Using Social Network Analysis to Evaluate Your Hep B Coalition

September 21, 2017
Phone/Audio Option

Call-In #: (213) 929-4212
Attendee Access Code: 467-378-021

All attendees are muted.
Questions?

Questions? Submit questions in the chat box at anytime throughout the webinar.
Hep B United: A National Coalition

Dedicated to reducing the health disparities associated with hepatitis B by increasing awareness, screening, vaccination, and linkage to care for high-risk communities across the United States.

- 30+ local coalitions & national organizations that focus on the Asian American & Pacific Islander communities.
- Collectively screen over 20,000 people each year
- Voices for local and national advocacy
- Co-brand the multi-lingual Know Hepatitis B campaign with CDC
Expert Speaker

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Comprehensive Cancer Control
Institute for Patient-Centered Initiatives and Health Equity at GW Cancer Center
The George Washington University
Using Social Network Analysis to Measure Coalition Collaboration: A Case of Community Roundtables

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Comprehensive Cancer Control
The George Washington University Cancer Center

September 21, 2017
Funding Disclaimer

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Learning Objectives

• Define social network analysis (SNA)

• Describe ways to use SNA to monitor the development of relationships and improve program delivery
What is a network?

A set of nodes (individuals/organizations) with a set of ties (social relation) that link them.

De Jordy, 2015.
Dr. Steve Borgatti

Paul Chellgren Chair and Professor of Management
University of Kentucky

https://www.youtube.com/watch?time_continue=43&v=kAN-E3u47ys
Basic assumptions of SNA

• People influence each other
  – Kinship: mother of; husband of
  – Roles: boss of; teacher of
  – Perceptual: knows; aware of
  – Affective: likes; trusts
  – Interactions: gives advice to; receives funding from; works with
  – Affiliations: belongs to the same organizations as; geographically near

• Ideas and materials flow through relationships

• Structure of relationships have consequences

Borgatti, 2002; De Jordy, 2015.
Communication flow in coalition network

Who are communication facilitators in the coalition network?

Who should you interview to assess areas for improvement in coalition communication?

Borgatti, 2002.
• **Title**: “Enhancing Implementation of Comprehensive Cancer Control Activities”

• **Timeframe**: 5 years (2013-2018)

• **Purpose**: Provide technical assistance and training opportunities to support National Comprehensive Cancer Control Program grantees and their partners

• **Website**: [www.CancerControlTAP.org](http://www.CancerControlTAP.org)
Community Roundtables Goal

Convene key cancer and chronic disease stakeholders and strengthen relationships at the community, state or regional level to promote increased integration efforts.
The Whole Person: The Web of Chronic Disease

- Tobacco use
- Alcohol use
- High cholesterol
- High blood pressure
- Diet
- Physical inactivity
- Obesity

Chronic Diseases
- Cardiovascular Disease
- Cancer
- Chronic Lung Disease
- Diabetes

Risk Factors

Among Alaska Adults with Cardiovascular Disease:
- 23% smoke
- 35% are inactive
- 42% are obese
- 25% have diabetes

Among Alaska Adults with Cancer:
- 20% smoke
- 30% are inactive
- 29% are obese
- 16% have a history of cardiovascular disease

Among Alaska Adults with Diabetes:
- 19% smoke
- 30% are inactive
- 59% are obese
- 19% have a history of cardiovascular disease

References:
2. AK BRFSS (2009-2011).

Source: http://dhss.alaska.gov/dph/Chronic/
Chronic Disease Prevention & Health Promotion

GW Cancer Center
Partnership with Area Health Education Centers

Photo courtesy of National Area Health Education Center Organization
Partnership with Area Health Education Centers

Very unengaged: 9
Neutral: 6
Very engaged: 0
Partnership with Area Health Education Centers
<table>
<thead>
<tr>
<th>Topics</th>
<th>Strategies</th>
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<tbody>
<tr>
<td>• Nutrition, physical activity and obesity</td>
<td>• Epidemiology, surveillance and IT</td>
</tr>
<tr>
<td>• Tobacco and alcohol use and substance abuse</td>
<td>• Policy, systems and environmental approaches</td>
</tr>
<tr>
<td>• Access to health services</td>
<td>• Prevention and detection</td>
</tr>
<tr>
<td>• Mental and emotional wellbeing</td>
<td>• Communication, education and training</td>
</tr>
</tbody>
</table>

