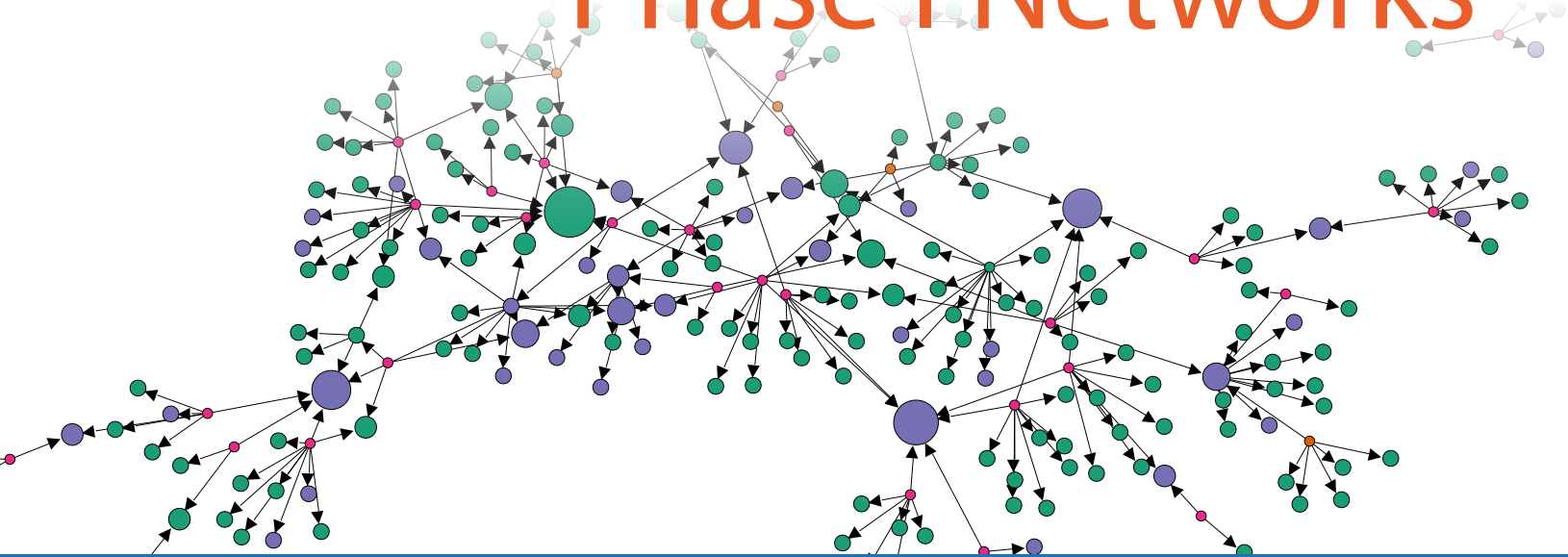


ReThink Health Frontiers in Sustainable Financing and Health System Stewardship Baseline Network Assessments

Phase I Networks



July, 2015



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Acknowledgements

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Center for Public Health Systems Science

GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK



Washington University in St. Louis

Executive Summary

Health reform in the United States is a complex undertaking requiring the cooperation of diverse stakeholders and the examination of multiple interdependent systems. To facilitate this process, ReThink Health embarked on a two-phase project, with support from the Robert Wood Johnson Foundation and the Rippel Foundation, to explore the frontiers of health system stewardship and sustainable financing. This project sought to examine how innovators can develop a more dynamic view of their local health systems, identify novel ways to finance their work, and create the conditions for diverse—often competitive—stakeholders to form effective stewardship teams.

With so much about the health landscape in flux, it is critical to first understand how various organizations currently collaborate as well as the flow of information and financial resources among them. Social network analysis is well-suited to describe these relationships and assess the composition of stewardship teams for leading regional reform initiatives.

This document summarizes early findings from three separate feasibility studies, all of which use classical methods of organizational network mapping to reveal patterns about the frontiers of health system stewardship and financing. Each section was designed as a stand-alone report that can be disseminated separately to each respective audience. As a group, these three reports discuss the feasibility of mapping connections among organizations at the following three levels:

Regional Structures for Stewardship and Financing (ARCHI)

- Who is most important?
- Who is actively working together?
- Who is missing?
- How are resources flowing?

Local Links to Wider Enablers and Role Models (Profiles)

- Who enables your success (i.e., info, political will, money)?
- Which peers influence your thinking and action?

National Catalysts for Regional Health Reform

- Which organizations are part of this emerging network?
- Is there a clear core group?
- If so, how well connected are they to one another?

Regional Structures for Stewardship and Financing: Focus on Atlanta

This report summarizes an assessment of the Atlanta Regional Collaborative for Health Improvement (ARCHI), a local multi-sector partnership consisting of hospital, public health, regional planning, academic, non-profit, and philanthropic organizations with the goal of improving health in the Metro Atlanta area via alignment of health priorities and local investments. ARCHI served as a pilot site to test and refine the methods and measures involved in examining health system reform at the local level. ARCHI demonstrated a strong core of three leadership organizations that formed the foundation of a mostly well-connected main component in their general working relationship and contact networks. However, these networks revealed many disconnected and loosely-connected organizations, likely due to a low level of engagement by organizations that were less formally aligned. Money and information flow networks demonstrated loosely connected hubs, indicating that most organizations were exchanging resources with a few centralized providers. Recommendations focused on engagement of peripheral organizations, considerations for the structures of the money and information flow networks, simplification of the evaluation tool, and selecting appropriate organizational representatives for assessment.

Local Links to Wider Enablers and Role Models

The second report summarizes a project aimed to identify multi-sector partnerships and examine the network of organizations that facilitate their work via 1) enabling them with resources such as ideas, mentorship, and money, and 2) influencing their thinking and action by acting as role models. Of the 961 organizations represented in these networks, 62 were nominated as both enablers and role models. These dual-role organizations formed the foundations of the enabler and role model networks that were otherwise sparsely connected, with several small clumps of organizations separated from the main components. The fragmented and sparse nature of these networks speaks to a lack of consensus on which organizations are enablers and role models. Partnerships that were hubs of these separated clumps may be less likely to take on catalyst roles in the future than those who were connected to the main components.

National Catalysts for Regional Health Reform

The third report summarizes a project aimed to examine relationships between organizations that might serve as Core Catalysts to facilitate progress toward widespread effort for regional health reform. The Core Catalysts demonstrated a strongly connected network with a high number of collaborating ties, and many organizations connected by more than one relationship. Recommendations focused on selecting appropriate organizational representatives for assessment.

Intended Use

As a feasibility study, the purpose of these reports is to provide stakeholders with network maps to inform their organizational strategy, raise awareness of the organizational landscape, strengthen connections between organizations, efficiently disseminate information, and evaluate changes. As with any evaluation, measurement of relationships is not perfect, and these initial maps may not include organizational links that may actually exist, though they do provide useful information for strategic planning.

ReThink Health Frontiers in Sustainable Financing and Health System Stewardship Baseline Network Assessments

Regional Structures: ARCHI



July, 2015



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We would like to extend our sincere appreciation to the Atlanta Regional Collaborative for Health Improvement for participating in this evaluation.

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Introduction

Health reform in the United States is a complex undertaking requiring the cooperation of diverse stakeholders and the examination of multiple interdependent systems. To facilitate this process, ReThink Health embarked on a two-phase project, with support from the Robert Wood Johnson Foundation and the Rippel Foundation, to explore the frontiers of health system stewardship and sustainable financing. This project sought to examine how innovators can develop a more dynamic view of their local health systems, identify novel ways to finance their work, and create the conditions for diverse—often competitive—stakeholders to form effective stewardship teams.

With so much about the health landscape in flux, it is critical to first understand how various organizations currently collaborate as well as the flow of information and financial resources among them. Social network analysis is well-suited to describe these relationships and assess the composition of stewardship teams for leading regional reform initiatives.

This particular project focused on one region as a pilot site to test and refine the methods and measures involved in examining how network mapping techniques can reveal practical insights about how organizations are connected, and how resources flow among them to drive regional health reform.

The Atlanta Regional Collaborative for Health Improvement (ARCHI) was recommended as the pilot site. ARCHI is a partnership of hospital, public health, regional planning, academic, non-profit and philanthropic organizations. Their goal is to improve health in the Metro Atlanta area via alignment of health priorities and local investments. ARCHI was chosen as the pilot because it was a mature enough collective to have a formal steering committee and membership process in place with a diverse set of partners, but was still new enough so that it should demonstrate noticeable evolution over the course of a year. ARCHI had an existing working relationship with ReThink Health using the ReThink Health System Dynamics Model to examine Atlanta's health system. This close relationship facilitated ARCHI's participation as a pilot region.

The findings of this report serve as a snapshot of ARCHI's organizational structure as it appeared in the summer of 2014. This snapshot can be used as 1) an assessment of the ARCHI collaborative that stakeholders may use to evaluate the collaborative and make decisions moving forward, and 2) a baseline measurement to compare with future assessments to track the growth and evolution of the ARCHI network.

Methods

A web-based survey was administered to the ARCHI membership from June through August of 2014. The survey was sent in two waves:

ARCHI membership: Lead agency, leadership team, steering committee, signed organizational partners (organizations that are formal ARCHI members), and participants (individuals who have attended at least one event and are not yet formal partners);

1. Snowball: Named by at least 2 participants in wave 1 as an important organization or one that they worked with.
2. The data for this assessment were collected on individuals representing organizations. Responses from organizations that were represented by multiple individuals were collapsed by organization for analysis.

Network analysis was the primary method of inquiry for this assessment; that is, the relationships between organizations and what those relationship structures might mean for ARCHI was of the greatest interest. Therefore, most of the methods and findings described herein will focus on relationships and exchanges between organizations, as well as characteristics of the organizations themselves.

Key Measurements

Participants were asked the following three questions about their relationships:

- **Work With:** What organizations or individuals have you worked with in the last 12 months on issues related to health care transformation and improvement in the Atlanta region? (Participants were provided 10 spaces to list partners.)
- **Contact:** For the organizations/individuals you named earlier, how often have you had direct contact with each of the following individuals within the last 12 months? [Response options were 1) No Contact, 2) Yearly, 3) Quarterly, 4) Monthly, or 5) Weekly or more.]
- **Resource Flow:** Please indicate up to 10 organizations that you provided the following resources to or received them from in the last 12 months, as well as the direction that these resources flow. [Participants were asked to respond with regard to money and information, with responses options of 1) We provide to them, 2) They provide to us, 3) Both, or 4) Neither.]

One question asked participants who they thought was important for achieving ARCHI's goal of healthcare transformation and improvement in the Atlanta region. Feedback from respondents indicated that this question was difficult to answer because of the desire to indicate that all involved organizations are important. While the responses to this question were used to develop the wave 2 participant list and populate the Contact question described above, they were not formally analyzed.

Participants were asked the following question in order to measure any gaps in the network:

- **Who is missing:** Who are the organizations/individuals who are *not currently involved* in the collaborative, but are very important to this work?

Participants were also asked to indicate if they had provided or received other resources (financial support, scientific research, legal resources, etc.), though not who they had provided these to or received them from. This information can serve to inform the general exchange activity of organizations in the ARCHI network.

Network Interpretation

Table 1 outlines the network terminology that will be used throughout the rest of the report. Node-level measurements apply to single organizations within the network. Network-level measurements apply to the network as a whole.

Table 1. Network measurement terms.

Node-Level	
Degree	Number of relationships an organization has
In-degree	Number of incoming relationships (i.e. # of donors providing money)
Out-degree	Number of outgoing relationships
Network-Level	
Network Size	Number of organizations in the network
Links	Number of connections (relationships) between organizations
Average Degree	Average number of relationships per organization

Network graphics are often useful for examining relationship structures. Nodes represent organizations and are shown as circles, while links are shown as lines connecting the nodes. Node size is determined by how central it is to the network – here nodes are sized by one of the node-level characteristics described above (degree, in-degree, or out-degree). Some relationships are inherently reciprocal; that is, if A indicates working with B, then B also works with A. The links in these relationships are therefore non-directed. In this case, the degree measurement is appropriate. Other relationships are not reciprocal; for instance, foundations typically provide funding to other organizations, but do not receive money back from their grantees. In this case, the in-degree and out-degree measurements are appropriate.

Node color represents the category the organization belongs to. Organizations in the ARCHI network fall into the following categories:

- Academia/Education
- Behavioral/Public Health
- Business
- Community
- Government
- Health Care
- Lead Partner
- Philanthropy/Foundation
- United Way Grantee

Findings

ARCHI Composition

Organizational Response Rates

Table 2 breaks down the organizational response rate by membership level. When excluding Participant and Snowball organizations that have low levels of engagement in the network and may not be familiar with ARCHI and its activities, the total organizational response rate was 63%. Given a less than complete response rate, links that may actually exist between non-responding organizations cannot be revealed in this analysis, though any links reported by a participating organization with a non-responding organization were included.

Organizational Resource Exchange

Participants reported sharing a diverse set of resources to aid in their work on health care transformation and improvement. The percentage of organizations receiving or providing specific types of resources is noted in Table 3. Organizations most frequently indicated *receiving* resources related to scientific research and financial support and *providing* training resources and data and evaluation tools.

Table 2. Organizational response rates.

	Participated	Out of	%
Lead Agency	3	3	100%
Participant	15	62	24%
Signed Organizational Partners	13	23	57%
Snowball	2	6	33%
Steering Committee	1	1	100%
Total	34	95	

Table 3. Organizations reporting resources they have received or provided (n=32).

	Received	Provided
Scientific research/evidence-based literature	69%	56%
Financial support	69%	50%
Data and evaluation tools	59%	59%
Training resources	56%	69%
Clients/patient referrals	41%	44%
Information technology support	41%	31%
Personnel/staffing	34%	56%
Communication and translation resources	34%	38%
Financial/investment advice	19%	19%
Legal resources	6%	19%

Individual Characteristics

Table 4 shows individual respondents’ primary roles in transforming and improving the local health system in Atlanta. A quarter of respondents identified their primary role as a Stewardship/Steering/Planning team member. Several respondents also noted primary roles in health care delivery and public health program/policy.

