

Researchers team up to build new schizophrenia collections

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Institute for Molecular Medicine Finland (FIMM) at the University of Helsinki and The Stanley Center for Psychiatric Research at Broad Institute, together with its international partners, are initiating major new sample collections in several regions and countries. The goal is to collect up to 50,000 samples from schizophrenia patients across the globe.

The first collection will be established in Finland, where the researchers plan to collect samples of genetic material and study genes from 10,000 Finnish patients with schizophrenia.

The collection aims to address the current lack of suitable sample collections in the field of psychiatric genetic research. Recent success in using genetic strategies to uncover biological mechanisms underlying severe mental disorders, such as schizophrenia, has demonstrated the power of this line of research. Understanding underlying biological pathways is key to discovering new treatments, but this approach requires very large collections of samples from tens of thousands to hundreds of thousands of patients and controls.

Finland is an ideal source for the initial collection, because the country has a unique population history, being the largest isolated population in Europe. It was founded by a small group of people thousands of years ago, it has had very little immigration, and it experienced a rapid population growth during the past 200 years. As a consequence, the genetic landscape of such a population is especially homogenous, facilitating identification of disease-associated gene variants.

Additionally, Northern European countries have unique health care infrastructures and traditions of epidemiological research that support large, nationwide disease studies.

"I am excited that the exceptionally generous philanthropic commitment from Ted Stanley makes it possible to take the necessary next steps to expand the genetic research of psychiatric diseases so that we can progress our understanding of the basics of these diseases," said Steven Hyman, director of the Stanley Center.

"In psychiatric diseases our treatment options are based on decades-old findings. If we aim to change the way these diseases are treated, we need new, solid data about predisposing biological causes. We have carefully selected these international partners to represent optimal ethnic diversity to maximize the success of the genetic approach."

The collection in Finland will kick-start this global effort. The researchers will utilize both the regional patient care sites (hospitals and outpatient clinics) and the nationwide electronic health registers that cover every Finnish resident, their hospital visits, and drug prescriptions. This makes it possible to identify every Finnish patient that has received a schizophrenia diagnosis during their lifetime and collect follow-up data for their disease history.

"We believe that unique populations, such as a population isolate, are strong assets to uncover genes and gene variants that contribute to this group of devastating diseases. FIMM where the Finnish team is based is extremely committed to achieve the goals of this collaboration and excited to work with a global team that wants to change our understanding of these diseases," said Prof. Aarno Palotie, a Stanley Center faculty member and the leader of the Finnish research team at FIMM, University of Helsinki.

In the search for genes associated with psychiatric disease, carefully designed studies that apply cutting-edge, genome-wide laboratory techniques and new analytical tools to very large study samples are critical to success. "These new collections have the potential to address these key requirements for true success in finding potential new treatment options," said Mark Daly, institute member at the Broad Institute and Chief of the Analytical and Translational Genetics Unit at Massachusetts General Hospital.

Provided by University of Helsinki

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