Network Analysis to Build Community Partnerships in an Early Childhood System of Care

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Building Resiliency for Infancy through Development, Growth, & Empowerment

A collaboration across agencies, families, and children to improve access and expanding the array of coordinated services.
Building Resiliency for Infancy through Development, Growth, & Empowerment (BRIDGE)

- Southern Maryland: Three counties
  - Calvert, Charles, St. Mary’s
- Awarded 2015
- Entering Year 3
- Started with limited knowledge of early childhood systems
- Requires integration across three rural counties
- Partners both within and across three counties
BRIDGE Logic Model

External Factors
Political influences: current Governor, insurance difficulties, digital divide, cultural differences and thoughts about mental health/using system, distrust in Gov't and systems
Geographic differences: transportation, distances within region, local cultures of 3 different counties, childcare needs and/or limitations
Personnel challenges: competency needs, turnover, schools existing system, lack of local resources, knowledge deficit about ECMH, what services exist and how to access, private insurance lacks accessibility to services

Assumptions
EBPs are best and more advantageous
Parents will want services

Leadership Team Participation
Charles County LMB, ChCHD, CCHD, St. Mary’s LMB, MFN, MCF, PRC, CFC, SSW

Glossary
ABC=Attachment and Biobehavioral Catch-up
ChCHD=Charles County Health Department
CCHD=Calvert County Health Department
CCO=Care Coordination Organization
CFC=Center for Children
CLAS=Cult. & Ling. Appropriate Services
COS-P=Circle of Security-Parenting
CPP=Child-Parent Psychotherapy
EBP=Evidence-Based Practice
ECMH=Early Childhood Mental Health
E-ECMHC=Enhanced ECMH Consult.
LMB=Local Management Board
MCF=Maryland Coalition for Families
MFN=Maryland Family Network
PCIT=Parent-Child Interaction Therapy
PRC=Promise Resource Center
SWM=UMB School of Social Work
Assessing Collaboration

- Collaboration is a prerequisite for the sustainability of interagency programs (Perkins, 2002; Peterson, 1991)

- We wanted to measure how relationships changed over time and if efforts to increase collaboration were effective

- The Levels of Collaboration Scale
  - Used with programs with time-limited grant-funding sources
Method:
Levels of Collaboration Scale

- Collaboration data collection occurs 3-4x per calendar year
- Monthly Executive Leadership Team Meetings
- \( N = 20 \) community partners

<table>
<thead>
<tr>
<th>Data Collection Occasion</th>
<th>Participants</th>
<th>Participant Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2016</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Spring 2017</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Summer 2017</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Fall 2017</td>
<td>20</td>
<td>16</td>
</tr>
</tbody>
</table>
Southern Maryland BRIDGE
Community Partners (Time 1)

Note. Circles indicate location of partner agencies.
Southern Maryland BRIDGE
Community Partners (Time 1 + Time 4)

Note. Circles indicate location of partner agencies (red circles indicate Time 4).
**Method:**

*Levels of Collaboration Scale*

<table>
<thead>
<tr>
<th>Level</th>
<th>Relationship Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Interaction</td>
<td>none</td>
</tr>
</tbody>
</table>
| Networking    | • Aware of organization  
                | • Loosely defined roles  
                | • Little communication  
                | • All decisions are made independently |
| Cooperation   | • Provide information to each other  
                | • Somewhat defined roles  
                | • Formal communication  
                | • All decisions are made independently |

**Methodology: Levels of Collaboration Scale**

<table>
<thead>
<tr>
<th>Networking</th>
<th>Cooperation</th>
<th>Coordination</th>
<th>Coalition</th>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
# Method: Levels of Collaboration Scale

<table>
<thead>
<tr>
<th>Level</th>
<th>Relationship Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking 1</td>
<td></td>
</tr>
<tr>
<td>Cooperation 2</td>
<td>• Share information and resources&lt;br&gt;• Somewhat defined roles&lt;br&gt;• Formal communication&lt;br&gt;• All decisions are made independently</td>
</tr>
<tr>
<td>Coordination 3</td>
<td>• Share ideas&lt;br&gt;• Share resources&lt;br&gt;• Frequent and prioritized communication&lt;br&gt;• All members have a vote in decision making</td>
</tr>
<tr>
<td>Coalition 4</td>
<td>• Frequent communication is characterized by mutual trust&lt;br&gt;• Members belong to one system&lt;br&gt;• Consensus is reached on all decisions</td>
</tr>
<tr>
<td>Collaboration 5</td>
<td></td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th></th>
<th>Fall 2016</th>
<th>Spring 2017</th>
<th>Summer 2017</th>
<th>Fall 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>.336</td>
<td>.636</td>
<td>.523</td>
<td>.376</td>
</tr>
<tr>
<td>Reciprocity</td>
<td>.378</td>
<td>.629</td>
<td>.638</td>
<td>.531</td>
</tr>
<tr>
<td>Number of ties</td>
<td>37</td>
<td>70</td>
<td>69</td>
<td>143</td>
</tr>
<tr>
<td>Centralization</td>
<td>.264</td>
<td>.164</td>
<td>.205</td>
<td>.203</td>
</tr>
</tbody>
</table>

