There was no association between crime and anxiolytics.

### Impact

This study provided prospective evidence that neighborhood crime is associated with new antidepressant and antipsychotic medication independent of area deprivation, urbanization, and a range of individual characteristics.

Targeting high-crime areas with crime prevention or area-based interventions (e.g., rehabilitating deprived areas, mitigating deteriorated housing, or

### Further Information

#### **SLS Project 2015\_015 'Recession, austerity and health: changing area socio-economic conditions and their relationship to individual health and wellbeing outcomes in Scotland'**

Curtis, S., Pearce, J., Dibben, C., Cunningham, N., Bamba, C., Cherrie, M., Baranyi, G.

A full list of outputs is available via the project link above.

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greening vacant parcels) may reduce crime, which can be beneficial for mental health. It may also be prudent for healthcare planners to enhance mental health services in the vicinity of violent areas, providing prevention and treatment opportunities especially for those more vulnerable to the effects of crime.

The research has the potential to impact policy for health and social care in Scotland, as well as inform strategies on reducing crime.