Foundations of Social Network Science for Help Me Grow Impact: An Early Childhood Network Mapping Starter Guide

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SECTION 1: Background – Help Me Grow

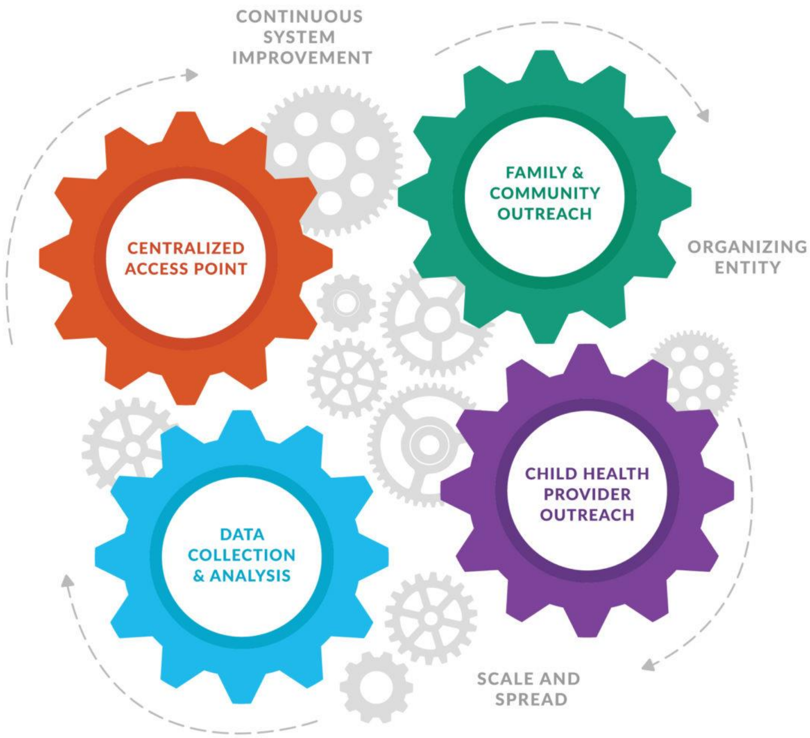
The Help Me Grow System Model[1]

Help Me Grow is a system model that works to promote cross-sector collaboration in order to build efficient and effective early childhood systems that mitigate the impact of adversity and support protective factors among families, so that all children can grow, develop, and thrive to their full potential. Help Me Grow is not a stand-alone program, but rather a system model that utilizes and builds on things already in place in order to develop and enhance a comprehensive approach to early childhood system building in any given community. Successful implementation of Help Me Grow leverages existing resources, maximizes existing opportunities, and advances a coalition working collaboratively toward a shared agenda. The Help Me Grow system is designed to help states and communities leverage existing resources to ensure communities identify vulnerable children, link families to community-based services, and empower families to support their children's healthy development through the implementation of four Core Components.

Four cooperative and interdependent Core Components characterize the Help Me Grow system model. A Centralized Access Point integrally assists families and professionals in connecting children to appropriate community-based programs and services, Family & Community Outreach supports education to advance developmental promotion, and also grows awareness of the system and the services that it offers to families and community-facing providers, Child Health Care Provider Outreach supports early detection and intervention, and loops the medical home into the system, and Data Collection supports evaluation, helps identify systemic gaps, bolsters advocacy efforts, and guides quality improvement so the system is constantly becoming better.

The Help Me Grow model depends on three Structural Requirements. Implementation of Help Me Grow relies on a Backbone or Organizing Entity to provide support, oversight, continuity, and facilitation of collective impact activities. Critical strategies for Scale and Spread ensure that systems serve optimally to meet the needs of all children and families. The efficacy and durability of the Help Me Grow model also hinges on Continuous System Improvement, or constant efforts to enhance, refine, and innovate.


