

# Tool predicts incidence of psychosis

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Scientists at the University of Cambridge have developed a tool capable of predicting the number of individuals expected to develop a first episode of psychotic disorder -disorders characterised by altered perceptions such as hallucinations or delusions – within regions of England and Wales.

The tool, known as [www.PsyMaptic.org](http://www.PsyMaptic.org), works by taking into account various factors which are known to affect the incidence rate of these disorders, including sex, age, ethnicity and population density. Using the latest UK census data, it is able to forecast the most likely number of

individuals in different regions who will experience new psychotic problems requiring mental health service intervention. It can also estimate the age and sex of these individuals, enabling mental health service commissioners and local authorities to better tailor resources to meet local need.

Currently, the commissioning of early intervention in [psychosis](#) services (EIS), which were established to help young people in England in the early stages of psychotic disorders, was based on a single, high estimate for all of England. As a result, the demand for EIS in some rural parts of England, may have been over-estimated, while in very urban areas the original estimates were still too low, leading to strain on urban EIS. PsyMaptic enables service planners to more accurately estimate the likely level of clinical need for services in different regions, based on local sociodemographic profiles.

Dr James Kirkbride from the University of Cambridge's Department of Psychiatry, who developed PsyMaptic, said: "Early intervention is one of the most effective ways to help young people with these types of [mental health disorders](#). It is therefore critical that services receive adequate resources based on anticipated local demand. This tool can be used as part of a wider package of measures service commissioners should use to centre service provision around local need."

In order to test the accuracy of PsyMaptic, the researchers developed several different scenarios about the underlying psychosis risk in the general population. Under each scenario, they then compared the tool's predictions for the population living in East Anglia with the number of cases actually observed there. Their most accurate scenario (which took into account the age, sex, ethnicity and population density of the population) predicted 508 individuals would develop a new [psychotic disorder](#) over a 2.5 year period. In actuality, there were 522 observed cases of the disorders, validating the precision of PsyMaptic.

The researchers stress that forecasting the expected incidence of psychosis alone is insufficient to base service commissioning decisions upon. Actual pressure on mental health services, and the resources they require, is likely to be higher than predicted by PsyMaptic, because some people coming to the attention of psychosis services may need some form of mental health care, although they might not meet strict clinical criteria for severe mental illness.

Professor Peter Jones, Head of the Department of Psychiatry at the University of Cambridge, Director of the NIHR CLAHRC-CP and honorary consultant psychiatrist with the Cambridgeshire and Peterborough Foundation Trust's early intervention service ([www.cameo.nhs.uk](http://www.cameo.nhs.uk)) co-authored the research. He said: "Early intervention services for young people with a first episode of psychosis are highly cost-effective because people are more likely to recover, getting back to a fulfilling life and the opportunities ahead of any other young person. This tool not only provides a reliable estimate of the incidence of psychotic disorders, it also provides insights into the sociodemographic characteristics of people who will become unwell; this helps tailor the health services around local need."

Paul Jenkins, Chief Executive of Rethink Mental Illness, said: "We're really pleased to see innovative work being done to support commissioning in this complex, but important area. There is overwhelming evidence for the effectiveness of early intervention services, but they don't always get the investment they need. We hope commissioners will use this tool to ensure that everyone in the early stages of psychosis gets access to this vital support."

Dr David Shiers, former joint lead of the National Early Intervention Development Programme, said: "Psymaptic is a welcomed and timely development. For patients and their families, particularly those living in inner city areas, this means they can now be more confident of receiving

support from early intervention services resourced to meet levels of local need that previously may have been underestimated by service planners."

The results of the PsyMaptic research project, which was funded by the Wellcome Trust and the National Institute for Health Research, are published this week in the journal BMJ Open. The tool is made freely available online ([www.psymaptic.org](http://www.psymaptic.org)). PsyMaptic has been included with other indicators in the Joint Commissioning Panel for Mental Health's forthcoming guidance for commissioning of public mental health services.

The current incidence of psychotic disorders in England is around 32 new cases per 100,000 people, although this can be over three times higher for some groups in urban areas. The estimated total costs of [mental health](#) to the British health services and society was £105 billion in 2009/2010.

Provided by University of Cambridge

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