



CoCo Seminar Series Fall 2018

Network Analysis of Medical Care Services

Dr. Jerome Niyirora
**Assistant Professor of Health Information
Management**
SUNY Polytechnic Institute



Wednesday October 24, 2018 11:00am-12:00pm
**Engineering Building H-9 (Knoll-MacDonald
Commons / Watson Commons)**

The delivery of medical care generates a collection of services that can be organized into a network. Understanding the structure of such network may help explain certain outcomes of care. In this presentation, it is suggested to create an adjacency matrix of medical care services and then apply methods such as principal component analysis and social network analysis to explore and contextualize the resulting communities. Using emergency department data from a local hospital, it will be shown that it is possible to explain the existence of some communities, given known patterns of care such as clinical pathways where care is standardized for particular medical conditions. But, the context of other communities may not be easily explained until further studied. This is essentially the main objective of suggesting network analysis of medical care services.

Dr. Jerome Niyirora is Assistant Professor in the College of Health Sciences at SUNY Polytechnic Institute where he teaches, among other courses, quality improvement in healthcare. He received his PhD in Systems Science from SUNY Binghamton and he holds an MS degree in Industrial Engineering from SUNY Buffalo, and a BPS degree in Health Information Management from SUNY IT. His research interests include the integration of stochastics, calculus of variations, and machine learning methods into the analysis of clinical processes for optimal control and design of healthcare systems.

For more information, contact Hiroki Sayama (sayama@binghamton.edu).
<http://coco.binghamton.edu/>