[1] https://helpmegrownational.org/what-is-help-me-grow/hmg-system-model/

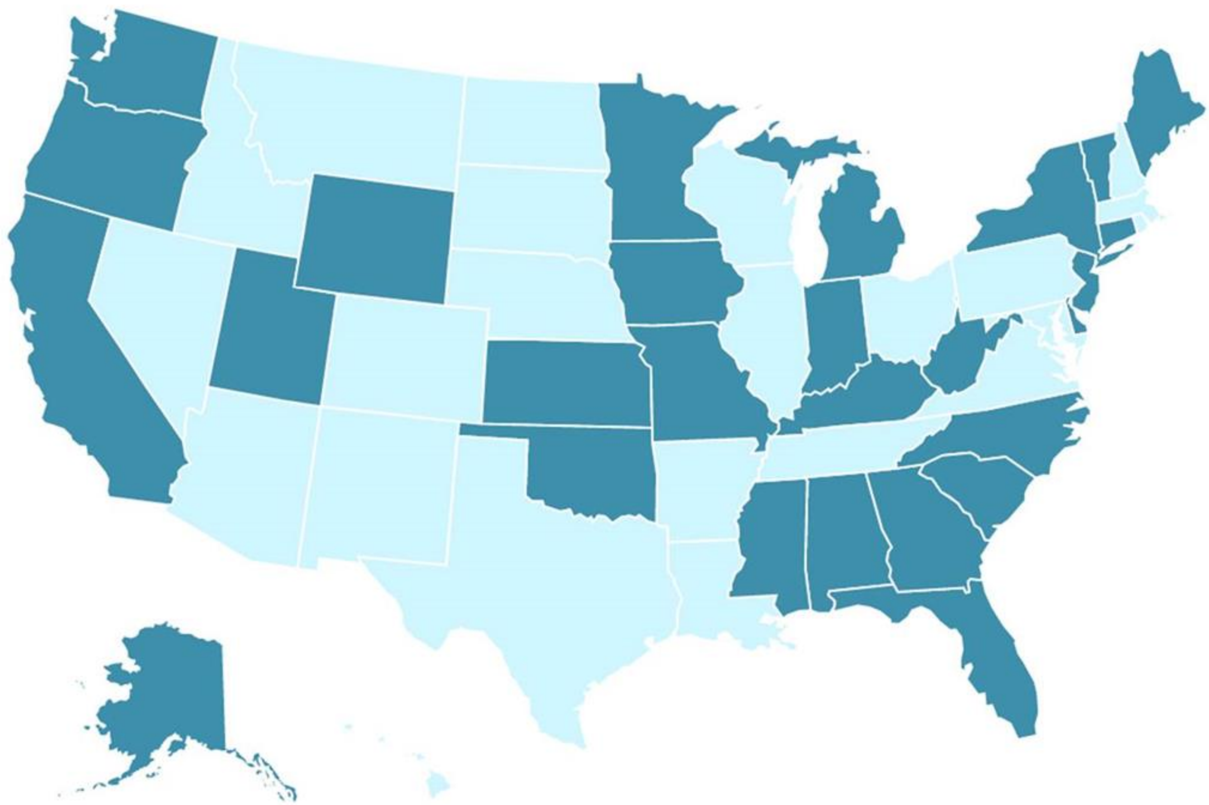


For more information on the Help Me Grow Systems Model go here: [https://helpmegrownational.org/what-is-help-me-grow/hmg-system-model/.](https://helpmegrownational.org/what-is-help-me-grow/hmg-system-model/)

Overview of Help Me Grow National Center[2]

The Help Me Grow National Center is a program of the Office for Community Child Health at Connecticut Children's Medical Center in Hartford, Connecticut. The Help Me Grow National Center serves as a national resource to support the implementation of Help Me Grow systems throughout the country. The National Center offers technical assistance to new states and communities in order to advance existing early childhood systems through the implementation of the Help Me Grow system model.

The HMG Affiliate Network represents an ever-growing, powerful coalition of states, communities, and individuals invested in ambitious and resourceful early childhood systems that optimally serve all families and children. Early childhood systems must promote the healthy development of each and every child.



[2] https://helpmegrownational.org/who-we-are/hmg-national-center/

SECTION 2: An Introduction to the Foundations of Social Network Science for Help Me Grow Impact: An Early Childhood Network Mapping Starter Guide

What is the PARTNER Approach?

The goal of HMG is to support communities to promote the healthy development of each and every child. As such, HMG encourages the integration of cross-sector services and supports working in concert together to address children's' needs and to ensure families have timely access to appropriate services that meet their needs. These systems must maximize resources, leverage opportunities, and advance a coalition working collaboratively toward a shared vision and common approach to measurement.

This systems approach makes the principles of social network analysis (SNA) particularly useful to measure the strength of connections in the system, evaluate how organizations are positioned within a network, to assess the quality and impact of the exchanges among them and to identify where resources can strengthen the network. In addition, network visualizations can be displayed to illustrate partners and the links between them. From a science perspective, SNA provides a mathematical approach to measure the connections between members of a network, as a tool to indicate patterns. When this science is translated into practice, community-based networks of cross-sector partners can use the data for evidence-based strategies and action steps, and to document progress over time. PARTNER is a social network analysis tool used in over 2500 communities in all 50 states and over 40 countries, to help networks identify needs, leverage resources efficiently, evaluate the strength (and gaps) among member relationships, and ensure that networks have the capacity to address healthy development of each and every child. It includes a survey and report template that is customized specifically for Help Me Grow affiliates.

How can social network analysis be useful in practice?

Bringing cross-sector partners together to create coordinated, efficient early childhood networks is widely accepted today as best practice in system-building efforts. In addition, funders are requiring evidence of collaboration before awarding and providing funds for program activity. Yet, there is a shortage of guidance on how to do so without further overburdening an already stressed system. The idea that successful networks must increase the number of partners and meetings can overwhelm the effort. Alternatively, identifying measures of partnership that include looking at the quality of relationships, the exchange between member organizations, and various options for "networking" can help networks manage relationship budgets (i.e., the time and resources spent managing relationships in order to achieve the collaborative's goals).

What is the goal of using this Early Childhood Network Mapping Toolkit?

The Early Childhood Network Mapping Toolkit is intended to help members identify strategies for improving their networks while staying within their relationship budgets. In the area of early childhood, organizations often spend significant time and resources building networks and making plans for services and supports for children and families, yet there are no established ways to assess whether these new or changing partnerships are having a direct benefit or a positive impact on outcomes. By systematically measuring connectivity (or the number and quality of relationships) over time, networks can better understand how resource expenditures are linked to collaboration, thereby providing better accountability to each other and funders.