Table 4. Primary role.

	N	%
Stewardship/Steering/Planning team member	12	25
Health care delivery	8	16
Public health program/policy	8	16
Social service	5	10
Financial sponsor	4	8
Educator	1	2
Other	11	22
Total	49	

Tables 5 and 6 show the length of time respondents had been involved with ARCHI and health care transformation in Atlanta respectively. Respondents most frequently reported being associated with ARCHI between 18 months and 2 years and being involved with Atlanta health care transformation for 10 or more years.

Table 5. Length of time associated with ARCHI.

	N	%
Between 18 months and 2 years	22	45
Between 1 year and less than 18 months	14	29
Less than 6 months	6	12
I don’t feel that I am associated with ARCHI	4	8
Between 6 months and less than 1 year	3	6
Total	49	

Table 6. Length of time involved with health care transformation in Atlanta.

	N	%
10 or more years	17	35
Between 1 year and less than 3 years	11	23
Between 3 years and less than 6 years	8	17
Between 6 years and less than 10 years	8	17
Less than 1 year	4	8
Total	48	

Level of involvement is reported in Table 7. Over half of the respondents reported being moderately or highly involved with ARCHI and nearly three-quarters reported being moderately or highly involved with health care transformation and improvement in general.

Table 7. Level of involvement with ARCHI and health care transformation and improvement.

	Not Involved N (%)	Slightly Involved N (%)	Moderately Involved N (%)	Highly Involved N (%)
ARCHI (N = 40)	4 (10%)	14 (35%)	12 (30%)	10 (25%)
Health Care Transformation & Improvement (N = 46)	2 (4%)	10 (22%)	18 (39%)	16 (35%)

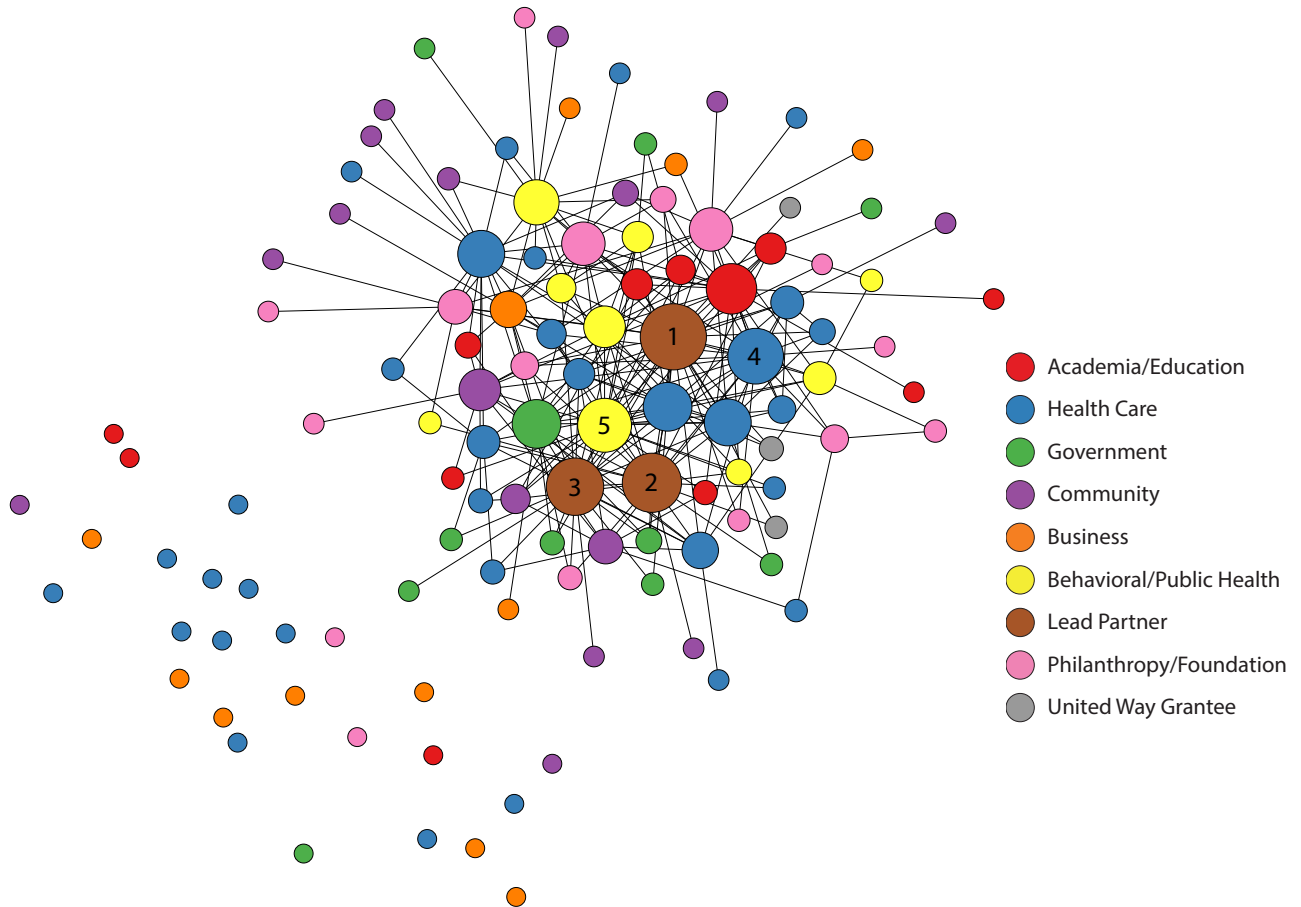
ARCHI Networks

Static figures for all of the networks are displayed below. Web links lead to interactive graphics for further exploration.

Work With

Figure 1 shows the Work With network labeled with the top five organizations by degree (Table 8).

Figure 1. Work With network. Nodes sized by degree.



<http://cphss-addons.brown.wustl.edu/RTH/ARCHI/WorkWithDegree/>

Table 8. Highly connected organizations in the Work With network.

Rank	Organization	Degree
1	United Way of Metropolitan Atlanta	27
2	Georgia Health Policy Center (GHPC)	23
3	Atlanta Regional Commission (ARC)	22
4	Kaiser Permanente	21
5	Fulton County Department of Health & Wellness	20

The network was made up of 115 organizations with 249 links between them, for an average degree of 4.3. This means that organizations worked with an average of 4.3 other organizations on issues related to health care transformation and improvement in the Atlanta region.

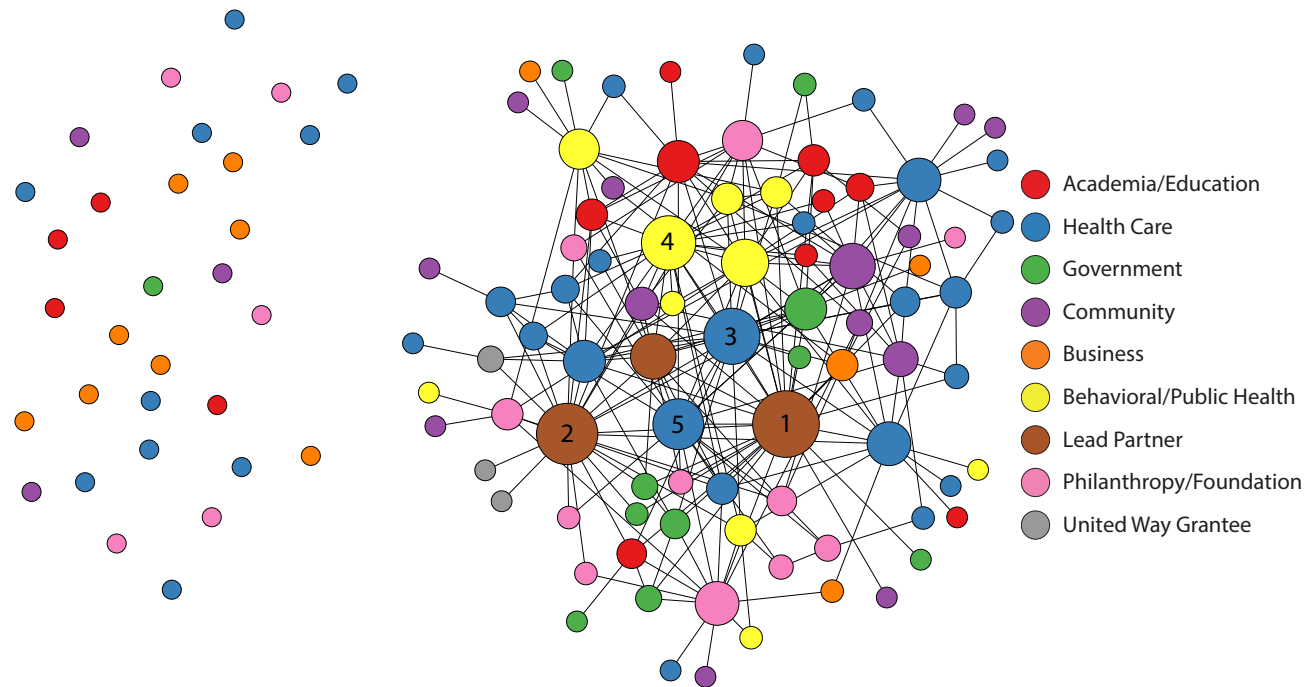
The structure of the network consisted of a large, mostly well-connected main component, 26 isolates (non-connected organizations), and 27 pendants (organizations connected to the network with only one tie). The isolates were organizations that were invited to participate, did not indicate working with anyone (likely because they did not participate), and no other organizations indicated working with them. The three lead partner organizations anchored the network with the most connections.

When examining connections within types of organizations, Businesses and United Way Grantees demonstrated no connections between their organizations. That is, there were no connections between any of the business organizations or between any of the United Way Grantees. Sparse connections were found within Academia/Education, Government, Foundations, and Community organization types. Organization types that demonstrated a greater number of within-type connections were Health Care, Lead Partners, and Public/Behavioral Health.

Contact

Figure 2 shows the Contact network labeled with the top five organizations by degree (Table 9). Organizations demonstrating contact on at least a quarterly basis were considered linked.

Figure 2. Contact network. Nodes sized by degree.



<http://cphss-addons.brown.wustl.edu/RTH/ARCHI/ContactDegree/>

Table 9. Highly connected organizations in the Contact network.

Rank	Organization	Degree
1	Atlanta Regional Commission (ARC)	27
2	United Way of Metropolitan Atlanta	24
3	Grady Health System	21
4	Fulton County Department of Health & Wellness	20
5	Kaiser Permanente	18

The network was made up of 117 organizations with 240 links between them, for an average degree of 4.1. This means that organizations were in at least quarterly contact with an average of 4.1 other organizations in the network.

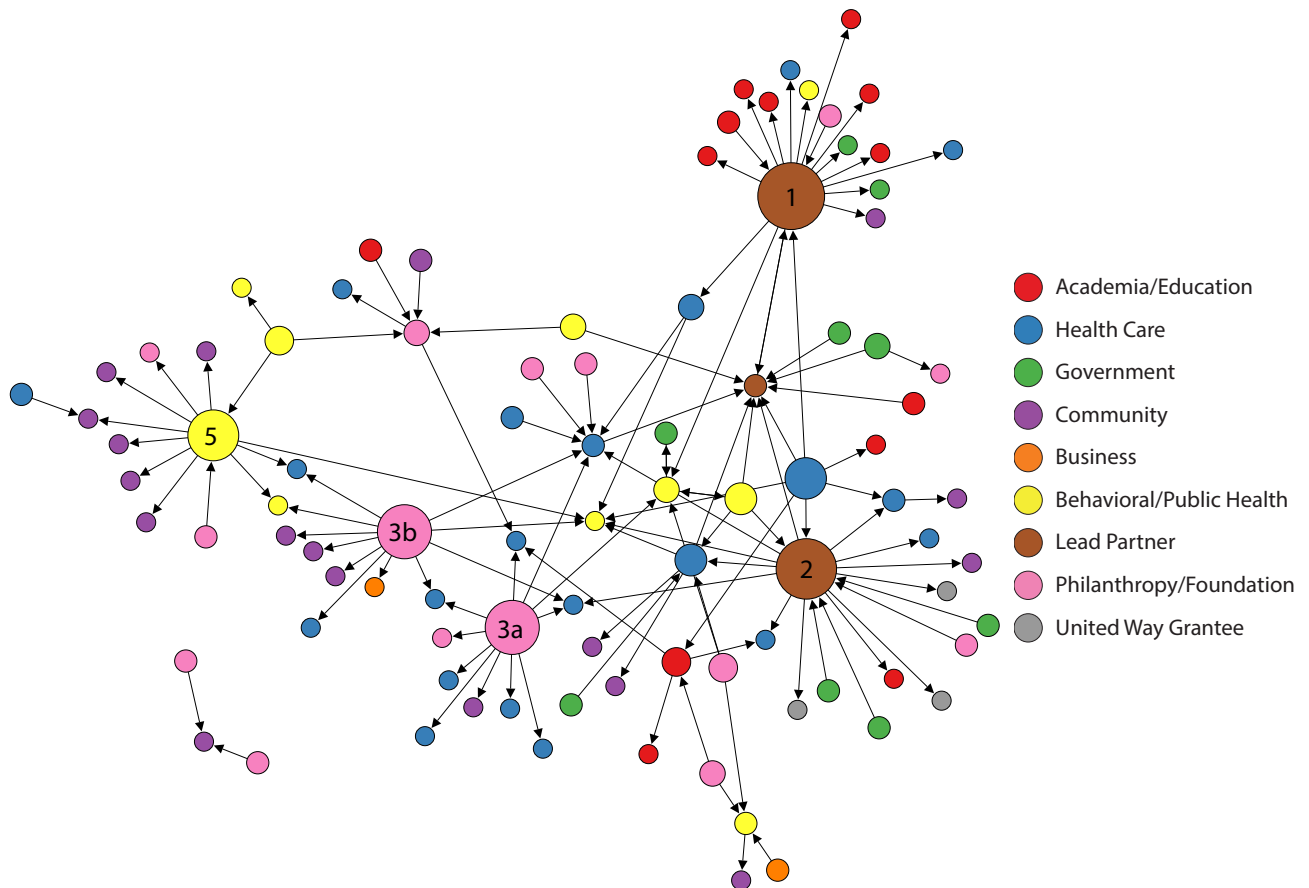
The structure of the Contact network was similar to that of the Worked With network; several isolates (31), several pendants (24), and a large, mostly well-connected main component. In this network, the Behavioral/Public Health organizations were closely connected, while the Health Care organizations were more evenly dispersed.

