

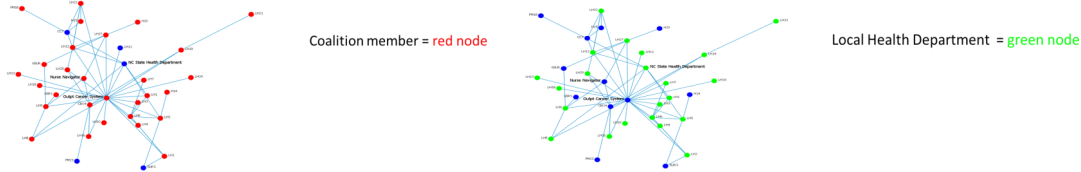
Network Analysis of Organizations Providing Access to Mammography in a Rural Region

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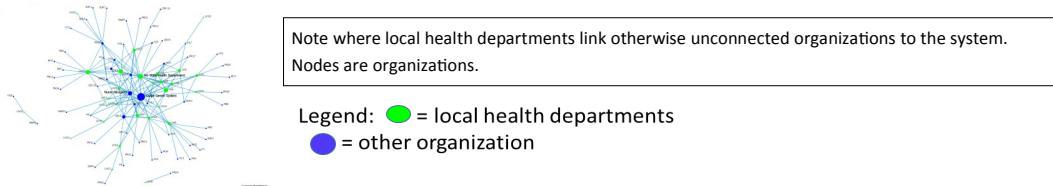
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Reciprocal Ties



- Reciprocity, a sub-network measure suggests collaboration.
- Among 86 organizations, 36 organizations both *send and receive* referrals related to BCCCP services.
- 66% (24/36) of reciprocal ties are connected directly to Outpatient Cancer System.

Total Degree Centrality by Local Health Department



- Total degree centrality is an *individual organizational* measure.
- The large blue dot in the center of the slide shows the Outpatient Cancer System with the highest number of direct connections between other organizations in the BCCCP sub-network.
- Note: Local Health Departments, such as LH8 and LH22, link BCCCP services to a clinical care network. The Local Health Department serves as key link that integrates BCCCP care.

Betweenness Centrality



- Nurse navigators in the Outpatient Cancer Center are: in a position to broker connections between organizations, bring to bear the influence of one group on another, or serve as a gatekeeper between groups.
- The flow of information between Local Health Departments passes through the nurse navigators who can influence information flow back into the network.

Key Terms

Network Measures

- **Density**— A measure of how many links there are between groups as a proportion of all links possible. Measurements closer to 1 signify relatively many communication links suggesting inefficient or repetitive information exchange; measurements closer to 0 signify relatively few links, suggesting information is not flowing efficiently.
- **Centralization**— A measure of how centralized communication is around a controlling group. Measurements closer to 1 suggest hierarchical information flow of a “command and control” style. Measurements closer to 0 signify decentralized information flow with less coordination or unified effort.
- **Reciprocity**— Percent of bi-directional connections (both send and receive referrals).

Organization Measures

- **Total degree centrality**— Organizations linked to many other organizations
- **Betweenness centrality**— Organizations that are potentially influential to broker connections or serve as gatekeepers as they are positioned on the shortest path between other organizations

Organization Key

- Community-based Organizations (CBO)
- Local Cancer Centers (CC)
- Hospitals (H)
- Local Health Department (LH)
- Surgery Centers (SUR)
- Primary Care/Family Medicine Clinics (FM)
- Mammography Facilities (MAM)
- Outpatient Medical Oncology Clinics (MO)
- Units within Regional Medical Center
 - Outpatient Cancer Center
 - Nurse Navigator
- Breast and Cervical Cancer Control Program (BCCCP)