**Static across 3 years**

**Changes every year**
How should we measure collaboration?
# SNA survey

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answer options</th>
<th>If you know this person, how do you know this person?</th>
<th>How often do you contact this person?</th>
<th>How often do you provide information to this person?</th>
<th>How often do you receive from this person?</th>
<th>How much do you trust this person?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By name [1], only class mate [2], only lab partners in class [3], personal friends [4]</td>
<td>Never [0], once a year or less [1], ~once a quarter [2], ~once a month [3], every week [4], every day [5]</td>
<td></td>
<td></td>
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<td>low [1], medium [2], high trust [3]</td>
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<td>0</td>
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<tr>
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<td>5</td>
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<td>3</td>
</tr>
<tr>
<td>Draco Malfoy</td>
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<td>1</td>
<td>0</td>
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<td>1</td>
</tr>
<tr>
<td>Neville Longbottom</td>
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<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>And so on…</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## SNA survey completed by Harry Potter

### Questions
- If you know this person, how do you know this person?
- How often do you contact this person?
- How often do you provide information to this person?
- How often do you receive from this person?
- How much do you trust this person?

### Answer options
- By name [1], only class mate [2], only lab partners in class [3], personal friends [4]
- Never [0], once a year or less [1], ~once a quarter [2], ~once a month [3], every week [4], every day [5]
- low [1], medium [2], high trust [3]

<table>
<thead>
<tr>
<th>Name</th>
<th>Knows you</th>
<th>Contact</th>
<th>Provide Information</th>
<th>Receive</th>
<th>Trust</th>
</tr>
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<td>And so on...</td>
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</tbody>
</table>
Community Roundtables SNA methods

- SNA surveys administered before each roundtable meeting
- 2015 Roundtables (all four locations): N=91
- 2016 Roundtables (all four locations): N=80
- UCINET SNA software
- Assess changes in network and working relationships
Activities: Northeast Kentucky

Topic: Tobacco

Map courtesy of Northeast Kentucky AHEC

Cancers
- Oropharynx
- Larynx
- Esophagus
- Trachea, bronchus, and lung
- Acute myeloid leukemia
- Liver
- Pancreas
- Kidney and ureter
- Cervix
- Bladder
- Colorectal

Chronic Diseases
- Stroke
- Blindness, cataracts, age-related macular degeneration
- Congenital defects—maternal smoking orofacial clefts
- Periodontitis
- Aortic aneurysm, early abdominal aortic aneurysm in young adults
- Coronary heart disease
- Pneumonia
- Atherosclerotic peripheral vascular disease
- Chronic obstructive pulmonary disease, tuberculosis, asthma, and other respiratory effects
- Diabetes
- Reproductive effects in women (including reduced fertility)
- Hip fractures
- Ectopic pregnancy
- Male sexual function—erectile dysfunction
- Rheumatoid arthritis
- Immune function
- Overall diminished health

CDC, 2017
Activities: Northeast Kentucky

Topic: Tobacco

- Identified local and national smoking cessation resources and incorporated into St. Claire Regional Medical Center’s EMR for easy referrals
- Developed and pilot tested the BREATHE Tobacco Treatment Specialist Training
Northeast Kentucky

Pre-Roundtable 2015

Average Degree
6.61

Average Distance
1.89

Dyad Reciprocity
0.12

Pre-Roundtable 2016

Average Degree
5.44

Average Distance
2.03

Dyad Reciprocity
0.40
Activities: Champlain Valley

Topic: Nutrition and Physical Activity

Obesity increases the risk of over 20 conditions, including:
- Sleep Apnea
- Coronary Heart Disease
- Stroke
- Respiratory Problems
- Liver and Gallbladder Disease
- Type 2 Diabetes
- Hypertension
- Endometrial and Colon Cancers
- Osteoarthritis

Map courtesy of Champlain Valley AHEC
Activities: Champlain Valley

Topic: Nutrition and Physical Activity

- Partnered with Vermont Department of Health to amplify communication campaign
- Identified and obtained commitment from an employer to incorporate 3-4-50
Champlain Valley

Pre-Roundtable 2015

- **Average Degree**: 4.97
- **Average Distance**: 2.17
- **Dyad Reciprocity**: 0.38

Pre-Roundtable 2016

- **Average Degree**: 9.31
- **Average Distance**: 2.06
- **Dyad Reciprocity**: 0.21
Activities: Florida

Topic: Nutrition and Physical Activity

Map courtesy of Gulfcoast South AHEC

GW, 2013.