Similar to the Work With network, there were no connections within the Businesses and United Way Grantee organization types. Sparse connections were found within Academia/Education, Government, Community, Government, and Foundations. A greater number of within-type connections were found for Health Care, Lead Partners, and Public/Behavioral Health.

Resource Flow: Money

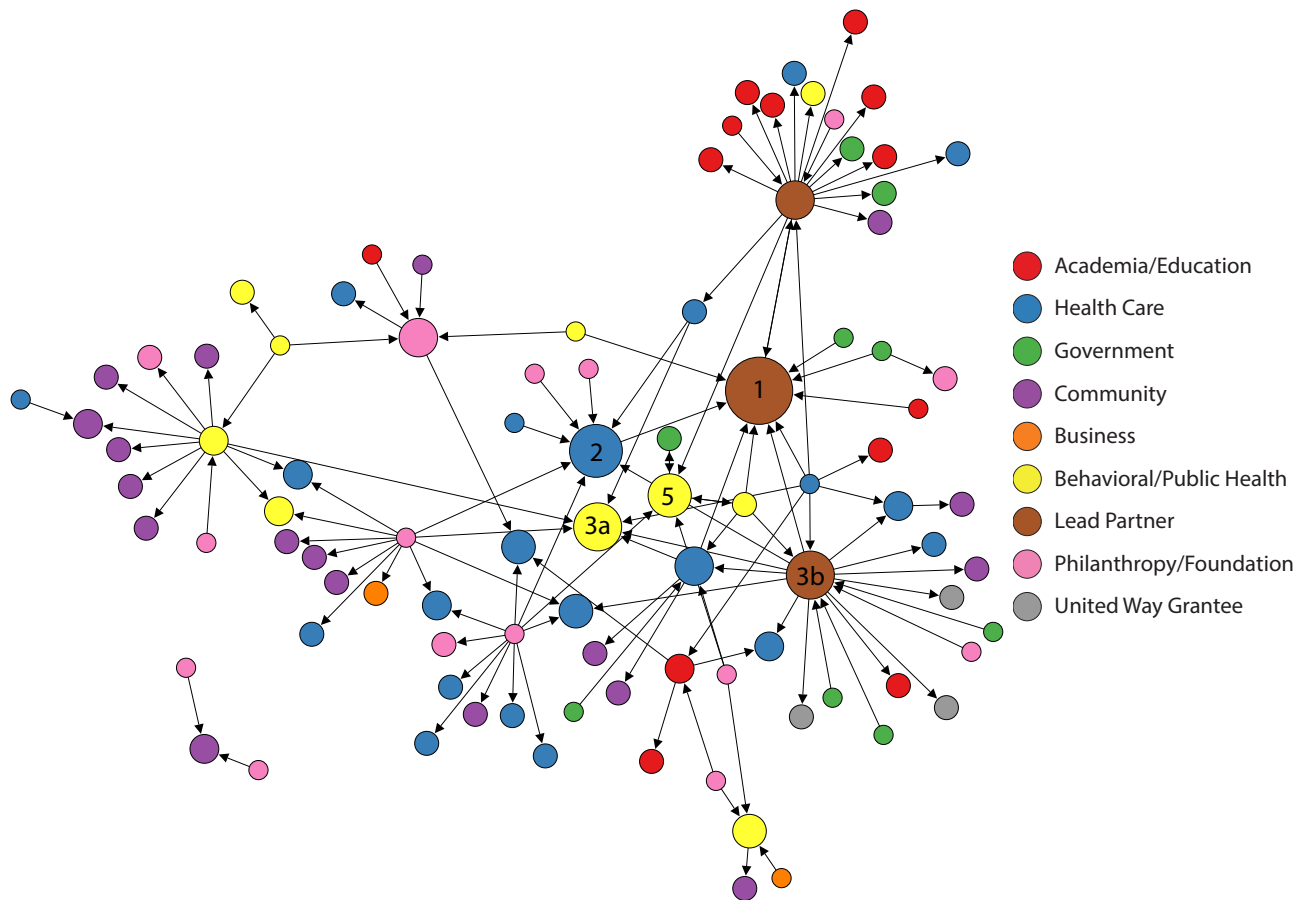
Figures 3 and 4 show the Money network, and Tables 10 and 11 indicate the top organizations by out-degree and in-degree, respectively. Isolates were dropped for this network in order to focus only on those who exchanged money. Money exchanges within the ARCHI network were indicated for 94 organizations, with 120 links between them for an average degree of 2.6.

Figure 3. Money network, nodes sized by out-degree.



The Money network demonstrated a pattern of loosely-connected hub-and-spoke regions, with separation between the five top funders, only two of which were foundations. This pattern suggests that organizations tended to receive funding from a single (or few) donors, at least within the ARCHI network. The large funding organizations did not provide money to each other. Health Care organizations (which include insurers) did not appear to play a large role in providing funding.

Figure 4. Money network, nodes sized by in-degree.



Large nodes in Figure 4 demonstrated diversity in their funding, and may also have had a more diverse agenda.

Table 10. Top funders in the ARCHI network.

Rank	Organization	Out-degree
1	Atlanta Regional Commission (ARC)	15
2	United Way of Metropolitan Atlanta	13
3a	Jesse Parker Williams Foundation	11
3b	The Community Foundation for Greater Atlanta	11
5	Fulton County Department of Health & Wellness	10

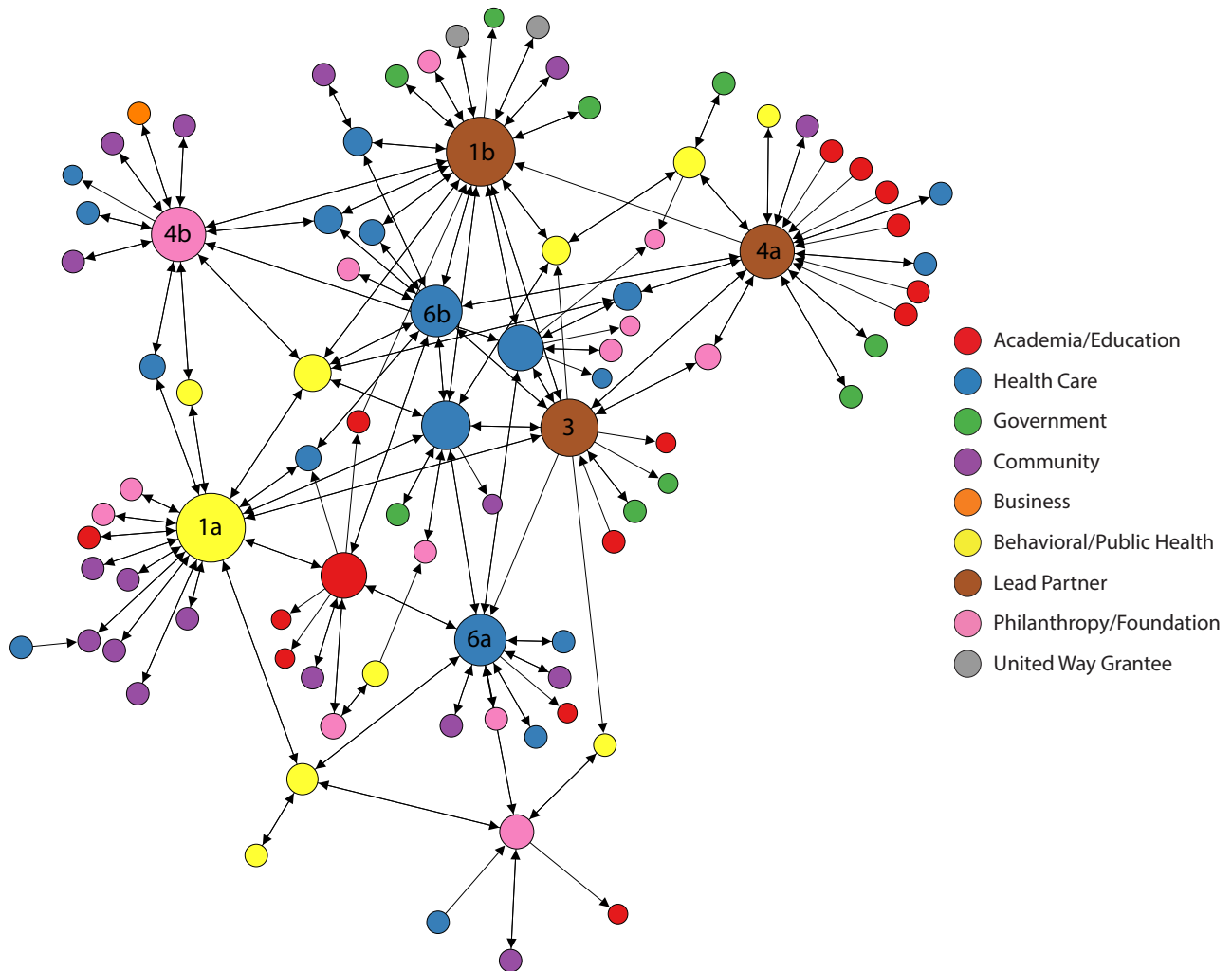
Table 11. Top funding recipients in the ARCHI network.

Rank	Organization	In-degree
1	Georgia Health Policy Center (GHPC)	10
2	St. Joseph’s Health System	7
3a	Center for Black Women’s Wellness	6
3b	United Way of Metropolitan Atlanta	6
5	Emory University: Fuqua Center	5

Resource Flow: Information

Figures 5 and 6 show the Information network, and Tables 12 and 13 indicate the top organizations by out-degree and in-degree, respectively. As with the Money network, isolates were dropped from this network in order to focus only on those who exchanged information. Information exchanges within the ARCHI network were indicated for 89 organizations, with 218 links between them for an average degree of 4.9.

Figure 5. Information network, nodes sized by out-degree.

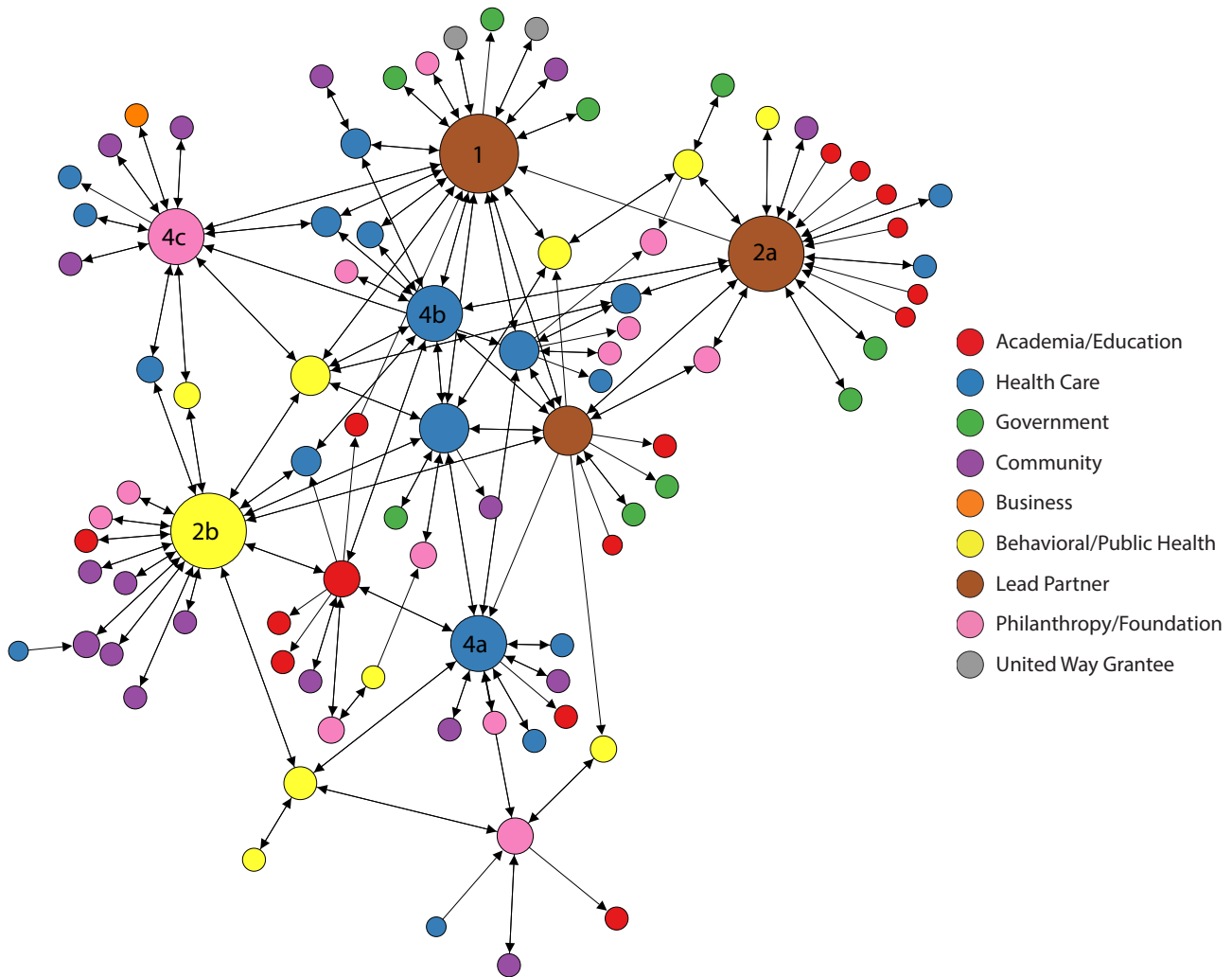


<http://cphss-addons.brown.wustl.edu/RTH/ARCHI/InformationOutdegree/>

Table 12. Top information providers in the ARCHI network.