Benefits of Using the Early Childhood Network Mapping Toolkit

PARTNER offers many benefits for measuring your network, a number of which have not been readily available to date. By using this Toolkit, you will be able to demonstrate to members, community partners, and funders how your network activity is linked to new processes and outcomes, including how community organizations participate and the resulting change to the network because of those interactions. Results will help your network strategically plan ways to work together in order to address early childhood issues facing your community. By using this Toolkit you can:

1) **Score your network.** A set of indicators (scores) help users to identify baseline measures of progress, areas where improvement can be made, and potentially even progress over time.

2) **Visualize your network**. In addition to scores, visualizations of your network can be a powerful representation for you and your partner organizations regarding how connected you truly are, where gaps exist among relationships, and how you might allocate or shift resources to strengthen particular relationships.

3) **Share results with network members, funders, and other stakeholders**. Results can be easily shared with members of your collaborative in addition to others such as community stakeholders and funders. By assessing scores and visualizations of your network activity, you can demonstrate the functionality of your network. For existing funders, these results highlight where and how funding has been used to strengthen partnerships. For potential new funders, a tool like this can concretely show where resources should be allocated to maximize collective benefit.

What will you need to do to use PARTNER?

Implementation of PARTNER requires the following steps:

1. Bound your network (network members' email and organizational affiliation). (See page 14 on bounding network.)
2. Introduce members of the network to PARTNER and inform members why their participation is important to gain valuable insight on the work of the network. (See above on benefits of using PARTNER tool and find a 2 pager to share here.)
3. Conduct outreach/engagement to ensure a sufficient response rate.
4. Communicate results to network members, existing and potential funders, and other community stakeholders and developing action steps for performance improvement.

SECTION 3: Theoretical Framework – How Network Science Can Help You Build and Sustain Your Network

Network Leadership:

Networks of organizations working across sectors to tackle big social problems are the latest trend and solution to achieving social impact. It is almost inevitable that increasingly apply the "network way of working" to our professional lives. While there are many reasons why we are moved to build more and more connectivity into our lives - for example, the efficiency we gain when we leverage and capitalize on diverse resources and knowledge across boundaries - there is a risk that too much connectivity can have adverse effects. The dilemma we face in this quest to fulfill our curiosity about networking, is how to build personal and professional strategies that require fewer necessary resources to build the most strategic networks that result in positive outcomes.

Intuitively, we know the kind of connectivity that is good, and that which is not. However, very few people know how to manage these processes, or leverage them in any kind of strategic way that may actually result in better connectivity. We learn at an early age that more connectivity is better – the more friends we have, the more popular we are; the more people we know, the more likely we are to succeed professionally. However, network science (the science of the interconnectedness among human and organizational entities) is based on a definitive principle that **more is not always better**. Physicists and mathematicians have shown that in networks, nodes can only hold so many connections before they are overloaded, and in turn the collaborative advantage of networking is reduced due to overload on the nodes in the network.

Perhaps the most meaningful network science principle is the "Strength of Weak Ties" theory, published by Mark Granovetter[3] in 1973. In seeking to understand how people got jobs, Granovetter's hypothesis that people are more likely to get jobs through their social connections was proven correct. Surprisingly, he also found that those jobs were not acquired through people we are most strongly connected to, but rather through those who we are connected to through our "weak ties." Our strong ties are to people with whom we share a lot of commonality (in network science terms this is called "homophily" meaning "birds of a feather flock together"). Our strong ties, for example, are to people with which we often spend most of our time – people who share common access to resources, share in our belief systems, have shared interests, and like to do the same things as us. In contrast, our weak ties are to people who are different from us – they know things we do not know about, they do things that we do not do, they have access to knowledge and resources we do not. Consequently, Granovetter found that our weak ties were better at helping us find jobs that those to whom we are most closely connected.

This concept – the Strength of Weak Ties – is fundamental to network science, and the strong desire we all have to build bigger networks of relationships. It explains the advantages to working across diverse boundaries and building networks of people and organizations that are different from us. However, it

[3] Granovetter, Mark S., "The Strength of Weak Ties," *American Journal of Sociology* 78, no. 6 (May, 1973): 1360-1380.

also leaves us with a complicated idea – that more connections are better. This is unattainable given that we simply cannot exponentially grow networks without incurring costs attributed to that approach.

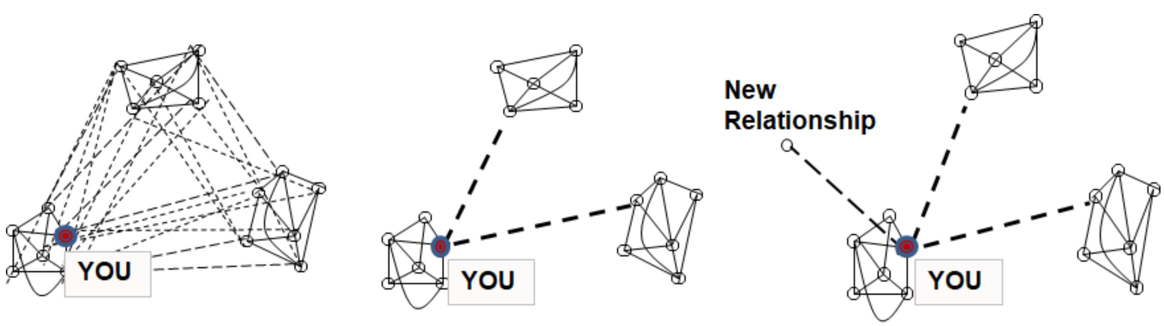
An Alternative Strategy - Filling Your Network with Holes

