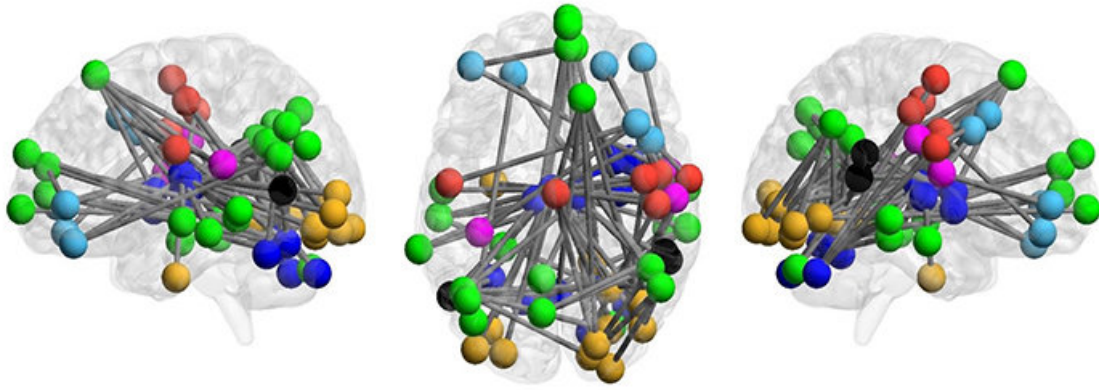


Early warning sign of psychosis detected

September 21 2018, by Bill Hathaway



Brains of people at risk of psychosis exhibit a pattern that can help predict whether they will go on to develop full-fledged schizophrenia, a new Yale-led study shows. Credit: Yale University

Brains of people at risk of psychosis exhibit a pattern that can help predict whether they will go on to develop full-fledged schizophrenia, a new Yale-led study shows. The findings could help doctors begin early intervention therapies for those most likely to develop the disabling disorder.

Using fMRI images of people who exhibit features indicating a high risk for psychosis, the Yale team noted increased [functional connectivity](#) in the cerebello-thalamo-cortical circuitry, an extensive network involved in coordination of a host of brain functions, they report Sept. 21 in the

journal *Nature Communications*. Higher degrees of functional connectivity of this network were found in those who later developed psychosis.

In a second experiment, they confirmed this hyperconnectivity pattern was present among those who already have a diagnosis of [schizophrenia](#) but not in those with other psychiatric disorders.

"The hope is that this biomarker can be used in second-stage screening after the identification of other risk factors for schizophrenia," said Tyrone Cannon, professor of psychology and psychiatry and senior author of the paper.

Early intervention in psychosis patients has been linked to better outcomes in schizophrenia, which is marked by hallucinations, delusions, and thought disorder, and generally first strikes people in their late teens and twenties.

Cannon said the hyperconnectivity findings suggest that the affected brain network may reflect greater errors in integrative brain functioning, such as the mistiming in the convergence of information from different [brain](#) regions. Alternately, he noted, the pattern may reflect compensation for such errors, which are believed to underlie the disorganized thinking that is a hallmark psychosis.

More information: Hengyi Cao et al. Cerebello-thalamo-cortical hyperconnectivity as a state-independent functional neural signature for psychosis prediction and characterization, *Nature Communications* (2018). [DOI: 10.1038/s41467-018-06350-7](https://doi.org/10.1038/s41467-018-06350-7)

Provided by Yale University

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