Rank	Organization	Out-degree
1a	Fulton County Department of Health & Wellness	17
1b	United Way of Metropolitan Atlanta	17
3	Georgia Health Policy Center (GHPC)	13
4a	Atlanta Regional Commission (ARC)	12
4b	The Community Foundation for Greater Atlanta	12
6a	Children's Healthcare	11
6b	Kaiser Permanente	11

Figure 6. Information network, nodes sized by in-degree.



<http://cphss-addons.brown.wustl.edu/RTH/ARCHI/InformationIndegree/>

Table 13. Top information recipients in the ARCHI network.

Rank	Organization	In-degree
1	United Way of Metropolitan Atlanta	18
2a	Atlanta Regional Commission (ARC)	17
2b	Fulton County Department of Health & Wellness	17
4a	Children's Healthcare	11
4b	Kaiser Permanente	11
4c	The Community Foundation for Greater Atlanta	11

Similar to the Money network, the Information network also demonstrated a pattern of hub-and-spoke regions. However, most of the information exchanges were mutual, as demonstrated by the similarity in node sizes between the out-degree and in-degree representations. More exchange was also demonstrated between the large donors than with the Money network.

Who is Missing?

A total of 95 organizations were named as important to ARCHI partnership but were perceived as not involved. Table 14 displays the 16 organizations that were nominated more than once. Note that some of the organizations present in the table are, in fact, ARCHI members: City of Atlanta, Children’s Healthcare, and DeKalb County Schools.

Table 14. Potential organizations to recruit to ARCHI.

Organization Name	# of Nominations
Georgia Department of Community Health	5
City of Atlanta	4
Georgia Department of Education	4
American Cancer Society	3
Children’s Healthcare	3
DeKalb County Schools	3
Georgia Charitable Care Network	3
Georgia Governor’s Office	3
AID Atlanta	2
Arthur M. Blank Family Foundation	2
Atlanta Federal Reserve	2
Atlanta Mayor	2
Emory University: Healing Community Center	2
Georgia State Legislature	2
Good Samaritan Health Center	2
Robert Wood Johnson Foundation	2

Conclusions and Recommendations

This pilot examination of ARCHI lends itself to conclusions and recommendations for two separate considerations; 1) implications for ARCHI specifically, and 2) recommendations for further assessments.

Implications for ARCHI

Four major themes appeared in the assessment of the relationships between ARCHI organizations:

1. Difficulty in recruiting participants for the assessment,
2. Isolates and pendants in the Work With and Contact networks,
3. Fragmentation of the Money and Information networks, and
4. Composition of funders in Money network.

Given the four themes, the following recommendations for ARCHI are offered:

- Consider organizations that are isolated or loosely connected to the network. This isolation occurred in most cases because they did not participate in the assessment and no other organizations indicated connections with them. Are they potentially valuable members? If so, determine the best way to engage them and increase their participation.
- Consider the structure of the Money and Information networks. Does this speak to fragmentation and challenges to collaborative funding, or is this an efficient way to distribute money and disseminate information? Are organizations receiving funding from the appropriate donors?
- Consider the organization types who were the large funders. Should insurers (part of the Health Care group) play a more active role in funding? Only two foundations played a large role as funders; greater engagement from foundations will likely facilitate the achievement of ARCHI's goals.
- Given that ARCHI is a relatively new and evolving network, consider an additional assessment in the future in order to demonstrate growth and progress in organizational partnership.

Finally, the three Lead Partner organizations (Georgia Health Policy Center, Atlanta Regional Commission, and United Way of Metropolitan Atlanta) consistently played leadership roles in the ARCHI network, particularly with regard to working relationships and information dissemination. Shared leadership in large networks often speaks to increased capacity in terms of diversity of resources such as talent, ideas, and funding. Continuing this strong partnership in leadership is encouraged for the continuing success of ARCHI.

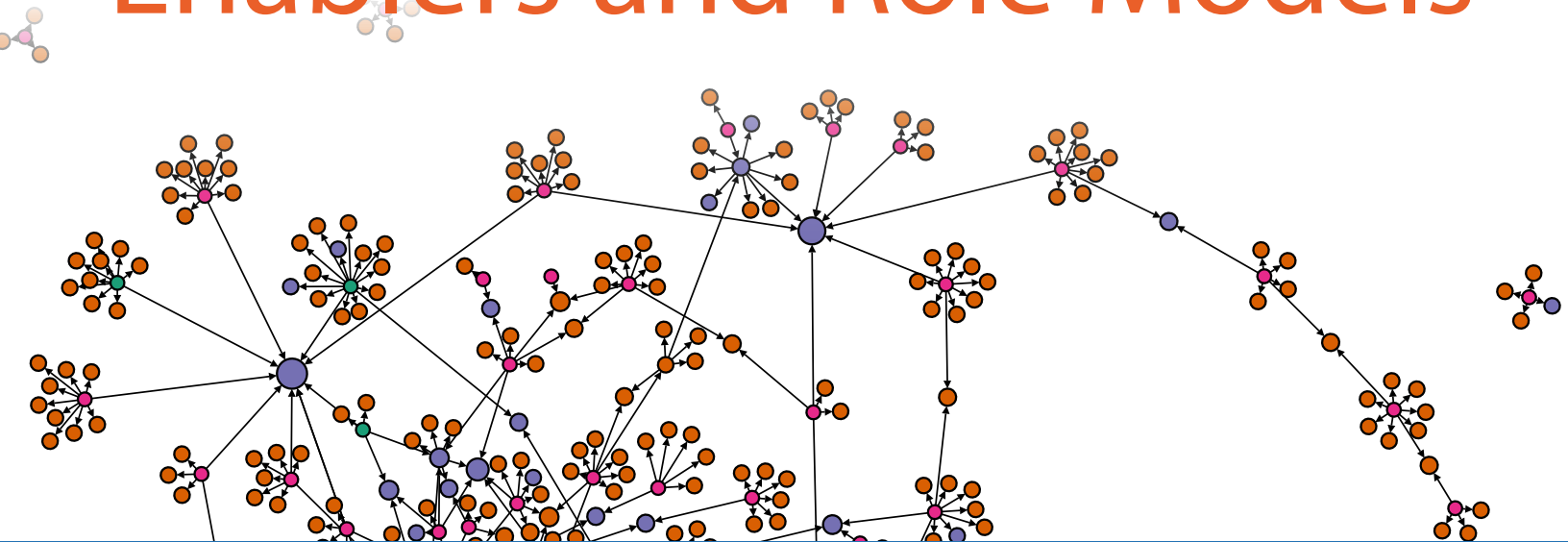
Recommendations for Further Assessments

Given that the assessment of ARCHI was a pilot, much of what was learned here can be applied to make future assessments with both ARCHI and other local and regional assessments more feasible. Recommendations from the experience with ARCHI include:

- Have a strong on-the-ground liaison with the group to be assessed. The ARCHI liaison was very responsive to the assessment, strongly connected to the ARCHI steering committee, effectively communicated the needs and abilities of the ARCHI partners responding to the survey, and thus was able to direct the assessment so that it would answer questions of interest to the ARCHI collaborative. This kind of support is crucial to the success of the assessment.
- Make the assessment survey more user-friendly. Recommended changes include: 1) shift the wording from academic to plain-language, 2) remove intimidating IRB language and formatting from recruiting materials, 3) switch from a free-recall to a roster format for the network questions; this presents all of the members of the network instead of requiring the respondents to write them in themselves, which greatly reduces both respondent and data collection burdens and increases participation rates, and 4) prioritize the information the survey should collect with an eye to reducing the number of items.
- Organizations are often nested, that is, there may be several departments or schools within a single university, several divisions within a business, etc. Be sure to have the leadership of the participating collaborative carefully consider the structure of the organizations in the membership/participation list before beginning the assessment. If an entire university is named, does the collaborative really work with the university as a whole, or with particular departments? If the latter, adjust the list to accurately reflect the working relationships.
- Since participating individuals generally represent organizations in this kind of assessment, ensure that selected participants are comfortable and qualified to answer for their organizations, and/or include several individuals who can represent the organization. Since individuals sometimes represent several organizations, be clear about which one they are representing for the purpose of the assessment.

ReThink Health Frontiers in Sustainable Financing and Health System Stewardship Baseline Network Assessments

Local Links to Wider Enablers and Role Models



July, 2015



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Center for Public Health Systems Science

GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK



Washington University in St. Louis

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Introduction

Health reform in the United States is a complex undertaking requiring the cooperation of diverse stakeholders and the examination of multiple interdependent systems. To facilitate this process, ReThink Health embarked on a two-phase project, with support from the Robert Wood Johnson Foundation and the Rippel Foundation, to explore the frontiers of health system stewardship and sustainable financing. This project sought to examine how innovators can develop a more dynamic view of their local health systems, identify novel ways to finance their work, and create the conditions for diverse—often competitive—stakeholders to form effective stewardship teams.

With so much about the health landscape in flux, it is critical to first understand how various organizations currently collaborate as well as the flow of information and financial resources among them. Social network analysis is well-suited to describe these relationships and assess the composition of stewardship teams for leading regional reform initiatives.

This stage of the project aimed to identify multi-sector partnerships and examine the network of organizations that facilitated their work via 1) enabling them with resources such as ideas, mentorship, and money, and 2) influencing their thinking and action by acting as role models.

The findings of this report serve as a first look at connections that exist at the national level between multi-sector partnerships interested in health system reform.

Methods

An initial email was sent to over 2,000 individuals inviting them to complete an online profile describing their experiences representing a multi-sector partnership. Recipients were free to forward the invitation to others who they felt it may apply to. Recipients were eligible to participate if they were “part of a multi-sector partnership that is investing in building a healthier, more resilient community.” A multi-sector partnership was defined as encompassing “any organized effort that spans health, health care, and other sectors. Other common labels may include: alliances, collaboratives, coalitions, coordinating committees, backbone organizations, integrators, quarterbacks, stewardship groups, etc.” The profile was open from June through September of 2014, with 137 responses providing network data.

Network analysis was the primary method of inquiry for this assessment; that is, the relationships between organizations and what those relationship structures might mean for ReThink Health was of the greatest interest. Therefore, most of the methods and findings described herein will focus on relationships and exchanges between organizations, as well as characteristics of the organizations themselves.

Unlike most network analyses, a clear delineation (population of the network) was not defined ahead of time. The initial invitation email was sent to individuals who were thought might represent multi-sector partnerships or would know other individuals who were.

Key Measurements

Participants were asked the following questions:

Enablers: Please list up to ten organizations or individuals, outside of your partnership group, that currently do the most to enable your success. Indicate how they have helped (check all that apply).

1. Ideas: Ideas, information, data, tools, materials
2. Mentor: Political will, visibility, coaching, in-kind resources, and
3. Money

Role Models: Please list up to ten *other multi-sector partnerships* that have most influenced your group’s thinking and action.

Network Interpretation

Table 1 outlines the network terminology that will be used throughout the rest of the report. Node-level measurements apply to single organizations within the network. Network-level measurements apply to the network as a whole.

Table 1. Network measurement terms.

Node-Level	
In-degree	Number of incoming relationships (i.e. # of donors providing money)
Out-degree	Number of outgoing relationships
Network-Level	
Network Size	Number of organizations in the network
Links	Number of connections (relationships) between organizations
Density	Percent of possible relationships that exist
Average Degree	Average number of relationships per organization
Degree Centralization	Variation in degrees in the network (large = a few organizations have many relationships and many organizations have few relationships, small = organizations have a similar number of connections)

Network graphics are often useful for examining relationship structures. Nodes represent organizations and are shown as circles, while links are shown as lines connecting the nodes. Node size is determined by how central it is to the network – here nodes are sized by one of the node-level characteristics described above (in-degree or out-degree).

Node color represents the category the organization belongs to. Organizations in the Enablers and Role Models network fall into the following categories:

- Enabler & Role Model (nominated as both an enabler and role model by at least one participant)
- Enabler (nominated only as an enabler by at least one participant)
- Role Model (nominated only as a role model by at least one participant)
- Participant (participating organization that was not nominated as an enabler or role model by another participant)

Findings

Between participating organizations and those that were nominated as enablers and/or role models, a total of 961 organizations were represented in the networks. Table 2 shows the frequency distribution of organization types, with 454 Enablers, 345 Role Models, 100 Participants, and 62 Enablers & Role Models. Some national-level organizations were nominated via their local branches (i.e., YMCA, United Way, etc.), and were collapsed into a single, national node. These are marked with asterisks in the tables that follow.

Table 2. Frequency of organization types.

Organization Type	Frequency	Percent
Enabler	454	47.2
Role Model	345	35.9
Participant Only	100	10.4
Enabler & Role Model	62	6.5
Total	961	100

Overall network descriptive statistics are shown in Table 3. Static figures for all of the networks are displayed below. Web links lead to interactive graphics for further exploration.

Table 3. Network descriptive statistics.