While the appeal to create a more diverse network is strong, we are equally challenged with the reality that we have **limited relationship budgets** – that is, limited resources to build and manage diverse networks. We know that networks have advantages but there is a limit on how many relationships we can manage before we lose the collaborative advantage altogether[4]. Ron Burt, who focuses on creating competitive advantage in careers, organizations, and markets via network strategies, recognized this dilemma and published[5] a solution that emphasizes reducing redundancies in a set of network relationships. This strategy, in turn, creates intentional "holes" in the network, while maintaining key connections to leverage the collaborative advantage while strategically managing resources committed to building relationships.

How Does This Thinking Work in Practice?

For example, the image below shows how it might work in practice to "fill your network with holes". Imagine that you are the red dot in the network maps. In the network on the left, we see how each of us is embedded in our own social subnetworks, which are filled mostly by connections to our "strong ties". We are continuously building out those networks, filling up all holes with weak ties to diverse partners in different subgroups. It quickly becomes chaotic and difficult to manage. In network science terms, we call this having a "closed network" – that is, a network where most of the possible connections that can exist, do exist.

This kind of network building happens commonly in our personal lives, but when it comes to our professional and organizational relationships, we simply do not have the time, budgets, or bandwidth to maintain this level of connectivity. While networking is promoted in our professional and organizational lives, we are also bound by organizational constraints like limited number of work hours, multiple obligations to varying types of work, and budgets to which we must adhere. In the center image below, Burt's principle of creating structural holes is implemented, thus a more strategic approach is taken by



[4] Huxham and Vangen. 2005. Managing to Collaborate: Theory and Practice. Routledge, New York, NY.

[5] Burt, Ron. 1995. Structural Holes: The Social Structure of Competition. Harvard University Press, Cambridge, MA.

keeping only a limited number (1-2) of connections to other diverse subnetworks. This enables us to leverage the collaborative advantage of the strength of weak ties, while limiting the number of resources required to maintain them. Ideally, our limited connections are to trusted, well-connected people, who can connect us to the other connections in that social subnetwork. For example, if a subnetwork represents a hard-to-reach population, or a group of policy-makers, we may work to maintain one trusted relationship to a “gatekeeper” or “broker” that when needed, can connect us to the others in that subnetwork.

That approach allows us to maintain our collaborative advantages, while expending fewer resources, and freeing us up to build new relationships with others in additional subnetworks (subsequently building more collaborative advantage to more weak ties).

People who take this approach have what we characterize as more “open networks.” Open networks are those that have more “space” to build new connections, while enabling us to devote fewer precious resources to building that network.

Want to Be a Great Networker? – Do Less, But Be More Strategic

In today’s social structures, there is a propensity to value the act of increasing connectivity, both in our personal lives, and across our professional and organizational boundaries. This approach emphasizes the idea that more networking is better networking; that focusing on collaborating across sectors will bring a certain type of collaborative advantage that can have positive personal, professional, and societal impacts. However, as promising this seems, it can be endlessly resource intensive. Given the uncertainty of just what benefit networks bring to these outcomes, it can become a relentless effort of building connectivity in an endless cycle of “more is better.” Without a strategy towards “less can be more”, it can all be for naught.

The lesson here is that to be a great networker, you don’t have to be super outgoing, someone who goes to every event, the person with the biggest list of partners, friends, or colleagues. Rather, the great networkers are those who think strategically about their networks. Great networkers seek to strategically cultivate the fewest necessary connections to the most well-connected people in order to support optimal outcomes.

If nothing else, if you can start *thinking* this way about your networks, you will be a step ahead of the rest. If you start *practicing* these kinds of strategies, you will begin to instantly see how you can maintain a greater collaborative advantage while reducing your network connections. If you want to be more sophisticated in your strategies, go out and collect data on your networks. Using an approach such as social network analysis, and tools like the PARTNER tool, you can begin to have an evidence-base that you can use to support identification of collaborative strategies, test the evolution of these ties over time, and if you can link them to outcomes, test the efficacy and success of your strategic approach.

Over years of research on networks, one recipe for success that continues to work is rather counter-intuitive to most network managers. When network managers see to it that every member of the network: 1) has a role, 2) is only invited to meetings at which they are able to play that role, and 3) is asked only to participate in the most minimal way possible to achieve overall goals, then members of the network tend to stay more engaged, agree to play their roles when they are needed, and networks sustain over time.

What Makes a Good Backbone (Organizing Entity) in the Context of Network Leadership?

