Evaluating a Multi-Stakeholder Workgroup to Improve Nutrition Access for Disparate Populations

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BACKGROUND

Despite Hawaiʻi's relatively low rates of obesity and chronic disease, disparities exist among certain groups.

- Native Hawaiians (38.7%) and other Pacific Islanders (58.5%) have higher obesity rates than the state average (22.1%).
- Other Pacific Islander (14.8%) and Japanese adults (13.6%) have higher rates of diabetes than the state average (9.7%).

Hawaiʻi State Physical Activity and Nutrition (PAN) Plan 2013-2020

- 22 policy and environmental strategies to increase physical activity and access to healthy foods by 2020, to reduce Hawaiʻi residents' burden of disease and reduce health disparities.
- In 2013, stakeholders formed a workgroup around the three nutrition access related objectives.
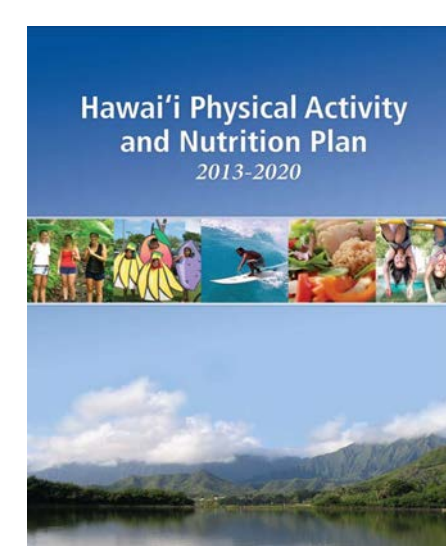
PAN Plan Nutrition Access Objectives

Objective 6: Increase the number of farmer's markets that accept Supplemental Nutrition Assistance Program Electronic Benefit Transfer (EBT) transactions.

Objective 7: Enact at least two statewide policies to increase access to healthy food and decrease access to unhealthy food/drinks.

Objective 8: Identify issues related to access and consumption of healthy food in each county and develop strategies to address them.

STUDY OBJECTIVE

The purpose of this study was to use social network analysis to assess communication and collaboration among nutrition access workgroup partners at the mid-point of the plan's implementation.

METHODS

Sample & Survey

- 29 key organizations identified by key informants and workgroup member lists.
- An online survey was sent to each organization's representative in June 2017.

Network questions

- Frequency of communication around nutrition access issues
- What best describes their organization's relationship with other network organizations
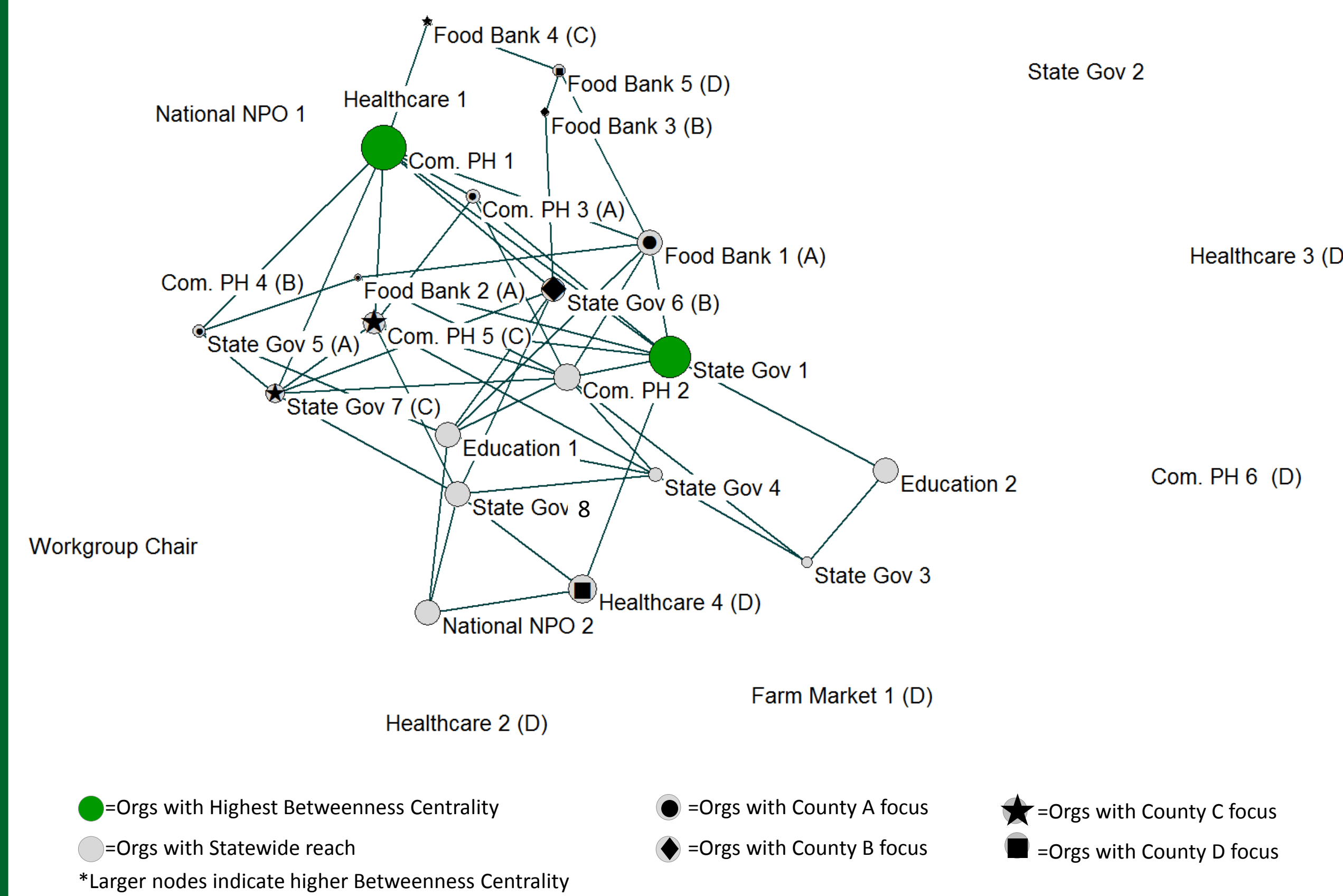
Response Rate

