



October 26, 2020
12:00 PM – 1:00 PM

**Healthcare E-Services Operations with Strategic Patients: Modeling and
Analysis**

ABSTRACT

The rapid development of health information technology (IT) has enabled virtual care delivery, such as video visits and electronic consultations (e-consults), aimed at enhancing care accessibility of patients and efficiency of the system. In this talk, we will present analytical methods to investigate the design and impact of video visits and e-consults on care delivery. E-consults offer a digital platform where PCP can consult the specialists and obtain feedback or offer a direct specialty referral to the patients. We provide a high-level abstraction of e-consult operations using an analytical framework that quantifies the benefit of e-consults in the context of efficient matching in a flexible service system and investigate information endowment strategies. Video visits, as one type of telehealth services, have been offered to ambulatory patients to manage their care, especially chronic conditions. We develop a game-theoretic model for pricing design factoring in the nurse assistance cost, with the objectives to optimize the revenue of the medical institution and the welfare of the system. Our results highlight the value of flexibility induced by e-services and heighten the importance of alignment between heterogenous customers and various services provided.

BIOGRAPHY

Xiang Zhong received her B.S. from the Department of Automation, Tsinghua University, Beijing, China, in 2011, and her M.S. in Statistics and Ph.D. in Industrial Engineering from the University of Wisconsin-Madison in 2014 and 2016. Currently, she is an Assistant Professor of the Department of Industrial and Systems Engineering at the University of Florida. Her research interests include stochastic modeling and control, and data analytics with the application in healthcare, service and production systems, and part of her work is sponsored by AHRQ (Agency for Health Research and Quality) and NSF. She is a member of IEEE, IISE and INFORMS.