Any collective effort needs to have some agency, person, or team that is coordinating things—conceptualized in the HMG context as the Organizing Entity. Others refer to this role as a "backbone" organization. The backbone model to governing a network became particularly popular when the Collective Impact (CI) model was published. The CI model proposes that five conditions should be met for a network to be effective. These are: having a common agenda; having a shared measurement system; engaging in mutually reinforcing activities; open and continuous communication; and governance by a backbone organization. The authors of the model state, "…we believe that there is no other way society will achieve large-scale progress against the urgent and complex problems of our time, unless a collective impact approach becomes the accepted way of doing business."[6]

According to the Backbone Starter Guide from FSG and the Collective Impact Forum, core functions of a backbone organizations include having a guiding vision and strategy, supporting aligned activities, establishing shared measurement practices, cultivating community engagement and ownership, advancing policy, and mobilizing resources. They note that "backbone entities most often support all of these functions to some degree, although a backbone's priorities tend to shift over time." Efforts to install, implement, and sustain HMG rely on functions of the Organizing Entity as described here.

This Starter Guide provides a method for a HMG Organizing Entity to fulfill one of its key functions – to establish shared measurement practices. The use of this Starter Guide will result in a set of measures to demonstrate the collaborative activities among early childhood system partners, which if used over time, can demonstrate to funders, partners, and stakeholders change and progress over time.

While the HMG Organizing Entity must lead its early childhood network in these key functions, a core value of a successful backbone organization is to promote the capacity of all stakeholders to participate. Network leadership is a skill all members need, not just the backbone members. All members of the network should be made responsible for moving the work forward, in the capacity that best suits the network. Backbone organizations should able to develop processes of shared responsibility and accountability.

Something not mentioned in the above guidance is an additional core function for a backbone organization, in their critical role related to long-term sustainability of the network. While backbone

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[6] John Kania and Mark Kramer, "The Collective Impact Framework," Collaboration for Impact.

organizations can be the impetus for success in the early days of a network, backbones need to have a long-term strategy to de-centralize and democratize leadership, power, and control. It is true that collaboratives need to be organized and managed, however networks will not succeed if the backbone organization does not have a plan to evolve its own role in time and ensure that the network can sustain itself without inordinate and indefinite reliance on a single backbone organization. Backbones may have a core function, but a successful backbone should consider long-term strategy to step back in some capacity, even if this pertains to only some of its functions and/or is very far in the future. To reap the benefits of a network—the synergy that exists when a committed group of organizations and people work together to solve a problem—a structure must exist that does not require a perpetual external backbone as the glue. Instead, it requires an interconnected web and equitable distribution of authority, responsibility, accountability, and decision making. The result is a more sustainable structure, where power is balanced, responsibility is shared, and accountability structures are in place.

Glossary at A Glance

For a more detailed list of terms, see Appendix 1.

Attributes: is a characteristic of an object (person, thing, etc.) used to identify each organization or individual.

Centrality: A measure of how network structure and position contribute to a node's importance, value associated with every node Centrality measures include degree centrality and closeness centrality.

Centralization: A measure of the extent to which a network is dominated by one or a few very central hubs. In a highly centralized network, these central hubs represent single points of failure which, if removed or damaged, quickly fragments the network into unconnected sub-networks. A less centralized network has fewer points of failure and exhibits greater resilience, since many nodes or links can fail while allowing the remaining nodes to still reach each other over other network paths.

Density: The concentration of individuals who are connected to each other in a network. An increase in connections means an increase in density.

Edge: this term is used in degree centrality definition and I can't decipher how edges are different than 'connections', which seems to be important in understanding the distinction between degree centrality and closeness centrality

Network Map: A visualization that displays the members of a group and the relationships among them. Nodes (usually represented as circles) represent the members of the network and the presence of a line connecting any two nodes represents the presence of a relationship.

Network: A formal or semi-permanent partnership created between three or more people or organizations in order to better achieve mutually desired objectives.

Nodes: Usually represented as circles in a network map represent the members of the network and the presence of a line connecting any two nodes represents the presence of a relationship. A node can be a person, organization, department, etc.

Quality Improvement: Quality Improvement includes a Plan, Do, Study, Act process that involves evaluating performance measures through data collection to identify and use benchmarks to identify and document the necessity for change in provision of services which ultimately results in change being implemented with re-measuring done as necessary to assure improvement (HRSA 2011).

Reciprocity: The mutual exchange between people, organizations, or groups.

Social Network Analysis: The study of the structural relationships among interacting network members — individuals, organizations, etc.—and of how those relationships produce varying effects.

Trust: Measured here as the amount of reliability, support for the mission, and willingness to engage in frank, open, and civil discussion, considering a variety of viewpoints that an organization is described as having.

Value: The weight placed on an organization in terms of its ability to provide resources, the level of power/influence it has in the community, and the level of involvement it contributes to the group. Each of the three characteristics are considered equally important, however the more any single organization/person has of each improves the way the organization/person is valued overall.

Visualization: A graphic or pictorial representation to communicate a message.

SECTION 4: Bounding your Network

Identifying Who to Include in Your Network

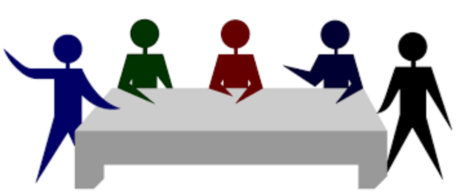
The first step in using PARTNER and this Early Childhood Network Mapping Toolkit is to determine the members of your early childhood network you wish to include. To get started, you first want to identify which organizations (or individuals if appropriate) are members of the existing network of early childhood organizations, agencies, departments, programs, and initiatives that exist in your community or state. If your organization plays a role in the network be sure to include it in the list if you want your organization be to a part of the results. For some, this is one of the hardest steps in the project. Some may know exactly who they will include in their respondent list and others may find this step to be more challenging.

