



CHOT Summer Healthcare IE Internship Program Summer 2012



Title: Investigation of the Connectedness of Healthcare Quality Improvement Networks

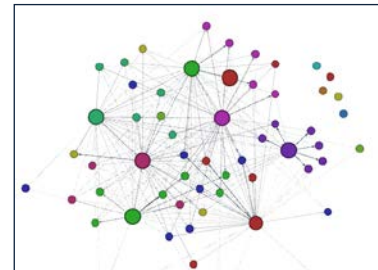
Student name: Amanda Bell
Visiting from: Toronto, ON, Canada
Organization: CHOT
Sponsor: James Benneyan (NU)
CHOT mentor: James Benneyan (NU)
Project Dates: July - August 2012



Project focus

Amanda Bell began work on the Healthcare Quality Improvement (HCQI) Network Analysis project in July 2012, drawing from discussions between Professor Benneyan and improvement practitioners from the Institute for Healthcare Improvement (IHI) and the Centers for Medicare & Medicaid Services (CMS). Growing interest in creating and maintaining these improvement networks has led to interest in the quality of the networks themselves. The aim of the project is to characterize existing improvement networks in terms of their connectedness, vitality, formal and informal communities, and other metrics used in social network analysis (SNA).

Amanda initiated the project by conducting a literature analysis on past use of SNA on social groups, as well as its recent use to characterize patient-sharing between primary-care physicians, and preparing her findings into presentation materials for members for the IHI Fellows network. In consultation with Prof. Benneyan, a survey was developed and distributed to a pilot group of IHI fellows to assess personal connections between members of the group. The results of that survey were then used to create a node-link visualization of the network, which generated interest in extending the analysis to the CMS Innovation Advisors, Veterans Administration Scholars, the IHI network, and other HCQI groups.



A Node-Link Visualization of the IHI Pilot Group, 2012

Results

As of August 2012, a pilot group of seven IHI fellows has been mapped and analyzed. The network visualization allows the project group to draw some preliminary conclusions about the network, such as what groups of people tend to have the closest ties and which actors are most central to the network. Going forward, Amanda will apply this mapping approach to the entirety of the IHI Fellows network, which she expects will display the power-law, scale-free, and small-world properties common to other social networks, such as LinkedIn. Additionally, the analysis should provide an illuminating perspective on the network's growth since 2004 years and provide a basis for discussion on ways to improve the robustness of the network.

Amanda is an Industrial Engineering Graduate from the University of Toronto who is beginning her Master's Degree in Healthcare Engineering with UT in September 2012. Amanda also helped develop the internal process for expanding the healthcare engineering internship program at CHOT.

Testimonial: “ “

- Name, Position, Organization