Using network analysis to support community collaboration around health disparities in a low-income multi-ethnic community

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PURPOSE

Strengthening collaboration on health disparities among agencies in low-income, resource-limited neighborhoods can be challenging.

Bringing staff from diverse organizations together to share information and develop potential partnership opportunities may help improve collaboration across the entire community.

This study assesses the impact of the Live Better Together Collaborative (LBT), an initiative to support inter-agency collaboration on nutrition disparities in an ethnically diverse, low-income urban neighborhood in Honolulu.

METHODS

Reputational snowball sample (n=45) of community stakeholders used to develop a fixed list of players community members feel should be “at the table” for nutrition-related collaborations in the Kalihi community.

Online survey of fixed list (n=26) to assess:
- Communication frequency (monthly)
- Collaboration level (seek to partner)
- Agency demographics and mission

Network analysis (Pajek 2.0) of communication frequency and collaboration patterns between agencies.

Network maps presented to LBT group:
- Bridging, connecting, and isolated agencies identified
- Community members assessed network strengths, partnership gaps and needs

Community partners develop strategies to build on key connectors and engage isolates

2012

Record review/KI interviews identify 4 additional organizations engaging in nutrition work in Kalihi community since 2012 baseline.

Network survey repeated with original study participants plus these 4 additional agencies.

Network analysis (Pajek 2.0) used to identify:
- Changes in collaboration from 2012-2016 among participants in the 2012 study
- Differences in collaboration patterns between the 2012 and 2016 networks

RESULTS

Changes in collaboration patterns among baseline study participants, 2012-2016

Linkages in 2012 between agencies “seeking opportunities to partner” among 26 agencies involved in the 2012 baseline study

Collaborative linkages within the full 2016 Kalihi nutrition network

Linkages between agencies “seeking opportunities to partner” among all 31 agencies working on nutrition disparities in 2016

DISCUSSION

The initial study identified the relationships between community agencies before formal efforts to build collaboration around nutrition concerns.

Presenting network maps back to the LBT work-group allowed people to identify the existing assets and weaknesses within their community, and strengthened interpretation of the network data.

Based on the centrality of childcare/youth agencies and health centers within baseline network, the LBT group decided to engage these agencies as focal points for community collaboration, and then target outreach to specific peripheral agencies.

This collaborative process involved community members as equal partners in study design and analysis, and helped build community capacity for research and strategic planning.

The resulting 2016 network is larger, more dense and centralized, with greater collaboration between agencies, less distance between the least-connected agencies in the network, and less brokerage by individual agencies.

The 2016 network is focused around youth-serving organizations and health care agencies. Funders were attracted by the emerging collaboration, and became central links in this network.

Community partners are currently using the data to support grant-writing and ensure accountability to funders/stakeholders, further strengthening community capacity.

CONCLUSION

Network analysis, with its visual presentation and intuitive interpretation, is a promising tool for community-academic partnerships.

Engaging community partners in the analysis of network visualizations and data provides valuable insights into the data interpretation.