Tip: If you are not sure who to include, take a pause to get feedback from stakeholders in the system. Ask them who they would include and work with the list they produce. Engaging them in this process will ensure you have a comprehensive list, but also begins to develop buy-in from your partners when you engage them in the process.

Tip: Do not include multiple people from the same organization, but rather have them work together to answer the survey. If you do include multiple contacts from the same organization, you will need to add a department or a title at the end of the organization name and short name because the PARTNER Tool will not accept redundant names (e.g., Child Learning Center-Director (Short name- CLC:D) and Child Learning Center: Teacher (CLC:T)).

Bounding the Network

The organizations, agencies, departments, programs, and initiatives you choose to include as you bound your network will be the entities that will show up in the network maps representing the early childhood system in your community or state, and the specific contacts at each organization will be the ones who are responding to the survey answering on behalf of their organization. Because of this, it is critical that the process of bounding your network be both ***collaborative*** and ***intentional***. The process is *collaborative* because you, as HMG coordinator, should reach out to the key members of your early childhood network and ask them which organizations they consider to be part of the early childhood system in your community. Next, think about who is not currently considered part of the early childhood system but maybe could or should be involved. If you are not the HMG Organizing Entity, it is important to seek input from them on their organizational partners as a first step because they have a "view of the early childhood landscape" that other organizations may not have. The process is also *intentional* because you will want to be purposeful in who you include in the final list of organizations and respondents.



You will want to include specific contacts who have "sat at the table" and can answer the survey which includes questions around the network itself, as well as questions about the specific partnerships their organizations maintain with other organizations in the early childhood space. There may be some organizations for whom you do not already have an established contact posessing the high-level perspective needed to participate in this project on behalf of their organization. Should cases like this arise, seek input from your partners (such as your HMG Leadership Team, and/or HMG Work Groups) on the best-suited individual from those organizations to participate.

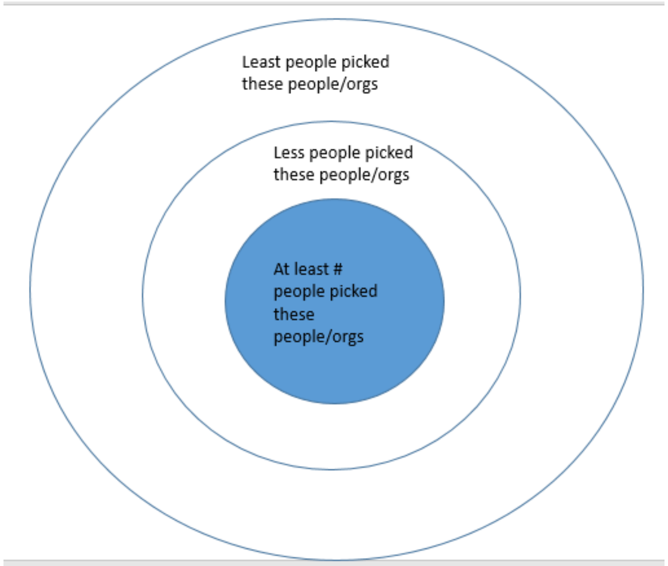
Be sure to include representation from all the sectors that touch the lives of families with young children in your community or state. Consider including in this project any and all organizational partners that are working together on the collective goal of promoting the healthy development of each and every child. For example, early childhood networks often include not only early learning center and early childhood providers, health care providers, schools and agencies, mental/behavioral health providers, family support and parent education organizations, community health centers, hospitals, health insurers, but also entities that operate outside the traditional sphere of child and health care, such as faith-based and other non-health community-based organizations, businesses, and even other non-health governmental agencies.

Who Should Bound the Network?

As mentioned above, it is important that the HMG Organizing Entity, Leadership Team, Work Groups, and any other key members of the system contribute their perspective on the array of organizations that are a part of the early childhood network. Collectively, these informants will have a comprehensive view of the landscape that will be essential to ensuring all organizations involved in the early childhood system are included and that the appropriate contact for those organizations is selected.

In order to leverage the individuals participating on your HMG Leadership Team and HMG Work Groups for support and additional ideas in bounding your network, you may consider showing your initial or more extensive list to members of your HMG Leadership Team and requesting each send you thoughts on organizations missing or that you might want to consider for inclusion. You might prompt your HMG Leadership Team to think innovatively about their recommendations in binding the network, and see they have ideas on unusual partners to include in your Early Childhood Network Mapping. Consider sharing content on the Strength of Weak Ties with the HMG Leadership Team as you seek to identify new and novel organizations to include in this effort.

You will develop a list of organizations based on input from the HMG Organizing Entity, Leadership Team, Work Groups, and the key members who are connected to the early childhood system in your community. There may also be organizations that you want to include in the system but not have them answer the survey, and that is okay. It is important to include those organizations in the list. A good tip to keep in mind, is to include organizations that may not already be formal partners as well as unusual suspects that may not always sit at early childhood tables but also play a role in the early childhood system like major employers and the faith-based community.