*Density -> the proportion of present edges from all possible edges in the network.
*Reciprocity -> the proportion of reciprocated ties (for a directed network)
*Ties -> number of links
*Centralization -> identification of highly ‘central’ or influential agency with strong connections to other agencies
**Time 1**

<table>
<thead>
<tr>
<th>Number of Links</th>
<th>Mean Level of Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.27</td>
<td>2.09</td>
</tr>
</tbody>
</table>

Note. The two numbers in each circle reflect, first, the number of partners with whom each entity collaborates and, second, the mean level of collaboration across all partners.
<table>
<thead>
<tr>
<th>Time 2</th>
<th>Number of Links</th>
<th>Mean Level of Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.00</td>
<td>2.78</td>
</tr>
</tbody>
</table>

Note. The two numbers in each circle reflect, first, the number of partners with whom each entity collaborates and, second, the mean level of collaboration across all partners.
Time 3

<table>
<thead>
<tr>
<th>Number of Links</th>
<th>Mean Level of Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.08</td>
<td>2.37</td>
</tr>
</tbody>
</table>

Note. The two numbers in each circle reflect, first, the number of partners with whom each entity collaborates and, second, the mean level of collaboration across all partners.
Time 4

<table>
<thead>
<tr>
<th>Number of Links</th>
<th>Mean Level of Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.06</td>
<td>1.95</td>
</tr>
</tbody>
</table>
Subgroups and Communities: Cliques

Time 1

Time 4
Subgroups and Communities: Community Detection

Time 1

Time 4
What Does It All Mean?

Visual representation of changes in program staff and increased outreach efforts

• Time 2 and Time 3 showed both a change in Project Director and a new grant administrator
  – Increased communication with all partners as new Project Director learned BRIDGE and helped to develop more goals
  – Funding/contracting concerns resolve
What Does It All Mean?

• Time 3 and Time 4 showed the increase in outreach by several key partners
  – Identified where connections were needed and who was not represented
  – New Project Director and other key partners engaged in targeted invitations to meetings

• Times 2 to 4 showed several activities that brought people together
  – ECSII (Early Childhood Services Intensity Instrument) training
  – Connection with SEFEL (Social & Emotional Foundations of Early Learning) trainings in S. Maryland
  – Interactions at other state meetings
What Does It All Mean?

- At the same time the University of Maryland School of Social Work has become a less prominent figure and local partners have become more integral partners.

- Partners have come together to fund a Warm Line central referral system:
  - Has increased investment in the SOC as a system and shared vs. siloed services.
  - Will result in connections with more community services.
  - Formally involves the local family voice organization.
Next Steps

• Continue data collection

• Examine relations to the SOC Assessment
  – Data collection occurred July 2017 from the BRIDGE Leadership Team

• Provide partners with an individualized network analysis that targets their collaborations
  – Here is an example ...
Time 1

MFN Collaborations
**Time 1**

**Level of Collaboration**

- **CCFN**
- **CCHD**
- **CFC**
- **ACYF**
- **CSA**
- **ChCHD**
- **MCF**
- **PRC**
- **LMB**
- **UM SSW**

- **Incoming Interactions to MFN**
- **Outgoing Interactions from MFN**

**MFN Collaborations**
Time 2
MFN Collaborations
Time 2

MFN Collaborations

Level of Collaboration

- CCFN
- CCHD
- CFC
- ACYF
- CSA
- ChCHD
- MCF
- PRC
- LMB
- UM SSW

- Incoming Interactions to MFN
- Outgoing Interactions from MFN
Time 3

MFN Collaborations
Time 3

MFN Collaborations

Level of Collaboration

Incoming Interactions to MFN  Outgoing Interactions from MFN
Time 4
MFN
Collaborations
Time 4

Level of Collaboration

MFN Collaborations

CCFN  CCHD  CFC  ACYF  CSA  ChCHD  MCF  PRC  LMB  UM SSW  DSS  CCHFA  CCPHS  CC CSA  CCITP  CC CSHCN  HFA  BHAT  JCPPE

- Black: Incoming Interactions to MFN
- Red: Outgoing Interactions from MFN
MFN Collaborations