

**DEPARTMENT OF MANAGEMENT SCIENCE AND
STATISTICS RESEARCH SEMINAR SERIES**

**Friday, April 7
2 – 3 p.m. (CST)**

Business Building Executive Conference Room (4.02.10)



Dr. Hummy Song

Assistant Professor of Operations, Information and Decisions

Assistant Professor of Health Care Management

The Wharton School of the University of Pennsylvania

“Leapfrogging for Last-mile Delivery in Health Care”

Abstract

Radical technological innovations may allow leapfrogging over traditional solutions to improve access to quality medical care, especially in hard-to-reach areas. Using data from Rwandan public hospitals, we examine the impact of using drones for the delivery of blood products on inventory management and health outcomes. We find that adopting drone delivery leads to a 62% reduction in on-hand inventory of blood products, 42% reduction in their wastage, and 88% decrease in inpatient mortality from postpartum hemorrhage (PPH). Hospitals that experienced road infrastructure improvements prior to adopting drone delivery see a quarter of the decline in PPH mortality compared to facilities that only adopted drone delivery, suggesting a leapfrogging effect.

Short Bio

Hummy Song is an Assistant Professor of Operations, Information and Decisions at the Wharton School at the University of Pennsylvania. She also holds an appointment as Assistant Professor of Health Care Management. She conducted her undergraduate, master's, and PhD studies at Harvard University.

Professor Song's research focuses on identifying ways to improve the performance of service systems, with a particular emphasis on the health care sector. Her work has examined several factors related to patient flow and capacity management in health care delivery settings, including queue configurations, off-service placement, performance feedback, provider turnover, and team staffing. Her research utilizes large datasets derived from electronic health record systems, administrative databases, and surveys of the health care workforce. For her research, Professor Song has worked with hospitals and health care delivery organizations in the U.S. and in developing countries.

Professor Song's work has been published in leading academic journals including Management Science, Operations Research, and Health Services Research. Her work has also appeared in Harvard Business Review and has received media coverage in various outlets including the Wall Street Journal, Reuters, and CBS News. She was named by Poets & Quants as one of the Top 50 Undergraduate Business Professors and is the winner of the 2022 POMS Early Career Research Accomplishments Award. She has received several recognitions for her research, including the M&SOM Service Management SIG Best Paper Award, INFORMS Health Applications Society Best Student Paper Award, and the Best OM Paper in Management Science Award (finalist). She currently serves as an Associate Editor of Management Science.