Your initial list should include some "VIPs" chosen by the HMG Leadership Team and other key informants. These VIPs are people who are already highly engaged in the system including: community leaders; funders; and obviously the most integral contacts to the early childhood system. Then add to the list those unusual suspects and organizations that are strategically beneficial to the outcome of promoting the healthy development of each and every child in your community or state. At this point your list should be very extensive after soliciting input from various informants.

Next, review your list and see if there are specific organizations that the majority of the key informants said to include. Highlight those organizations as ones who you will include in the final respondent list. Then, look at the list of organizations that some of the key informants said to include, highlight those organizations as one you could include in the final respondents. Finally, look at the organizations that only a few or a couple of the key informants said to include and then highlight those organizations as the ones who you might want to include but do not have to include. The organizations in this subset may be the unusual suspects or the ones who may not formally be a part of the network but could develop into more of a concrete partnership down the road.

Completing Your Respondent Information Worksheet

Once you have determined which organizations (and/or departments or individuals) you will include in the survey process, you enter all respondents' information into a Respondent Information Worksheet provided to you by the HMG National Center. **If multiple people from an organization are members of the network**, choose one person who will best represent that organization to include as the survey respondent. DO NOT duplicate organization names (long names or short names). If you have more than one department within the same organization or more than one person from the same entity, you will need to distinguish their organization name so that respondents to the survey will can make a distinction between them on a list. Should it better serve your purposes, you may want to discretely code these short names in order to maintain anonymity of the respondents in the network maps. Alternatively, you may prefer to utilize established and well-known acronyms for the various organizations, so they may be easily recognizable in the map visuals included in your report.

Defining Groups

Some of the analysis conducted through the HMG Early Childhood Network Mapping project seeks to describe the dynamics and relationships between some key groups involved in HMG planning, installation, implementation, and sustainability: The HMG Organizing Entity, HMG Leadership Team, and organizations that are neither the HMG Organizing Entity nor a Leadership Team member.

When filling out your Respondent Information Worksheet, you will find a column to designate groups. In this column, mark whether each organization is a HMG Organizing Entity (HMGOE), a HMG Leadership Team member (HMGLT), or Neither (NONHMG).

Appendix 1: Glossary

Action Steps: Steps to get you from where you "are" to where your goals indicate you "should be" (act).

Attributes: is a characteristic of an object (person, thing, etc.) used to identify each organization/ individual.

Central members: Network members who hold key positions in the network because of the number and placement of their connections within the whole network.

Centrality: A measure of how network structure and position contribute to a node's importance, value associated with every node Centrality measures include degree centrality and closeness centrality.

Centralization: A measure of the extent to which a network is dominated by one or a few very central hubs (i.e., nodes with high degree and betweenness centrality). In a highly centralized network, these central hubs represent single points of failure which, if removed or damaged, quickly fragments the network into unconnected sub-networks. A less centralized network has fewer points of failure and exhibits greater resilience, since many nodes or links can fail while allowing the remaining nodes to still reach each other over other network paths.

Closeness Centrality: is an indication of the number of edges between a member and all the other members. A high closeness centrality score (closer to 1) indicates members who have the least number of edges between themselves and other members. Members with high closeness centrality are considered central because they can most easily reach other members of the network. This is ideal if, for example, members wanted to quickly spread news within the network. This is an indication of how far from all others and how long information takes to arrive.

Connectivity: The state of being connected between two or more points in a network.

Cooperative Activities: Includes process activities in addition to exchanging information, attending meetings, offering resources (Example: informs other programs of RFA release).

Coordinated Activities: Includes process and cooperative activities in addition to sharing data, literature, evidence-based interventions/ programs/training ideas (Example: my organization shares protocol templates with this organization).

Degree centrality: is a count of the number of connections a network member has to other members of the network. It is often thought that a member with a high number of connections holds a central position by being highly embedded in the network. This is an indication of direct influence and how well connected everyone is.

Degree centralization: Degree centralization refers to how well connected the members of the network are, collectively. Lower centralization scores indicate that fewer network members hold highly central positions; positions of brokerage and information sharing are held by only a small number of members and power/control may be centralized. Higher network centralization indicates that members are more equally interconnected, which in turn may increase their willingness to support the collaborative's goals.

Density: The concentration of individuals who are connected to each other in a network. An increase in connections means an increase in density.

Embedded: The nature by which a network member is contained within the relationships of others in a network.

Frequency of interaction: The number of occurrences of being in touch with another person, group, or organization during a certain time period.

In Support of the Mission: means this organization supports the network's common vision for disaster preparedness, response, and recovery.

Integrated Activities: Includes process, cooperative and coordinated activities in addition to developing trainings and exercise ideas into action and implementation of trainings and exercises in a joint effort (Example: organizations plan together and lend resources, staff, and/or time to implement an emergency plan).

Level of Involvement: means the organization is strongly committed and active in the emergency preparedness response, and/or recovery community and completes tasks.

Network Map: A visualization that displays the members of a group and the relationships among them. Nodes (usually represented as circles) represent the members of the network and the presence of a line connecting any two nodes represents the presence of a relationship.

Network: A formal or semi-permanent partnership created between three or more people or organizations in order to better achieve mutually desired objectives.

Nodes: Usually represented as circles in a network map represent the members of the network and the presence of a line connecting any two nodes represents the presence of a relationship. A node can be a person, organization, department, etc.