- All 29 organizations responded to the survey, a 100% overall response rate.

Data Analysis

- Extreme differences in responses were reconciled through follow-up calls to both organizations.
- Dyads were averaged to create a mirror matrix.
- Pajek Social Network Analysis Software version 5.3, with the Fructerman-Rheingold energy protocol, was used for network mapping.
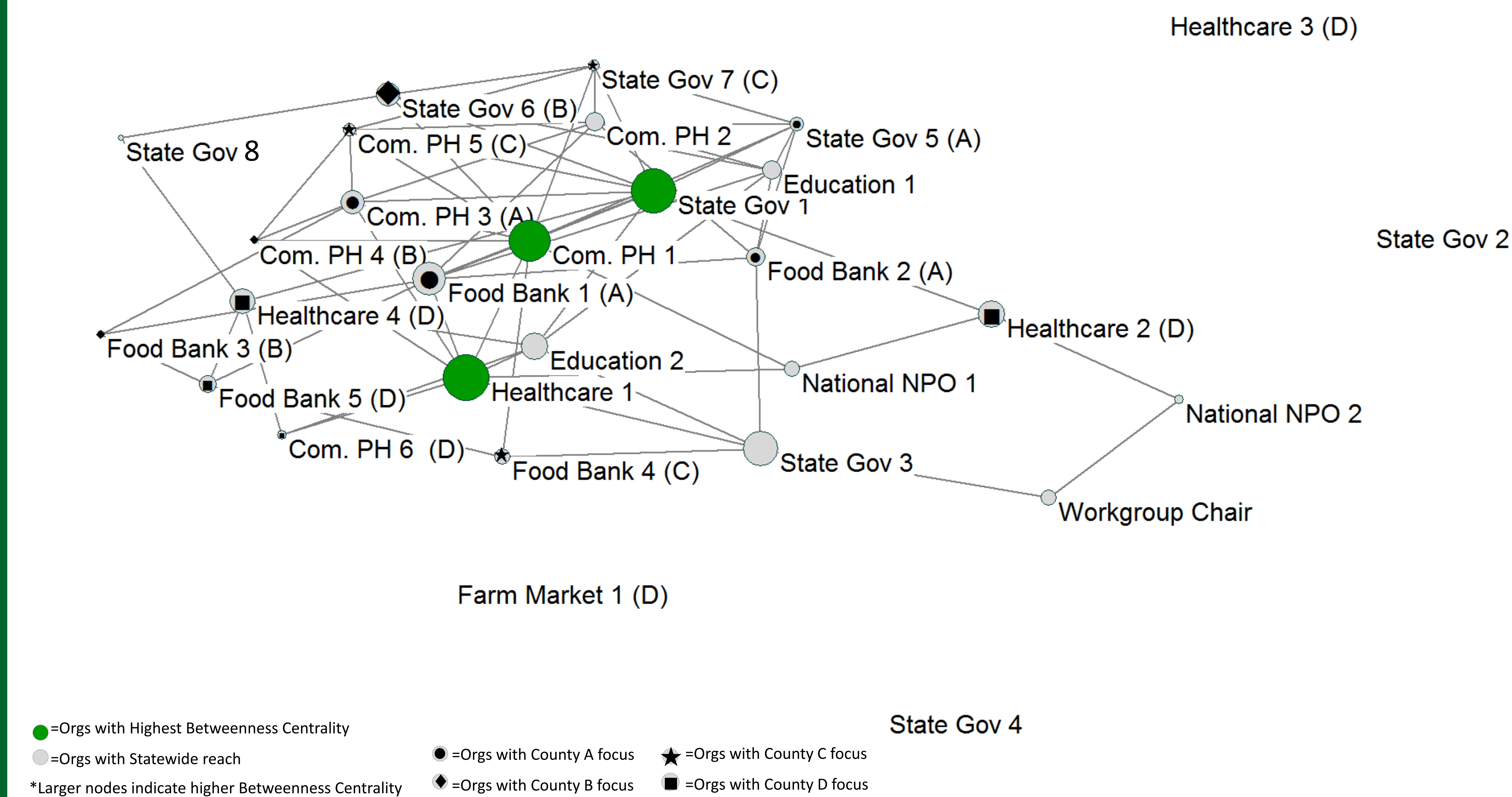
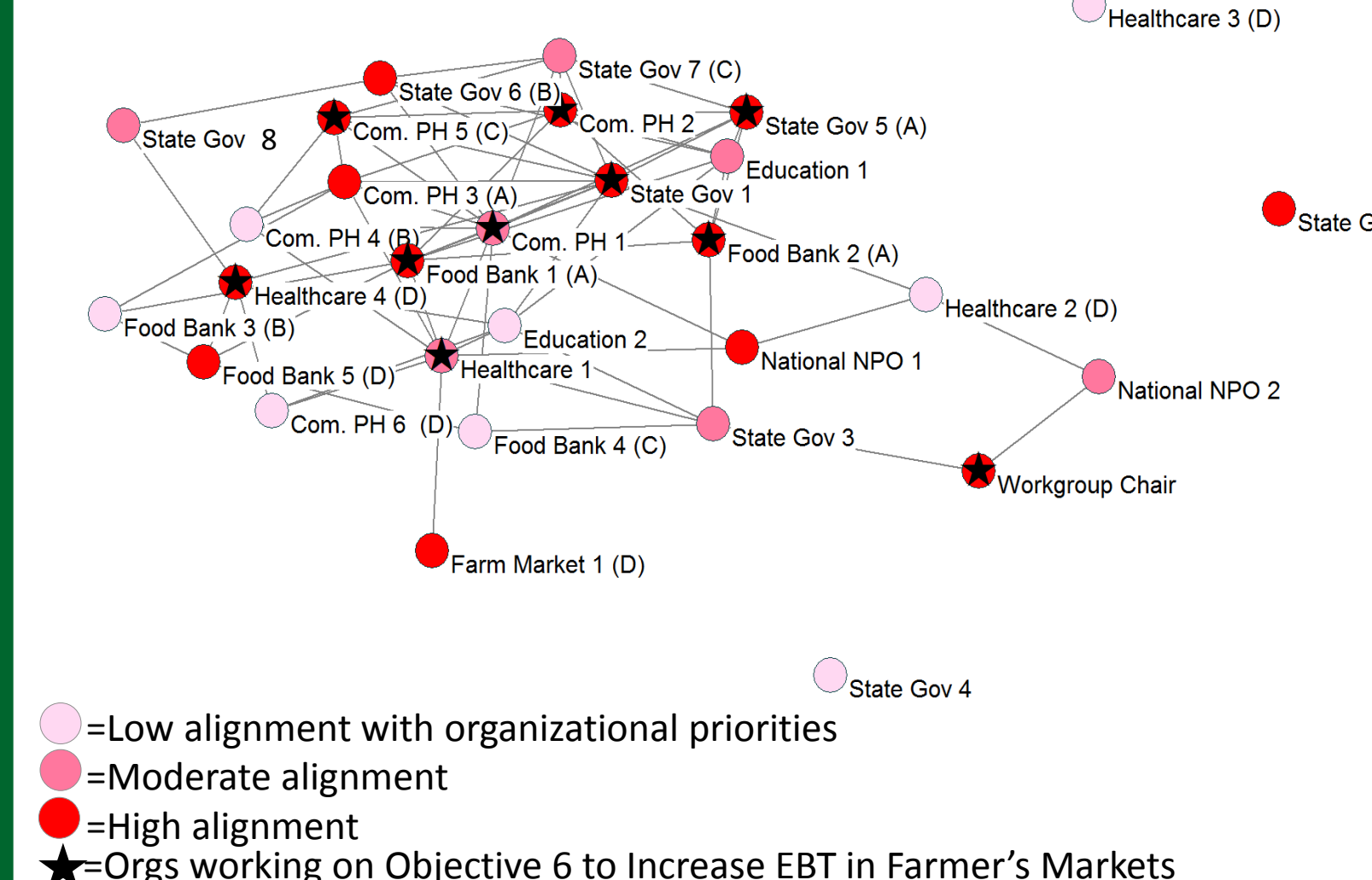## RESULTS