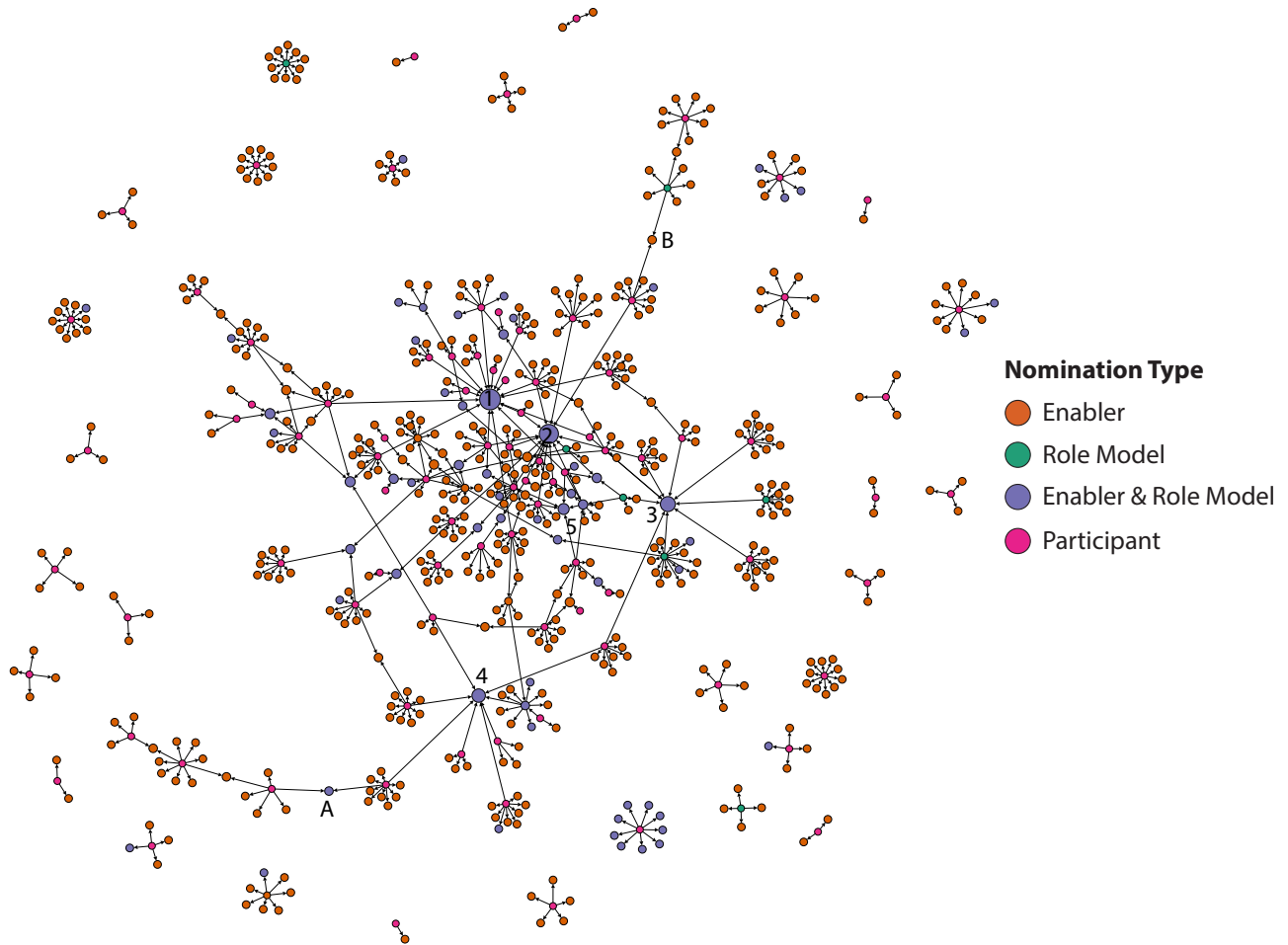
Network	Size	Links	Density	Avg. Degree	Degree Cent.	# Enablers	# Role Models	# Enablers & Role Models	# Part. Only
Enabler: All	612	622	0.17%	2.0	0.026	454	7	62	89
Enabler: Ideas	518	508	0.19%	2.0	0.023	368	7	57	86
Enabler: Mentor	467	430	0.20%	1.8	0.020	323	7	57	80
Enabler: Money	266	237	0.34%	1.8	0.042	162	5	25	74
Role Model	492	479	0.20%	1.9	0.012	4	345	62	81

Networks were fairly large, ranging from 266 organizations in Enabler: Money to 612 organizations in Enabler: All. The networks were relatively sparse, with a density of about .2% to .3% of possible links actually present. The Enabler: Money network was the most highly centralized; it had the greatest variation in the number of nominations received by organizations. The large size of these networks indicates a great diversity in the organizations that are seen as enablers and role models, but the sparseness of the networks indicates a lack of consensus about who the enablers and role models are.

Enabler: All

The Enabler: All network was directed such that in-degree represents the number of nominations an organization received for being an enabler (Table 4). Figure 1 shows a loosely connected network with the organizations noted in Table 4 centrally located.

Figure 1. Enabler: All network. Organizations sized by in-degree.



<http://cphss-addons.brown.wustl.edu/RTH/National/EnablerAllInDegree/>

Table 4. Top 5 Enabler organizations.

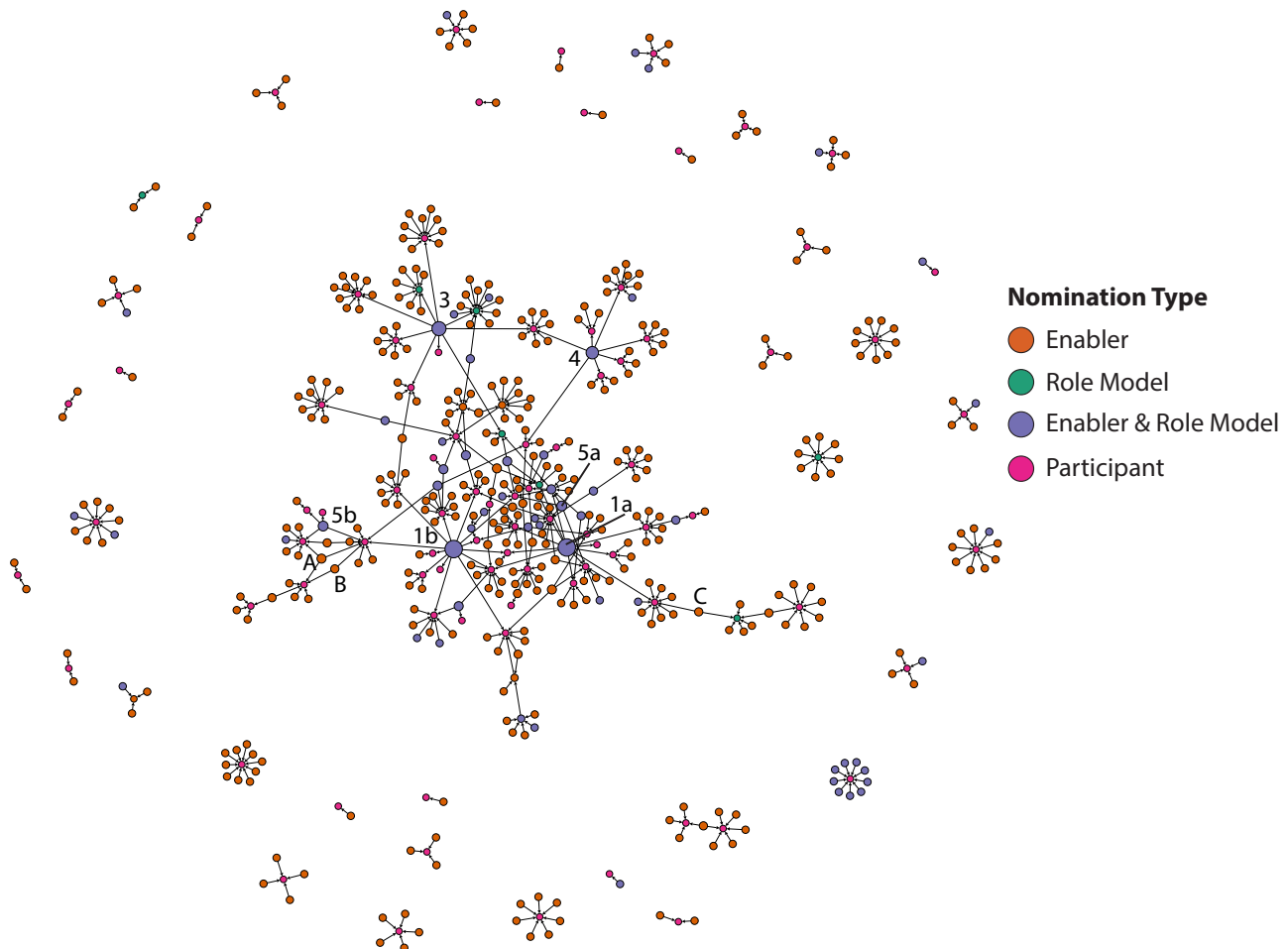
Rank	Organization	In-degree
1	Robert Wood Johnson Foundation	17
2	Centers for Disease Control and Prevention	15
3	YMCA*	10
4	United Way*	8
5	American Public Health Association	5

Branching off from the main component of 433 organizations, the Federally Qualified Health Centers* (A) and AARP* (B) played key bridging roles; while not nominated by a large number of organizations as Enablers, they served to link otherwise disconnected groups to the main network. A total of 32 components (separate groups of connected organizations) were present in this network, demonstrating isolated sources of enabling resources.

Enabler: Ideas

The Enabler: Ideas sub-network was directed such that arrows in the graphic indicate the reported flow of resources from the providing organization to the nominating organization. Out-degree represents the number of organizations provided to (Table 5). Figure 2 illustrates connections between organizations nominated for providing ideas, information, data, tools, and/or materials. Organizations most frequently identified as providing ideas are listed in Table 5.

Figure 2. Enabler: Ideas network. Organizations sized by out-degree.



<http://cphss-addons.brown.wustl.edu/RTH/National/EnablerIdeasOutDegree/>

Table 5. Top 6 ideas providers.

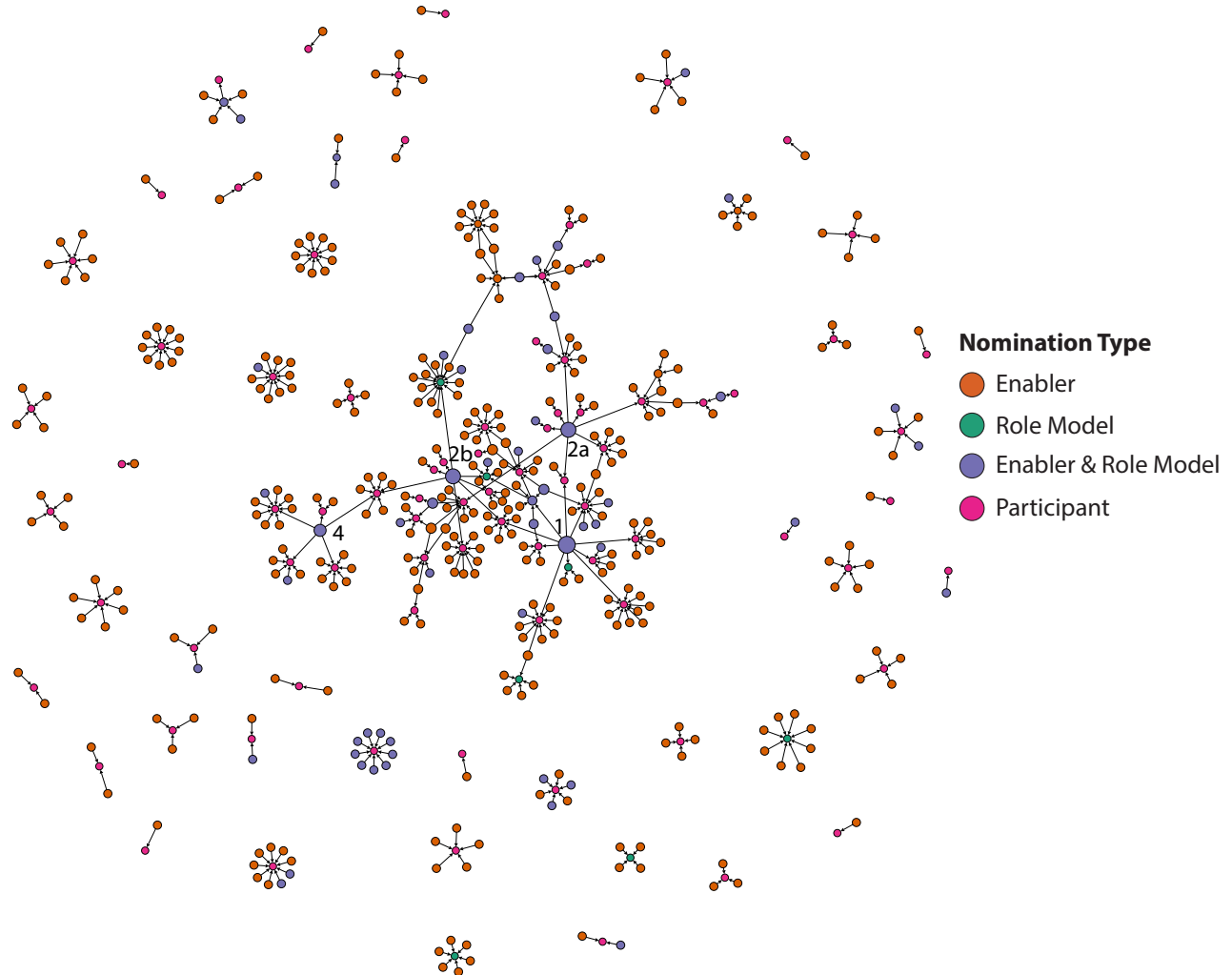
Rank	Organization	Out-degree
1a	Centers for Disease Control and Prevention	13
1b	Robert Wood Johnson Foundation	13
3	YMCA*	9
4	United Way*	7
5a	American Public Health Association	4
5b	Minnesota Department of Health/Statewide Health Improvement Program	4

A few examples of organizations that may serve important bridge roles included Blue Cross Blue Shield* (B), Essentia Health (B), and AARP* (C). The main component of this network consisted of 335 organizations, with a total of 38 components.

Enabler: Mentor

Figure 3 shows connections between organizations nominated for providing mentorship in the form of political will, visibility, coaching, in-kind resources. Similar to the other sub-network graphics, arrows reflect the direction of resource flow. The mentoring network was relatively disconnected, with a main component of 240 organizations primarily linked together by the organizations listed in Table 6, and 49 total components, the greatest number of all of the networks presented here.

Figure 3. Enabler: Mentor network. Organizations sized by out-degree.