Non-Redundant Ties: are indications of the number of non- redundant connections between members who are connected to any other member you are connected to, so there is a connection to a different clusters or groups within the network. Redundant ties are more likely to be strong ties, and those connections will be the most like you. Non-redundant ties are important in receiving new information and innovative ideas and are considered to be weak ties.

Openness to Discussion: means this organization is willing to engage in open discussion for resolution even when disagreement exists.

Partnership: Different organizations, may partner together to increase the likelihood of each achieving their mission and to amplify their reach in the community.

Power/Influence: means the organization holds a prominent position in the community, exhibits power, has influence, shows success as a change agent, and/or demonstrates leadership.

Process Activities: Includes only attending meetings together**.**

Quality Improvement: Quality Improvement includes a Plan, Do, Study, Act process that involves evaluating performance measures through data collection to identify and use benchmarks to identify and document the necessity for change in provision of services which ultimately results in change being implemented with re-measuring done as necessary to assure improvement (HRSA 2011).

Reciprocity: The mutual exchange between people, organizations, or groups.

Redundancy: Repetitive or a duplication.

Relationship budgeting: Making discriminate choices between collaboration alternatives, considering the cost, quality, and possible outcomes of a strategic approach to collaborative management. The primary question driving a relationship budget is: How many relationships can effectively be managed with the resources available and still achieve the outcomes we desire?

Relative Connectivity: The connectivity score is an indication of how much each member is theoretically benefiting by being a part of the network, relative to benefit received by being connected to other members of the network. The scores are based on a combination of three components: trust, value, and number of connections. A member gets a high connectivity score when they have a lot of connections with valuable partners who trust them. In other words, if a member is engaged in many trusted ties with organizations that the members consider valuable to the collaborative, then they are given a high score. The assumption is that a network member will receive the most amount of benefit from being a member of the network when they are embedded under these conditions. The score is relative to the score of the member with the highest number of trusted connections to valuable partners.

Reliability: means the organization is reliable and follows through on commitments to the network.

Resource Contribution: means the organization contributes resources to the network such as funding or actively shares information among members or others in the jurisdiction.

Resource Exchange: A mutual sharing and receiving of goods, knowledge, experience, etc.

Score: A number indicating quality or performance.

Social Network Analysis: The study of the structural relationships among interacting network members — individuals, organizations, etc.—and of how those relationships produce varying effects. The fundamental property of network analysis is the ability to determine, through mathematical algorithms, whether network members are connected—and to what degree —to one another in terms of a variety of relationships like communication, resource sharing, or knowledge exchanges. Network analysis provides a mathematical approach to measure the number, the paths, and the strength of those connections. In addition, visual representations of the network can be created as graphs.

Structural Holes: Lack of ties or missing connections among alters of one ego. Alters only connected to ego not each other.

Trust: Measured here as the amount of reliability, support for the mission, and willingness to engage in frank, open, and civil discussion, considering a variety of viewpoints that an organization is described as having.

Value: The weight placed on an organization in terms of its ability to provide resources, the level of power/influence it has in the community, and the level of involvement it contributes to the group. Each of the three characteristics are considered equally important, however the more any single organization/person has of each improves the way the organization/person is valued overall.

Visualization of network: A graphic or pictorial representation to communicate a message about a network.

Appendix 2: Frequently Asked Questions

Q: Can I use PARTNER if we are just forming as a network?

A: Yes, this is a great time to use PARTNER to help with strategizing.

Q: What is the estimated number of hours that will be required by my team to use PARTNER?

A: Different agencies have a wide variety of experiences in terms of how much time it takes. We have some PARTNER users who have a very good understanding of who are in their network and what they want to evaluate, others have a lot of thinking and planning to do before they can get started on the tool. These aspects could have a big impact on how much time would be involved.

Q: Who should I include in the respondent information worksheet?

A: You can include the members of your network, potential members, or anyone that you are interested in including in your network visualizations and analysis. You don't have to send the survey to everyone (if you chose not to send it to some of the people on the list be sure to assign your email address to their ID). Be sure to include your organization on the list if you are a part of the network and want to be included in the data. See the section on bounding the network under Section 4 for more specific information.

Q: Can I add/delete new organizations after the survey is sent out to network members?

A: No, because you cannot change the list of organizations once you have disseminated the survey. Doing so will cause errors in the analysis program.

Q: What type of response rate do I need for an accurate reflection of my network?

A: The higher the response rate the better. It is important to have as many respondents as possible, particularly in evaluating a network. However, at times it is just not possible to get a 100% response rate so there are a few things you can keep in mind. If we consider each person as providing accurate information, then you might assume that even those that did not respond would have reported similar relationships, so there is a chance that you get a pretty complete picture even without everyone's responses. Also, keep in mind that whatever feedback you get is more than they had before. Ultimately, this can be a problem with all survey research and a particular problem with social network surveys and therefore response rate should be reported (perhaps as a strength or a limitation) when reporting the results. We recommend reporting initial findings back to your network at various intervals as a method to encourage them to participate.

Q: Can I use the survey and PARTNER more than once?

A: Yes, you can use the PARTNER tool and survey as many times as you desire. Simply contact the HMG National Center for additional information.