

Research title: Long-term outcomes of psychotic disorders in rural and urban populations.

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Plain English summary of research / Lay summary.

(600 words)

Psychotic disorders are severe mental illnesses characterised by disturbance in thoughts, feelings and mood. Onset of psychosis typically occurs when people are young, in the midst of their studies or starting work, and it affects around 1 in 50 of the population. Research has shown that people living in cities and those from minority ethnic groups have higher rates of psychotic disorders and poorer outcomes, after first diagnosis. The UK government has invested money and resources in establishing early intervention services for psychosis. These services have shown promising evidence for reducing relapse and improving outcomes. At present, we do not fully understand to what extent evidence from city areas can be replicated in rural areas. Also, little is known about which individual factors and whether the neighbourhoods where people live influence good or poor outcomes following first diagnosis of psychosis. For example, people living in rural communities may experience reduced access to healthcare and social opportunities due to practical barriers such as poor transport links, which in turn may delay treatment. Therefore, people experiencing a first episode of psychosis in a rural setting can often have longer treatment delays than their urban counterparts.

For this proposed research, I wish to find out more about:

- First, how living in a particular geographical location (i.e. rural-urban setting) can promote or impair good long-term outcomes of psychotic disorders.
- Second, if there are rural-urban differences, can these be explained by how isolated people of some ethnic groups are (i.e. ethnic density), or the level of deprivation or poverty or density of the population in the areas they live?
- Third, do minority ethnic populations recover or not recover from psychotic disorders similarly in rural and urban areas?
- Finally, if there are ethnic differences in long-term outcomes in rural and urban areas, can these also be explained by the level of deprivation, ethnic density, and population density in the areas they live?

I will use a large database of de-identified electronic health records data of people who presented to an early interventions service with a first episode psychosis in London (between 2010 and 2012) and Cambridgeshire (between 2013 and 2015). This offers a unique and timely opportunity to compare outcomes in these diverse populations. I will follow up the patients from London and

Cambridgeshire for up to ten and seven years respectively, after they first became ill with psychosis. I will examine if there are differences in how better or worse people fare after their first diagnosis of psychotic disorder, depending on whether they live in rural or urban areas. I will also investigate if good or poor outcomes of psychotic disorders are different by ethnic group. To obtain data on neighbourhood social environment factors, I will use the Office for National Statistics website, which provides small area-level information on the overall population of an area, e.g. local authority. Therefore, I will be able to investigate the role of individual characteristics (e.g. age, gender, ethnicity, employment status, duration of untreated psychosis) and neighbourhood social environment factors (e.g. deprivation, ethnic density, population density) to find out about outcomes of psychotic disorders. By using a large dataset of sample of people with first episode psychosis and linking them to the population-level data, I will be able to address the research questions in more detail than has been previously possible.

The anonymised electronic health records that will be used for this study in both London and Cambridgeshire were designed with significant service users' and carers' involvement. For example, the committees that oversee the use of the databases are chaired by a service user.

The findings from the study will be relevant to everyone interested in why some people recover from psychosis and not others. In particular, it will be of interest to patients, relatives, clinicians and health commissioners. For example, the results of this study will help inform relevant changes to the current early intervention services, such that patients can receive treatment and support closer to home in familiar places.