Workgroup Communication (monthly or more often)*

- ● =Orgs with Highest Betweenness Centrality
- ○ =Orgs with Statewide reach
- ● =Orgs with County A focus
- ★ =Orgs with County C focus
- ◆ =Orgs with County B focus
- ■ =Orgs with County D focus

*Larger nodes indicate higher Betweenness Centrality

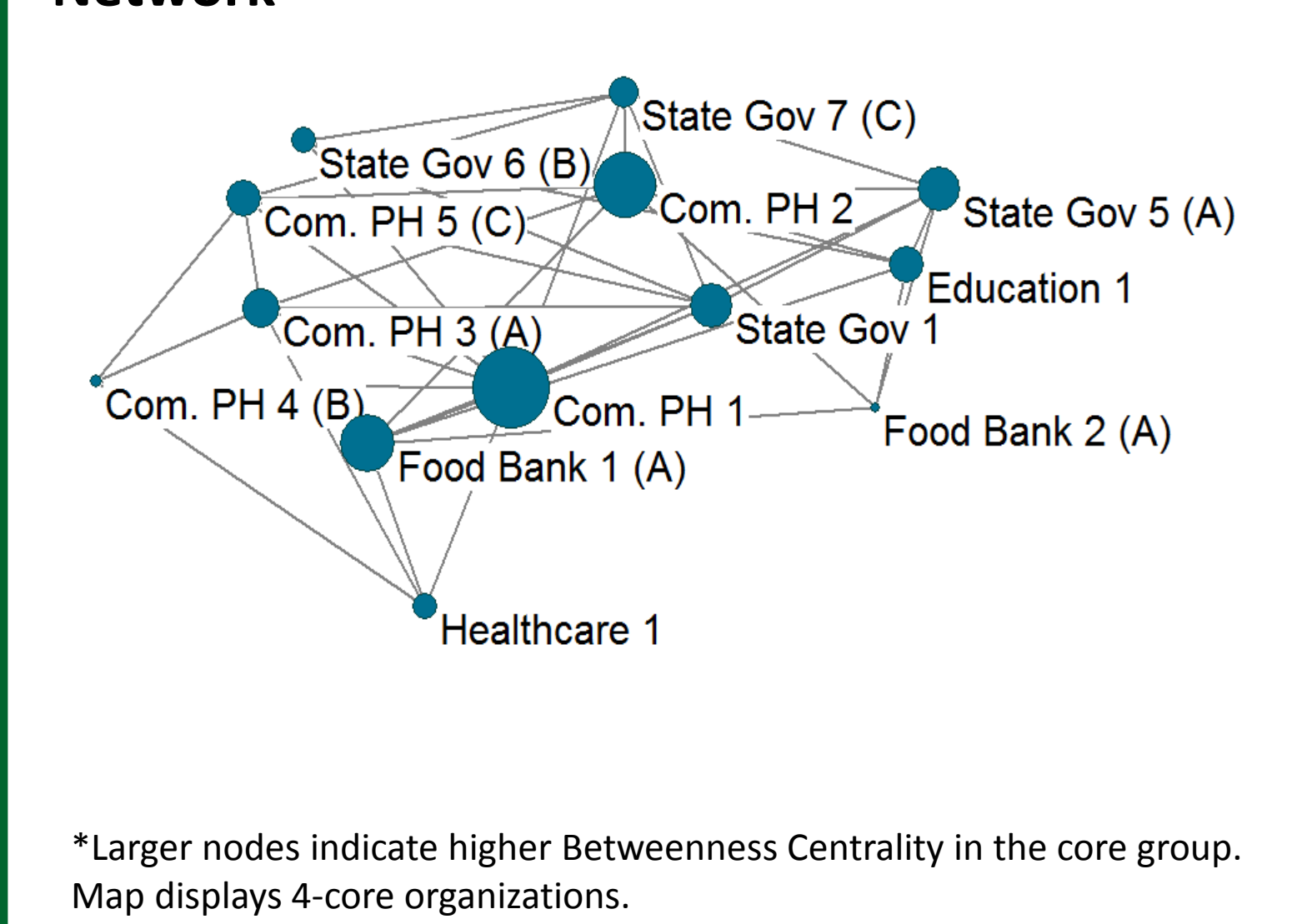| Network Measures (Definitions)	Communication Network	Collaboration Network
Density (The interconnectedness of a network, Range: 0=no connections to 1=all organizations are connected)	0.1403	0.1625
Diameter (The shortest distance between the 2 furthest organizations in the network)	5	4
Betweenness Centralization (The degree with which network connections are brokered by one single organization, Range: 0=not brokered, 1=one organization is connecting all others)	0.1799	0.1150
Betweenness Centrality – Organizations with Highest Scores (The role individual organizations play in linking other organizations into the network. Range: 0-1. The organizations with the highest scores are noted.)	• Com. PH 1 (0.2149) • State Gov. 1 (0.1834)	• Healthcare 1 (0.1458) • State Gov. 1 (0.1418) • Com. PH 1 (0.1235)

