



Naoru Koizumi, PhD

Professor, Director of Research, Schar School of Policy and Government

Education

PhD, Regional Science, University of Pennsylvania

PhD, Preventative and Environmental Medicine, Hyogo College of Medicine

Key Interests

Biostatistics | Spatial Statistics | GIS | Chronic Disease Modeling | Organ Transplant System
| Medical Policy

CONTACT

Phone: 703-993-8380 | Email: nkoizumi@gmu.edu

Website: <https://schar.gmu.edu/about/faculty-directory/naoru-koizumi>

SELECT PUBLICATIONS

- › N. Koizumi *et al.*, Disparities in DCD organ procurement policy from a national OPO survey: a call for standardization. *Clinical Transplantation* (2020).
- › N. Koizumi *et al.*, Improved outcomes after live donor renal transplant for septuagenarians. *Clinical Transplantation* (2020).
- › N. Koizumi *et al.*, Biofixation of atmospheric nitrogen in the context of world staple crop production: policy perspectives. *Science of the Total Environment* 701, 134945 (2020).
- › N. Koizumi *et al.*, Mobile apps for the care management of chronic kidney and end-stage renal diseases: systematic search in app stores and evaluation. *JMIR mHealth and uHealth* 7(9), e12604 (2019).

Research Focus

I specialize in medical policies, particularly in the fields of organ transplantation and the end-stage kidney and liver diseases. My research focuses on the applications of various quantitative tools such as biostatistics, Geographic Information Systems (GIS), simulation, and mathematical optimization to analyze various medical and medical policy questions related to organ transplantation and other chronic disease treatments.

Current Projects

- National Science Foundation Grant - Network Analysis and Opportunities for Disruption of Organ Trafficking: The project develops an optimization model to effectively disrupt the global illicit organ trafficking networks.
- KDI School - Network Labeling Optimization for Hidden Population Size Estimation: The project develops a new method to estimate the size of hidden population (kidney sellers) using integer programming optimization.
- National Institutes of Health - Using GIS and Simulation for Analyzing Optimal Geographical Boundaries and Organ Allocation Mechanism for Liver Transplantation: The project develops a better liver allocation model for transplantation by applying linear programming optimization and simulation.