<http://cphss-addons.brown.wustl.edu/RTH/National/EnablerMentorOutDegree/>

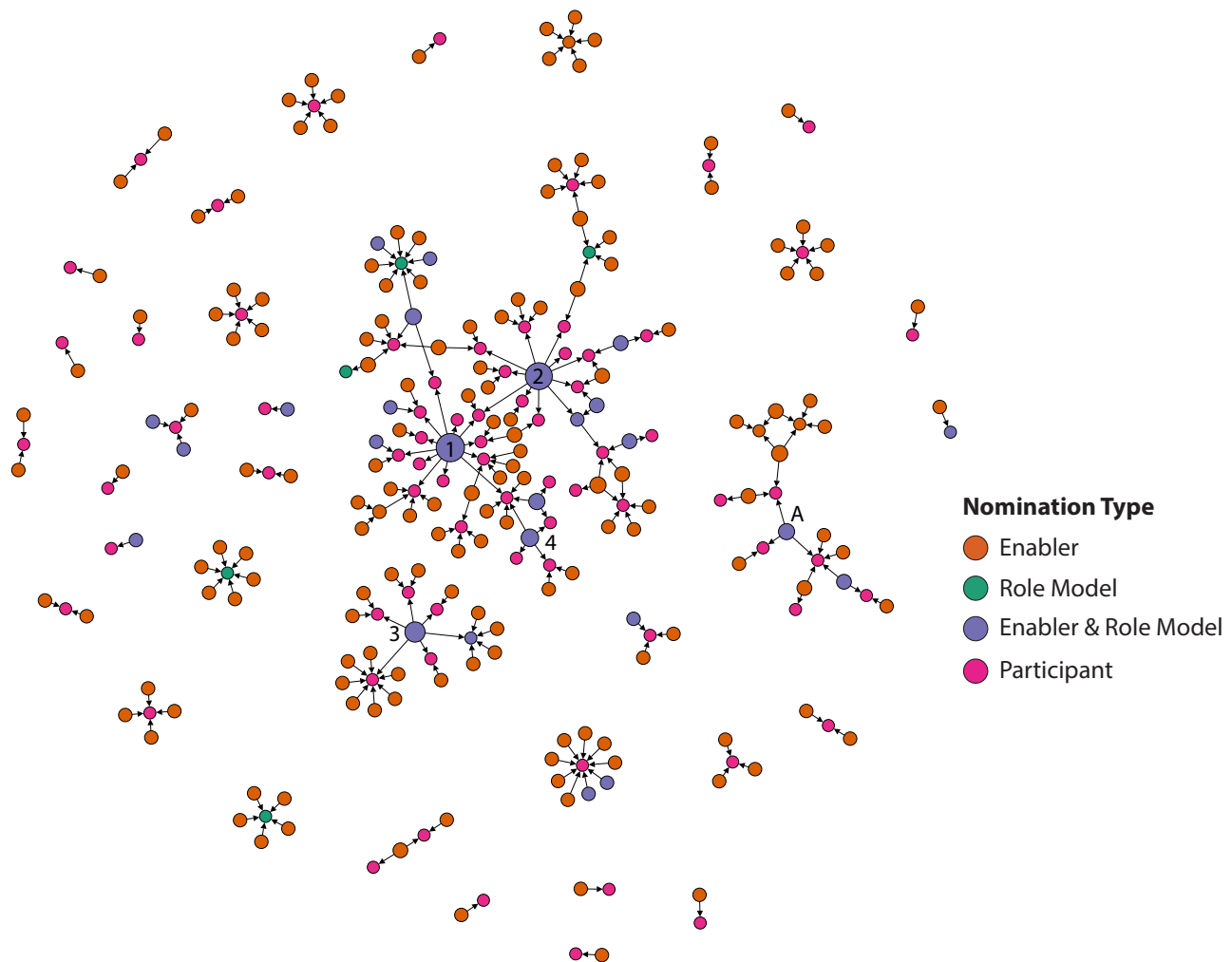
Table 6. Top 4 mentorship providers.

Rank	Organization	Out-degree
1	Centers for Disease Control and Prevention	10
2a	Robert Wood Johnson Foundation	8
2b	YMCA*	8
4	United Way*	5

Enabler: Money

Figure 4 shows connections between organizations nominated for providing money. Similar to the other sub-network graphics, arrows reflect the direction of resource flow. The main component of 104 organizations (the smallest for all of the networks) is located in the center of the graphic and primarily anchored by the organizations named in Table 7.

Figure 4. Enabler: Money network. Organizations sized by out-degree.



<http://cphss-addons.brown.wustl.edu/RTH/National/EnablerMoneyOutDegree/>

Table 7. Top 4 money providers.

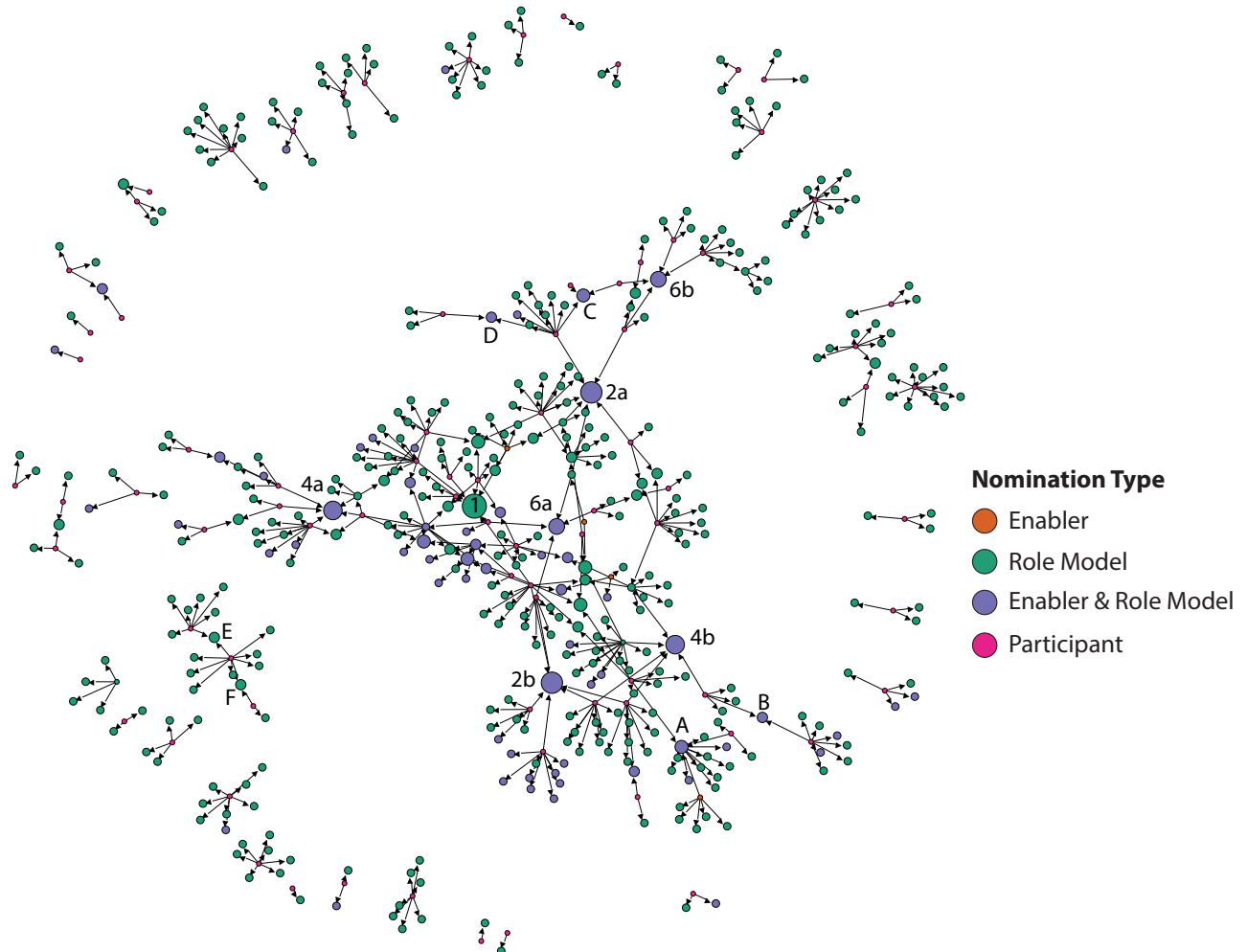
Rank	Organization	Out-degree
1	Robert Wood Johnson Foundation	12
2	Centers for Disease Control and Prevention	11
3	United Way*	6
4	CDC Community Transformation Grant*	4

Two large components were disconnected from the main component; one centered on the United Way* as a provider and another was connected by Kaiser Permanente (A). A total of 36 components were present.

Role Models

The Role Model network was directed, with in-degree representing the number of nominations an organization received for being a role model (Table 8). Figure 5 shows a large main component of 290 organizations linked by several central organizations. In particular, the organizations listed in Table 8 appeared to play important roles.

Figure 5. Role model network. Organizations sized by in-degree.



<http://cphss-addons.brown.wustl.edu/RTH/National/RoleModelInDegree/>

Table 8. Top 7 Role Model organizations.

Rank	Organization	In-degree
1	StriveTogether	7
2a	ReThink Health	6
2b	United Way*	6
4a	Robert Wood Johnson Foundation	5
4b	YMCA*	5
6a	FSG	4
6b	Minnesota Department of Health/Statewide Health Improvement Program	4

Several small branches were loosely connected with other linking organizations. For example, the Health Collaborative (A) nominated several other organizations as role models that would otherwise be separated from the main component, but itself was seen as a role model by a participant in the main component. The Bicycle Coalition of Maine (B) was seen as a role model by a participant that would otherwise be disconnected. Other bridges included the Institute for Clinical Systems Improvement (C) and Health Care Without Harm (D). The Community Advancement Network (E) and Lancaster County Business Group on Health (F) linked together a separate component. A total of 38 components were present in this network, indicating that there was as little consensus for who the role models were as there was for enablers.

Conclusions

All of the network relationships demonstrated a fair amount of fragmentation, with more than 30 clusters of organizations separated from each of the main networks. Robert Wood Johnson Foundation (RWJF), Centers for Disease Control and Prevention, and United Way were consistently rated as top enablers in all forms. RWJF and United Way were also top role models; their dual roles as role models and enablers make them key organizations for the national network of those leading health system reform.

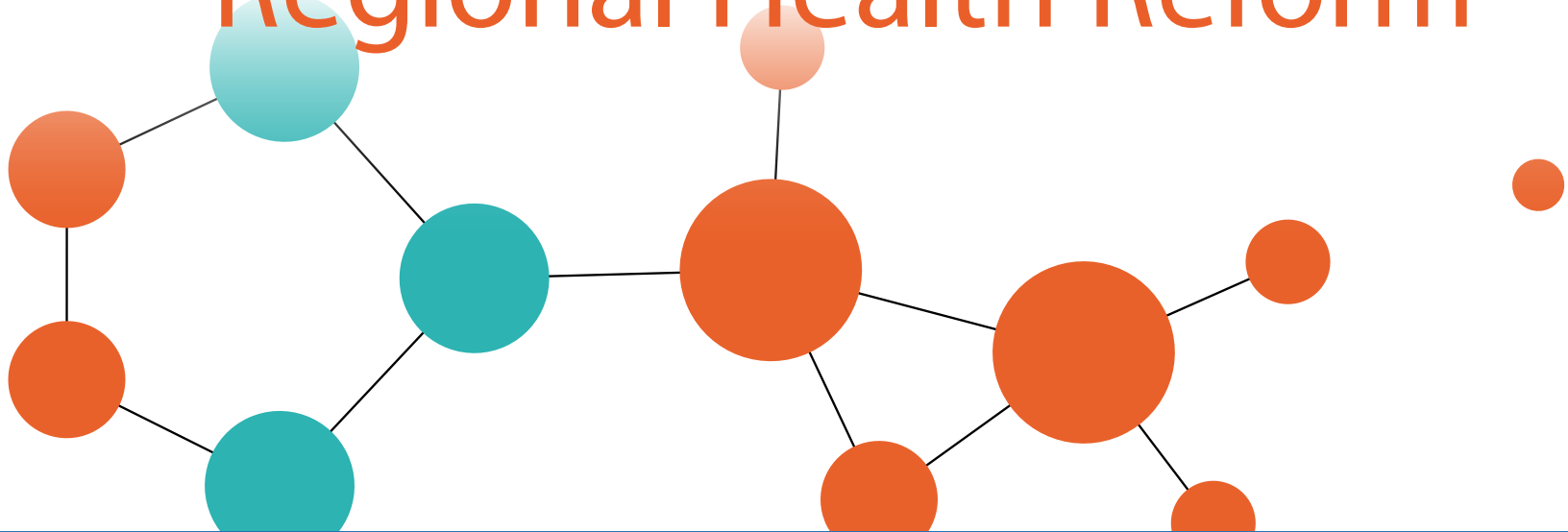
The difference in the predominance of organization types in the Enablers and Role Models networks is also remarkable in that there was very little overlap in these nominations; organizations tended to be nominated as one or the other, but rarely both.

Given the general pattern of one large main component surrounded by an outer ring of small hub-and-spoke components, it is possible that participants (pink nodes) who were hubs in the outer rings will be less likely to take on catalyst roles in the future than those who are connected to the main components.

Given the above patterns, these organizations show room for improvement with regard to serving as examples for each other and gaining support from others outside of their own regions.

ReThink Health Frontiers in Sustainable Financing and Health System Stewardship Baseline Network Assessments

National Catalysts for Regional Health Reform



July, 2015



ReThink
Health[®]

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Introduction

Health reform in the United States is a complex undertaking requiring the cooperation of diverse stakeholders and the examination of multiple interdependent systems. To facilitate this process, ReThink Health embarked on a two-phase project, with support from the Robert Wood Johnson Foundation and the Rippel Foundation, to explore the frontiers of health system stewardship and sustainable financing. This project sought to examine how innovators can develop a more dynamic view of their local health systems, identify novel ways to finance their work, and create the conditions for diverse—often competitive—stakeholders to form effective stewardship teams.

With so much about the health landscape in flux, it is critical to first understand how various organizations currently collaborate as well as the flow of information and financial resources among them. Social network analysis is well-suited to describe these relationships and assess the composition of stewardship teams for leading regional reform initiatives.

This stage of the project aimed to examine relationships between organizations that might serve as Core Catalysts to facilitate progress toward these goals at the national level.

The findings of this report serve as a snapshot of the relationships between the Core Catalysts in early 2015. This snapshot can be used as a baseline measurement to compare with future assessments to track the growth and evolution of the Core Catalyst network.