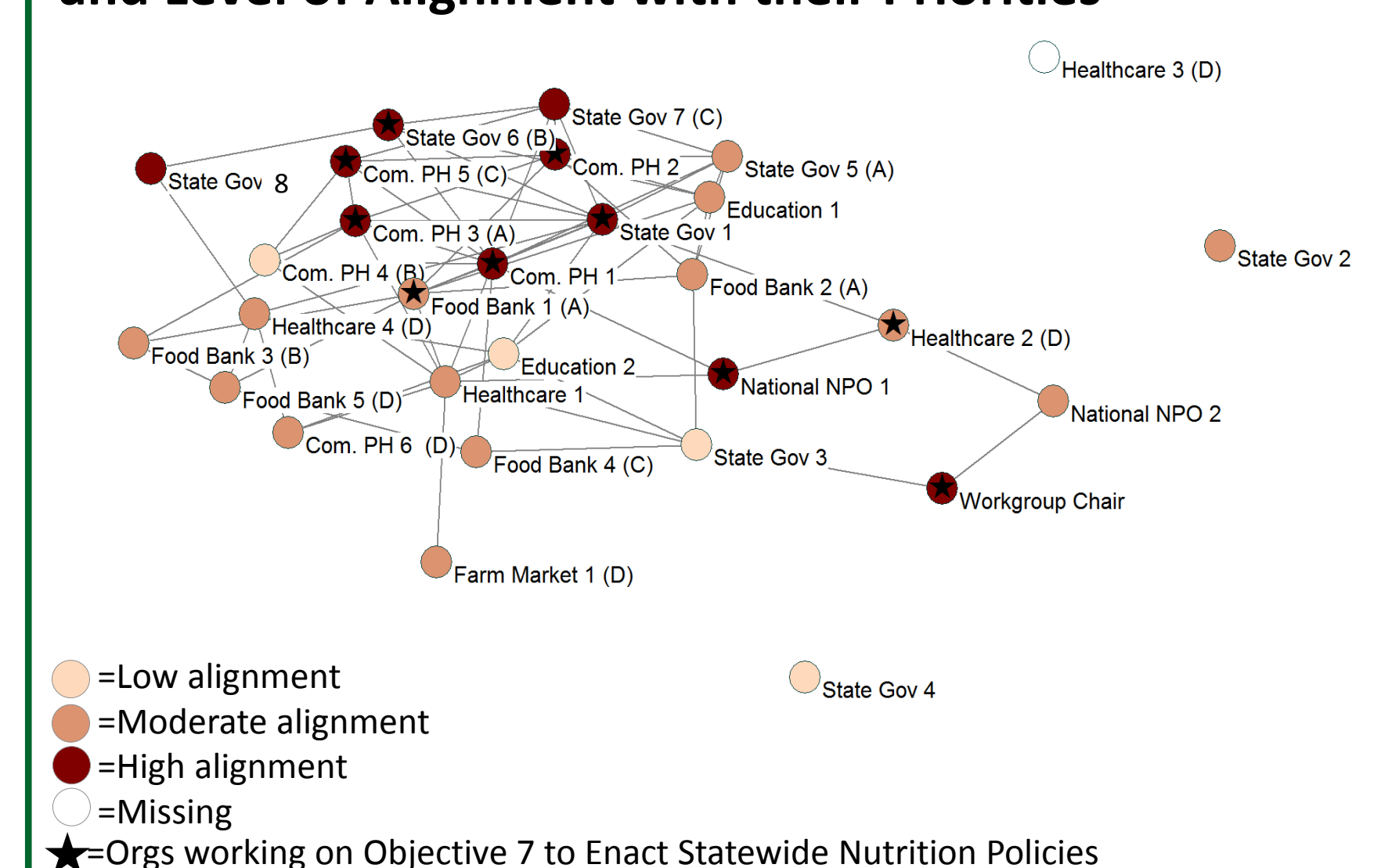### Workgroup Collaboration and Formal Partnerships*

