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Researcher to study genetic and social aspects of HIV clusters

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Kayo Fujimoto, Ph.D., assistant professor in the Center for Health Promotion and Prevention Research at The University of Texas Health Science Center at Houston (UTHealth) School of Public Health, has been awarded a grant to study the genetic and social network aspects of human immunodeficiency virus (HIV) transmission.

The two-year, $442,076 grant was awarded to Fujimoto by the National Institute of General Internal Medicine Sciences. UTHealth researchers will work with collaborators from the University of Athens in Greece, the University of Chicago and Ann & Robert H. Lurie Children's Hospital of Chicago.

Social clusters of HIV are defined by people's affiliations with venues, such as bars, gyms or organizations, where they meet with sexual partners, friends and acquaintances. In Fujimoto's previous research, the clusters were related to instances of HIV transmission. In the new study, social clusters will be compared to genetic transmission clusters, which are identified by viral strains of the disease.

"The goal of the project is to provide biologic or molecular evidence of identified patterns of HIV transmission clusters previously shown to be linked by venues. We are looking to match social clustering by venue to common viral strains of HIV infection," said Fujimoto, who is principal investigator of the study.

Data will be drawn from an existing National Institutes of Health

(NIH)-funded R01 grant called Young Men's Affiliation Project (YMAP), also led by Fujimoto. YMAP includes plasma samples from 100 African American men who have sex with men between the ages of 17 and 29. Another element of the study will be to compare the clusters of Houston and Chicago, two cities from which the YMAP samples were collected.

The project could lead to better intervention strategies for individuals who are at risk for HIV, said Fujimoto. By analyzing the molecular and social network data together, researchers could help organizations shift their intervention strategies to specific at-risk populations or help them expand the strategies to new types of venues.

Lu-Yu Hwang, M.D., professor in the Department of Epidemiology, Human Genetics and Environmental Sciences at the School of Public Health serves as co-investigator for the project. The project is called iMAN: integrated Molecular and Affiliation Network analysis of HIV transmission.

Provided by University of Texas Health Science Center at Houston