Methods

A mixed-methods approach was used to generate a list of potential organizations of interest:

- Interviews and observations from a related project designed to explore the frontiers of regional health system stewardship and financing;
- Published information on organizational ties (e.g., advisory board rosters, planning groups, project descriptions, funding announcements, membership lists);
- Mailing lists curated by ReThink Health and other peer organizations; and
- Nominations from staff at the Robert Wood Johnson Foundation.

The definition of a *Core Catalyst* included any organization that concentrated on most of the following activities:

- Focus on transforming regional health systems;
- Have national reach (i.e., does not concentrate on only one region);
- Maintain a broad system perspective;
- Strive to bridge health and health care, lower costs, achieve greater equity, and promote regional prosperity;
- Recognize a mix of local and larger influences;
- Encourage innovation, spread, and scale;
- Create tools, teach others, and build capacity; and
- Track changes over time to evaluate effects across contexts.

An initial list of 25 Core Catalysts matched this working definition, and information from the mixed-method scan was used to identify relationships that appeared to exist between them. A web-based questionnaire was then developed so that representatives from these organizations could confirm, add, or remove connections, as appropriate. Core Catalysts were divided into two groups: 1) 17 organizations including those with relatively similar interests, had already begun to explore potential connections with each other, and two main funders, and 2) eight organizations consisting of more diverse philanthropic and government funders, as well as the hosts of a funding marketplace for social innovators. The second group will be important to engage in a following stage. This report summarizes findings from the first group of 17 Core Catalysts.

Representatives from the first group of Core Catalysts had from January through March 2015 to contribute information about their organizational ties.

Network analysis was the primary method of inquiry for this assessment; that is, the relationships between organizations and what those relationship structures might mean for the emerging network among Core Catalysts was of greatest interest. Therefore, the findings described here focus on relationships between organizations, as well as characteristics of the organizations themselves.

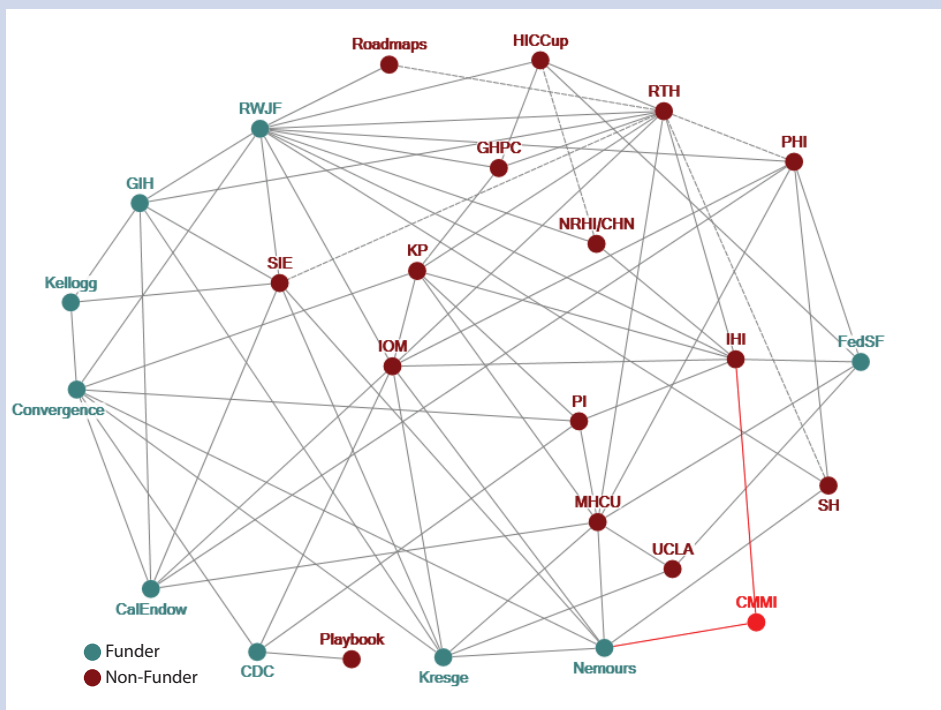
Key Measurements

Participants were presented with the following question:

The graphic below shows potential Core Catalysts and how they may be connected. Your organization is highlighted in red along with several links that may or may not exist.

Organizations may be linked through one or more of the following relationships:

- **Advising/planning** (i.e., actively strategizing around common interests)
- **Collaborating** (i.e., actively working together on an existing scope of work)
- **Funding** (i.e., one transfers resources to the other)
- **Membership** (i.e., one is a member of the other’s program, association, etc.)
- **Exploring Partnership** (i.e., actively exploring a potential scope of work together)



Please summarize how your organization relates to others in this core group (Note: this is not a full list of all organizational ties, but rather only those with others in the core group). Use the checkboxes to confirm, add, or remove connections.

Participants were then presented with a list of all of the organizations depicted in the graphic. (See the Appendix for organization names and corresponding abbreviations. Note that participants were asked about their relationships for all of the original 25 Core Catalyst organizations. The reported results only include the reduced network of 17 organizations.) For each organization, they could indicate whether advising/planning, collaborating, funding, membership, and/or exploring partnership relationships existed.

Network Interpretation

Table 1 outlines the network terminology that will be used throughout the rest of the report. Node-level measurements apply to single organizations within the network. Network-level measurements apply to the network as a whole.

Table 1. Network measurement terms.

Node-Level	
Degree	Number of relationships an organization has
Betweenness Centrality	Extent to which an organization has relationships with other organizations that are not otherwise connected and can therefore serve as connectors between them
Network-Level	
Links	Number of connections (relationships) between organizations
Density	Percent of possible relationships that exist
Average Degree	Average number of relationships per organization
Degree Centralization	Variation in degrees in the network (large = a few organizations have many relationships and many organizations have few relationships, small = organizations have a similar number of connections)
Betweenness Centralization	Variation in the extent to which organizations serve as connectors to otherwise unconnected organizations (large = network hierarchical in nature and is dependent on a few organizations to hold it together, small = network is democratic in nature and organizations have a similar level of connectivity)

Network graphics are often useful for examining relationship structures. Nodes represent organizations and are shown as circles, while links are shown as lines connecting the nodes. Node size is determined by how central it is to the network – here nodes are sized by degree.

Node color represents the category the organization belongs to. Organizations in the Core Catalysts network fall into Funder and Non-Funder categories.

Findings

Static figures for all of the networks are displayed below. Web links lead to interactive graphics for further exploration.

Response Rates and Demographics

Representatives from 12 of the 17 Core Catalysts organizations responded to the survey for a response rate of 70.1%. Of the final 17 Core Catalysts, 4 out of 4 (100%) funders participated, and 8 out of 13 (61.5%) non-funders participated. Less than one-quarter of the network was made up of funders (23.5%).

Networks

Table 2 summarizes network statistics for each of the relationships over the 17 Core Catalyst organizations. The Collaborating relationship was the most common, with 42% of possible collaboration relationships in existence, and organizations collaborated with an average of almost seven other organizations. Advising/planning was the next most common, followed by Funding, Exploring Partnership, and Membership.

Table 2. Network descriptive statistics.

	Links	Density	Average Degree	Degree Centralization	Betweenness Centralization
Collaborating	57	42%	6.7	0.658	0.250
Advising/Planning	45	33%	5.3	0.617	0.416
Funding	26	19%	3.1	0.704	0.607
Exploring Partnership	14	10%	1.6	0.167	0.281
Membership	11	8%	1.3	0.333	0.160
All Except Exploring Partnership ¹	139	26%	16.4		0.213

¹Weighted network, flow betweenness presented, unable to calculate degree centralization.

Figure 1 compares all of the relationships on density, degree centralization, and betweenness centralization, and Figure 2 displays all of the existing relationships (Advising/Planning, Collaborating, Funding, and Membership).

Figure 1. Comparison of density, degree, and betweenness centralizations for core catalyst relationships.

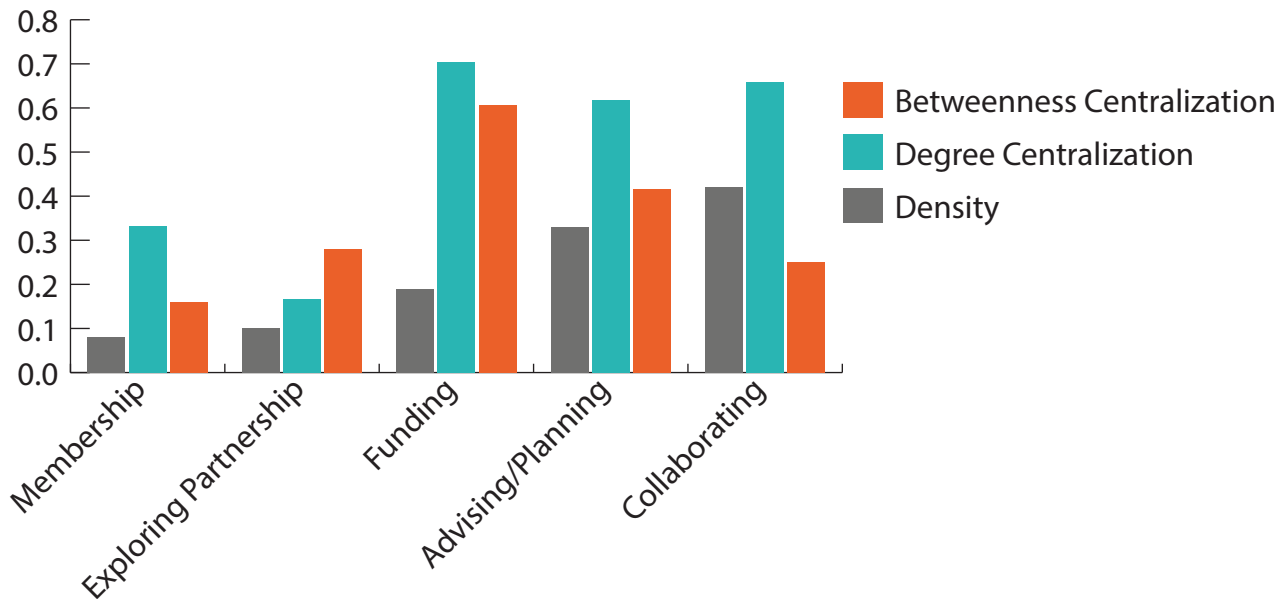
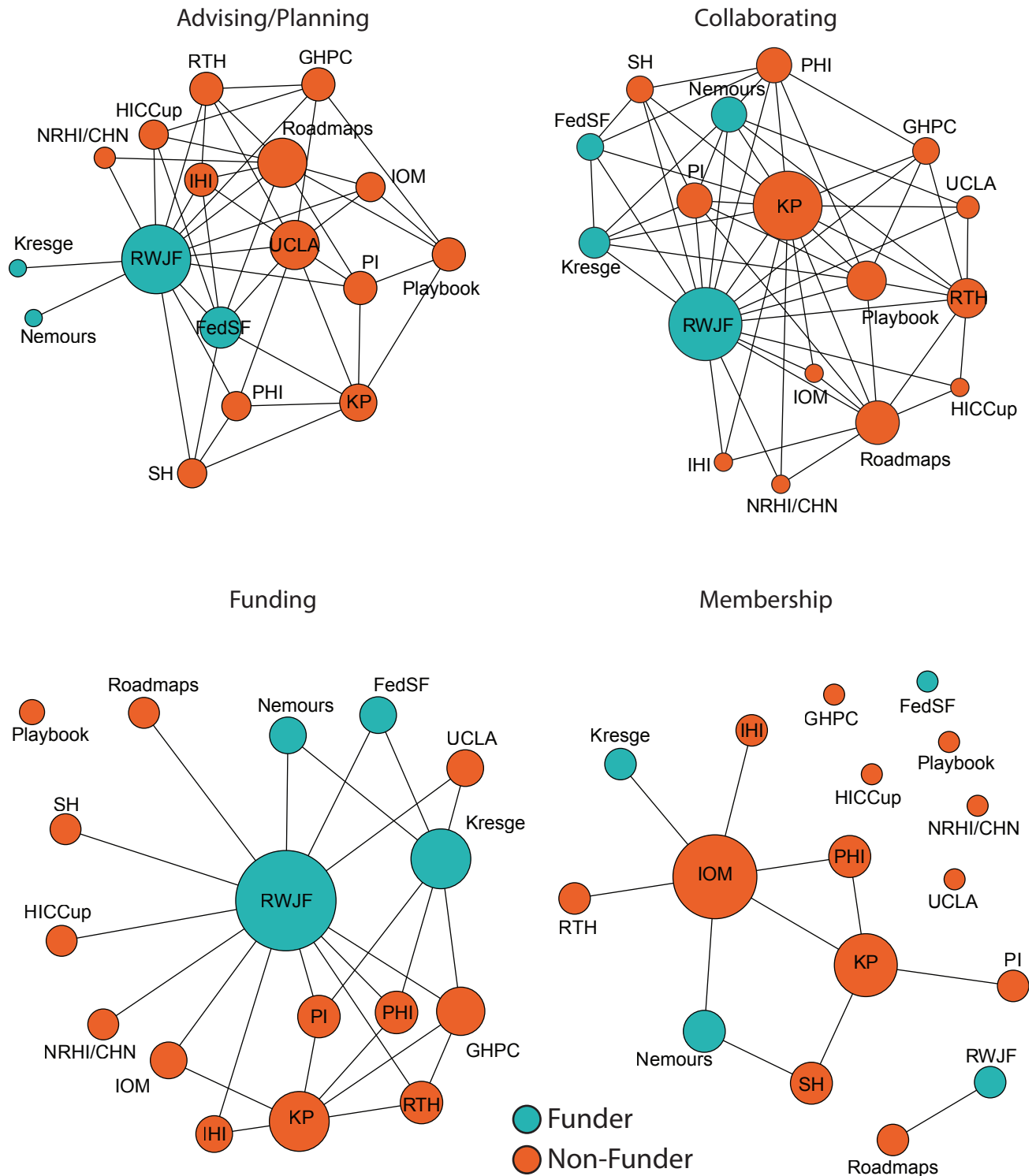


Figure 2. Existing Core relationships. Nodes sized by degree.



