

Connecting the Dots: Understanding the Relationship Between Social Determinants and Schizophrenia

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Schizophrenia is a debilitating mental illness that affects a significant portion of the population. The disease has farreaching consequences that often go beyond the patient themselves, involving their families and the community at large. However, the diagnosis and treatment of schizophrenia are not equally distributed across different socioeconomic groups, leading to significant health inequalities. This poses a significant roadblock in achieving two of the UN's Sustainable Development Goals of Good Health and Well Being (SDG3) and Reduced Inequalities (SDG10). The current project utilizes Bayesian Network Modeling to identify significant factors that can impact a person receiving a diagnosis of schizophrenia. The study utilizes the Health Care Utilization Project (HCUP) annual National Inpatient Sample datasets for years 2016 through 2020.

The analysis methodology proceeds from identifying patients with schizophrenia and then matching them by age and sex to non-psychiatric controls. Individual Bayesian network models are then fit using the tabu algorithm for structure learning, followed by fitting posterior probability maps from the data.

Our preliminary analysis of the HCUP data has shown that race and socioeconomic status are the biggest factors in someone receiving a diagnosis of schizophrenia. By identifying the social determinants of schizophrenia, we can better understand the underlying causes of health inequalities and work towards reducing them.

Keywords: Schizophrenia, Social Determinants of Health, Healthcare Utilization Project (HCUP), Bayesian Network Modeling, Health Inequalities