Obesity increases the risk of over 20 conditions, including:

- Sleep Apnea
- Coronary Heart Disease
- Stroke
- Respiratory Problems
- Liver and Gallbladder Disease
- Type 2 Diabetes
- Hypertension
- Endometrial and Colon Cancers
- Osteoarthritis

GW Cancer Center
Activities: Florida

Topic: Nutrition and Physical Activity

- Mapped local resources
- Incorporated chronic disease slant to the South West Cancer Control Collaborative’s two-year strategic plan
Pre-Roundtable 2015

<table>
<thead>
<tr>
<th>Metric</th>
<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>Average Degree</td>
<td>2.83</td>
<td>4.43</td>
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<tr>
<td>Average Distance</td>
<td>2.12</td>
<td>1.99</td>
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<tr>
<td>Dyad Reciprocity</td>
<td>0.42</td>
<td>0.62</td>
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</tbody>
</table>
Activities: South Dakota

Topic: Nutrition and Physical Activity

OBESITY INCREASES THE RISK OF OVER 20 CONDITIONS, INCLUDING:

- Sleep Apnea
- Coronary Heart Disease
- Stroke
- Respiratory Problems
- Liver and Gallbladder Disease
- Type 2 Diabetes
- Hypertension
- Endometrial and Colon Cancers
- Osteoarthritis

Map courtesy of Northeast South Dakota AHEC

GW, 2013.
Activities: South Dakota

Topic: Nutrition and Physical Activity

- Mapped resources
- Collaborated with cancer clinics for referrals to Diabetes Prevention Program
- Produced electronic referrals policy
South Dakota

Pre-Roundtable 2015

Pre-Roundtable 2016

Northeast South Dakota Area Health Education Center

THE GEORGE WASHINGTON UNIVERSITY

Cancer Center
South Dakota

Pre-Roundtable 2015

Average Degree
6.50

Average Distance
1.52

Dyad Reciprocity
0.86

Pre-Roundtable 2016

Average Degree
6.15

Average Distance
1.66

Dyad Reciprocity
0.64
Use SNA to...

- Triangulate qualitative feedback
- Monitor project progress
- Identify areas for improvement
- Make project improvements
- Identify missing stakeholders
- Identify key stakeholders
Additional SNA resources

• Professional development workshops at American Evaluation Association Conference on Monday, November 6 to Tuesday, November 7, 2017 in Washington, DC
  – Social Network Analysis: Theories, Methods, and Applications
  – Evaluating Organizational Collaboration and Networks
  – Introduction to Social Network Analysis for Program Evaluation
  – Using Social Network Methods in Program Monitoring and Evaluation
Additional SNA resources

- [Using Social Network Analysis to Assess Mentorship in a Public Health Network](#) by Petrescu-Prahova, et al. in Preventing Chronic Disease
- [Interorganizational Relationships Within State Tobacco Control Networks: A Social Network Analysis](#) by Krauss, et al in Preventing Chronic Disease
- “Social Network Diagnostics: A Tool for Monitoring Group Interventions” by Gesell, at al. in Implementation Science
Thank You!

www.CancerControlITAP.org

- Free online learning modules on:
  - Patient navigation
  - Cancer survivorship
  - Communication and Media
- Comprehensive Cancer Control toolkits and guides
- Webinars and Ask-the-Expert sessions
- …and more!

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References


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www.gwcancercenter.org

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Sign-up for the GW Cancer Center’s Cancer Control Technical Assistance E-Newsletter: bit.ly/TAPenews
Please submit questions in the chat box!
Thank You!

Connect with us!

Hepatitis B Foundation
www.hepb.org

Join the Hep B United Coalition!
www.hepbunited.org