<http://cphss-addons.brown.wustl.edu/RTH/CoreCatalyst/AdvisingPlanning/>

<http://cphss-addons.brown.wustl.edu/RTH/CoreCatalyst/Collaborating/>

<http://cphss-addons.brown.wustl.edu/RTH/CoreCatalyst/Funding/>

<http://cphss-addons.brown.wustl.edu/RTH/CoreCatalyst/Membership/>

Funding had the highest levels of both degree and betweenness centralization, indicating that this relationship had a strongly hierarchical structure. Figure 2 shows how the network is centralized around two of the funders, as expected. Robert Wood Johnson Foundation (RWJF) was the most central organization, with a degree of 13 and a betweenness centrality of .62; Kresge Foundation was the next most central, but with far lower centralities of six and .07, respectively. Figure 2 displays how many organizations were only connected to the network through RWJF. Interestingly, the two other funders, Nemours and Federal Reserve Bank of San Francisco (FedSF), were only connected to RWJF and Kresge and not to any of the non-funder organizations. Practical Playbook was an isolate in the Funding network, with no relationships between the other Core organizations reported.

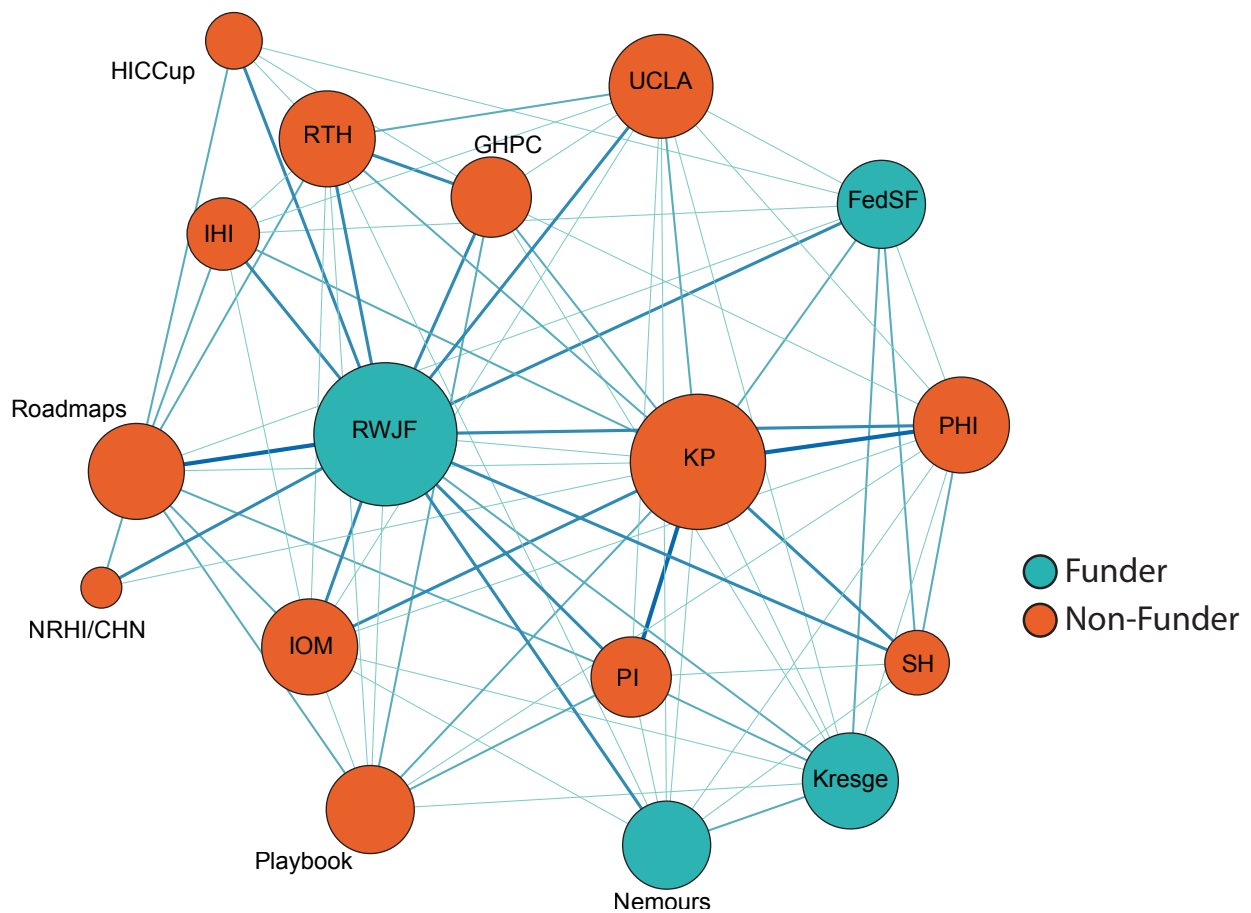
The Collaborating relationship had a high level of degree centralization but a relatively low level of betweenness centralization. Again, RWJF had the highest degree with 16 links. Connectivity in the Collaboration network was relatively high (as indicated by a high density), contributing to a low betweenness centralization with relatively few gaps in the network. In contrast to Funding, no organizations were completely dependent on RWJF to link them to the rest of the network, as shown in Figure 2.

The Advising/Planning relationship also had a high level of degree centralization, RWJF topping the list with 14 links and County Health Rankings and Roadmaps (Roadmaps) a distant second with nine links. Betweenness centralization was relatively high for Advising/Planning as well, with RWJF's betweenness centrality at .44 and Roadmaps at .10. Nemours and the Kresge Foundation were both dependent on RWJF to connect them to the rest of the network (Figure 2).

The Membership relationship was relatively sparse (Figure 2), as would be expected of these kinds of organizations. The Institute of Medicine Roundtable on Population Health (IOM) had the greatest number of membership relationships (6), and Kaiser Permanente (KP) had four links. Six organizations reported no membership links.

Figure 3 shows all of the relationships with the exception of Exploring Partnership collapsed into a single network in order to display already established connections. The links between organizations are weighted by the number of relationships. RWJF had the greatest number of connections (16), with Kaiser Permanente close behind (15). Interestingly, these two organizations were only connected by one relationship (Collaborating). Network for Regional Healthcare Improvement/ Collaborative Health Network (NRHI/CHN) had the fewest number of connections (three). Organization pairs that had the greatest number of relationships (four) were RWJF and Roadmaps, Kaiser Permanente and Prevention Institute, and Kaiser Permanente and Public Health Institute (PHI). The network was well-connected, with a density of 57% and an average degree of 9.18. All of the non-funders were connected to at least one funder with at least one relationship.

Figure 3. All relationships except Exploring Partnership. Nodes sized by degree, lines weighted by number of relationships.

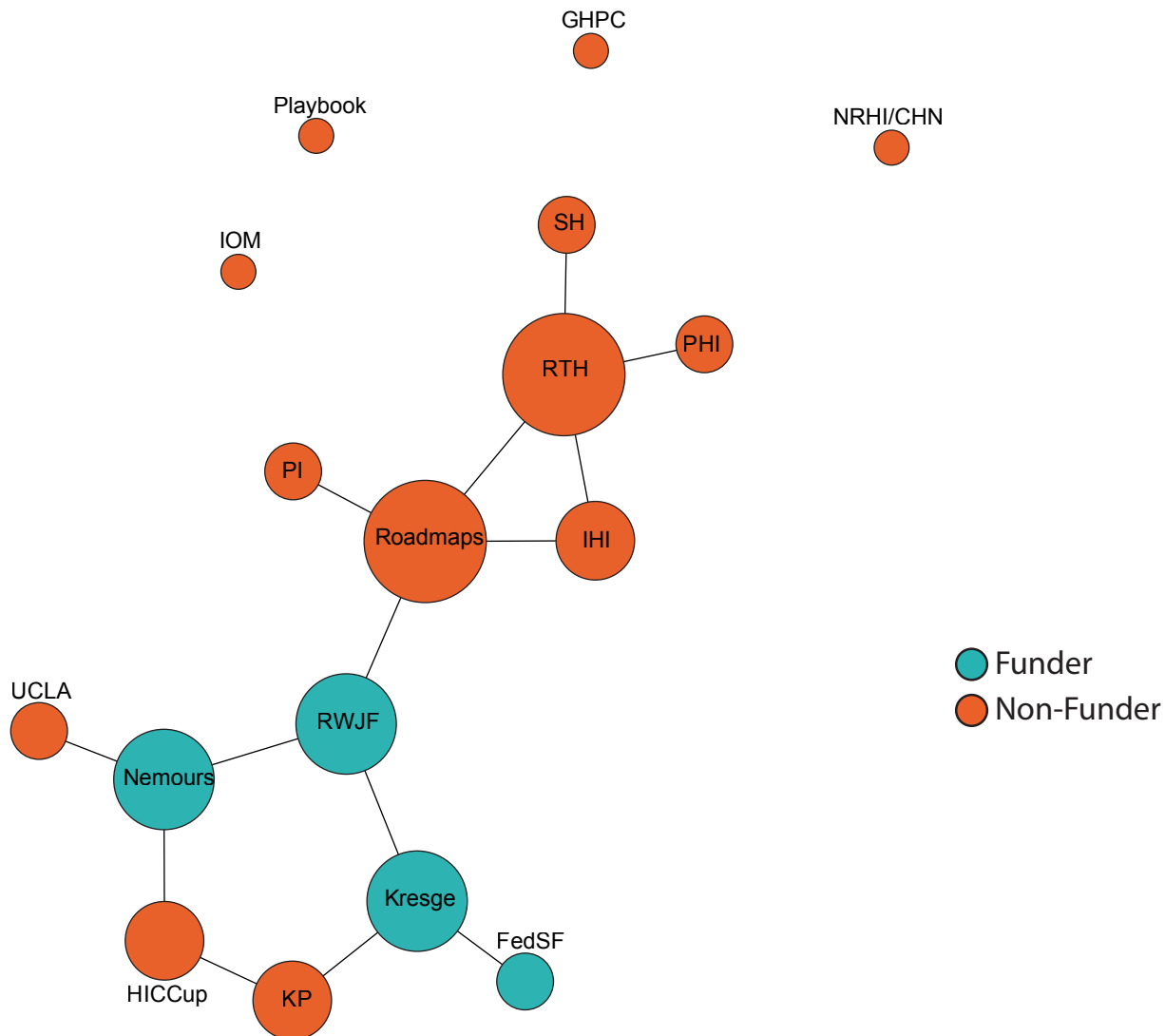


<http://cphss-addons.brown.wustl.edu/RTH/CoreCatalyst/AllExceptExplPart/>

RWJF would be expected to have many kinds of links for several reasons, including: they are the largest health philanthropy in the nation, have a diverse portfolio of healthcare delivery, and are a leader in population health training.

Figure 4 shows the Exploring Partnerships network demonstrating connections that were under development. Roadmaps had the highest degree in this relationship (four), with IOM, Playbook, Georgia Health Policy Center (GHP), and NRHI/CHN not exploring partnerships with any of these catalyst organizations. Evidence of exploring partnerships among the funding organizations will hopefully mean generation of new opportunities in the field of health reform in the future.

Figure 4. Exploring Partnership network. Nodes sized by degree.



<http://cphss-addons.brown.wustl.edu/RTH/CoreCatalyst/ExploringPartnership/>

Links would not be expected between organizations that already work closely together. For instance, IOM and ReThink Health (RTH) already share a membership link. Alternatively, organizations may already have collaborative relationships, but are also continuing to explore how they can strengthen their relationship, such as Nemours and UCLA Center for Children and Families. Attention might be directed to relationships that were missing both in this network and the existing relationships. For example, Playbook was not connected to FedSF in any of the reported relationships

Conclusions and Recommendations

This baseline presents a rich examination of the Core Catalysts network, though care must be taken to not over-interpret missing relationships, as links between non-participating organizations could not be measured. The assessment lends itself to conclusions and recommendations for two separate considerations; 1) implications for the Core Catalyst network specifically, and 2) recommendations for further assessments.

Implications for the Core Catalysts

Collaborating relationships were relatively common, and although RWJF had by far the most collaboration connections, this network was relatively non-hierarchical, as there was a good deal of connections between the other organizations. RWJF's role as a connector was very prominent for funding and advising/planning relationships, with some organizations linked to the network only through their relationship with RWJF.

The Core Catalysts were well-connected when taking all of the existing relationships together, as demonstrated by the high density in the total network. With each organization bringing important knowledge to the table, even more connections are possible, particularly in Advising/Planning and Funding. With a network of this size, maximum saturation of connections in the network is possible, and this assessment has illustrated the possible missing links to establish.

Another opportunity is for each organization to consider how they are situated in a wider network. While each one might be well aware of their own direct connections, it is often difficult to see how others may or may not be connected to one another. One must be cautious when interpreting these initial maps because there may be true links that appear missing because of non-response. However, all of the reported links are meaningful and can be studied to explore how the Catalysts could operate together in ways that transcend what any one of them may be able to accomplish alone.

Recommendations for Further Assessments

One possible barrier to participation may have been finding appropriate individuals to represent these organizations, some of which are quite large. Allowing ample time for organizations to find appropriate representatives and analysis of multiple responses from organizations may help to overcome this challenge.

Appendix: Core Catalyst Abbreviations and Organization Names

Abbreviation	Organization Name
FedSF	Federal Reserve Bank of San Francisco
GHPC	Georgia Health Policy Center
HICcup	Health Intervention Coordinating Council
IHI	Institute for Healthcare Improvement
IOM	Institute of Medicine Roundtable on Population Health
KP	Kaiser Permanente
Kresge	Kresge Foundation
Nemours	Nemours
NRHI/CHN	Network for Regional Healthcare Improvement/Collaborative Health Network
PHI	Public Health Institute
PI	Prevention Institute
Playbook	Practical Playbook
Roadmaps	County Health Rankings and Roadmaps
RTH	ReThink Health
RWJF	Robert Wood Johnson Foundation
SH	Stakeholder Health
UCLA	UCLA Center for Children and Families