Biography:

Dr. James Benneyan is director of the Healthcare Systems Engineering Institute at Northeastern University, including undergraduate through doctoral academic and internship programs and three centers funded by the National Science Foundation, Centers for Medicare and Medicaid, and Veterans Health Administration. He is a senior fellow at the Institute for Healthcare Improvement, advisor to CMS’s Innovation center, past vice president of the Institute for Industrial Engineers, and serves on numerous editorial and advisory boards. Benneyan has received nine research, teaching, and service awards; is a fellow of the Society for Health Systems, Institute of Industrial Engineers, and Healthcare Information and Management Systems Society; and has served as principal investigator, director, or co-director in seven research centers and laboratories totaling over $32 million in funding. Prior to Northeastern, he was senior systems engineer at Harvard Community Health Plan, an industrial engineer at IBM and Digital Equipment Corporation, and consultant in a healthcare engineering company. He is sponsored, in part, through the INFORMS Speakers Program.

Abstract:

Problems with our healthcare system are well-known and staggering, including poor access, inefficient processes, equity disparities, practice variability, and patient safety issues, all at enormous costs. Healthcare expenditures now exceed $3 trillion annually (nearly 18% GDP), increasing at almost double inflation and with ~30% attributable to poor processes, error, and waste. Estimates of medical errors include 1.4 million affected patients, 98,000 deaths, and $8.8 billion annually, while avoidable readmissions, variability, and non-compliance cost over $200 billion/year. The enormity of this crisis has prompted the National Academy of Engineering, Institute of Medicine, and others to advocate greater application of systems engineering and operations research over a decade ago, yet not much has changed. Management science, by whatever name, in fact has a long history in health care, recently enjoying another renaissance within academia. This talk is divided roughly into thirds - discussing the state of healthcare today, history of healthcare IEOR and examples of current applications, and important future directions and changes if our field is to have more profound societal impact.