

Supporting Collaborative Health Care Teams through Knowledge Mapping

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Abstract:

This paper describes the preliminary results of a study where we used Social Network Analysis and content mapping to assess information flows within and across departments at a large Children's Hospital in the US. This initial knowledge audit effort is part of a larger improvement initiative to design a system focused on high-value by simultaneously achieving the best patient outcomes and experience, eliminating all harm and doing so in an affordable way.

Health care is a sector that is rich in isolated clusters in need of connectivity. By looking at network metrics such as degree, closeness and betweenness centrality, and computing cross ties and constraint levels, we identified brokers, boundary spanners and central connectors who can transfer knowledge between departments and teams and increase collaboration and team performance.

As part of a large knowledge audit effort, we conducted two focus groups and sent surveys to 42 members of five interdisciplinary healthcare teams: Outcomes, Patient and Family Experience, Cost, Safety, Employee Engagement and Team Function.

We visualized internal and external social networks based on management advice, technical support, and knowledge dissemination. Participants were asked to report up to 25 people – within and outside the hospital - they would go to when 1) looking for advice based on subject matter expertise; 2) seeking support for their career development; 3) seeking technical support; or 4) sharing new ideas. We also identified trends in the communication media used by members, how different roles used the office space for confidential meetings, and which barriers prevented them from being effective.

The results helped recognize key advisors and connectors within and outside the hospital boundaries. We measured the contribution of departments and interdisciplinary teams towards the design of a larger quality improvement initiative. The focus groups helped recognize the existence of barriers to team effectiveness, including poor leadership, lack of collaboration, engagement, and communication. Overall, we found important associations between communications behaviors and team performance. The main limitation is related to the non-respondent bias, since the response rate was 72% and one of the team was underrepresented (2 out of 8 members responded to the social network survey).

Keywords:

Knowledge Audit, healthcare teams, team function, social network analysis, employee engagement