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Organizations Working on Increasing EBT access in Farmers Markets and Level of Alignment with their Priorities

- ○ =Low alignment with organizational priorities
- ● =Moderate alignment
- ● =High alignment
- ★ =Orgs working on Objective 6 to Increase EBT in Farmer's Markets

Breakout of the Core Group of the Collaboration Network*

*Larger nodes indicate higher Betweenness Centrality in the core group. Map displays 4-core organizations.

Organizations Working on Statewide Nutrition Policies and Level of Alignment with their Priorities

- ○ =Low alignment
- ● =Moderate alignment
- ● =High alignment
- =Missing
- ★ =Orgs working on Objective 7 to Enact Statewide Nutrition Policies

DISCUSSION

Communication Map

- The communication map is diffuse. Partners are communicating monthly, but not much more often. For information to travel through the entire network, it needs to pass through at least five organizations.
- Two organizations, one statewide community public health organization and one state government organization, seem to be communicating most with other organizations in the network. These two organizations have missions that align with the PAN Plan objectives.

Collaboration Map

- The collaboration map is slightly denser than the communication map. Only a few organizations have established formal or informal partnerships to accomplish the workgroup objectives.
- There was low Betweenness Centralization showing that there is no central organization brokering the network's collaboration. Connections are formed around three main organizations with resources and funding to share.
- Organizations are working with other organizations with similar functions (e.g. food banks are working together, and community public health organizations are working together). There is some clustering around organizations' county of focus.
- Almost half of the organizations indicated that increasing EBT in farmers markets was a high priority for their organization and about a third are working on the objective. However, these organizations are not closely collaborating to make progress on this objective.
- A core group of 13 organizations is collaborating on nutrition access issues. Two statewide community public health orgs are central to the core. State Government 1 and Healthcare 1 are engaging with the core group but are also connecting to partners outside the core.
- Many of the core group members are working on increasing access to EBT in farmers markets, and statewide policies to reduce access to unhealthy foods and increase access to healthy foods, and indicated that these objectives are well-aligned with their organizations' priorities.

CONCLUSIONS

- At the PAN Plan's mid-point, collaboration and communication among workgroup partners is low.
- Achieving policy and environmental changes to reduce health disparities requires collaboration and communication among a variety of diverse partners. However, partnerships are difficult to sustain over time. Organizations have competing priorities and lack time needed to maintain these strong connections.
- Organizations with dedicated staff and resources to share are better connected than others. These organizations should be leveraged to enhance workgroup efforts.
- Network mapping is a valuable tool for gauging intermediate progress on policy and systems changes, and guiding workgroup efforts.

ACKNOWLEDGEMENTS