

Public Health Networks Project Recap

Section 1: Project Summary

Section 2: Results dissemination presentations to individual networks

Section 3: Presentation at CAHSPR (CPHA presentation not included to avoid duplication)

Background/Research Objectives

The emphasis in this research was to assess the ability of networks to engage in KT. There is little, if any, systematic understanding about KT strategies involving community-based collaborative decision-making. Previous KT studies related to public health have focused on the overall aim of increasing the use of research findings by decision-makers (e.g., public health unit managers, directors and medical officers of health), and front-line public health practitioners. To our knowledge there are no studies that consider KT in relation to public health practitioners and community partners, despite the fact that community engagement is a core public health value and activity. Filling this gap in knowledge is crucial for public health, where working in partnership with the community is a core value and Public Health Competency.

The goal of this study was to determine the extent to which networks are effective structures for research and knowledge sharing and utilization. The research objectives were:

- 1) To identify the current state of network interactions
- 2) To understand the current state of sharing of research and knowledge
- 3) To understand knowledge utilization among public health networks.

This project identified how networks share research and knowledge. Specifically, this project used social network analysis (SNA) to identify how public health networks interact to share research and knowledge in order to determine the extent to which they are effective structures for KT. This study sought to analyze the connections of 4 Canadian public health networks.

Methods

This study used a mixed methods approach; the qualitative data consisting of focus groups and the quantitative data consisting of demographic surveys and Social Network Analysis (SNA). Networks were recruited through public health units, based on established relationships between the researcher team members (A.K., M.M., and C.M.) and the directors of public health units or equivalent in Ontario, British Columbia, and Nova Scotia. Initial contact involved an e-mail to the director or equivalent of each public health unit. Upon confirmation of interest, the director selected a network within the public health unit and the network members were invited to attend a preliminary information meeting with a team members to discuss the project and assess interest in participation. Networks were eligible to

participate if they included at least three member organizations and spoke English; networks from different geographic locations were selected.

Participating network members attended a focus group and complete a series of questionnaires related to their experience as members of a public health network. The focus group guide was semi-structured and was subject modifications to adapt it to network context based on recommendations of network members. The questionnaires were administered during the same session as the focus group. The questionnaires included: one demographic survey and three questionnaires related to their general interactions, use of research and knowledge, and collaboration practices.

Questionnaire responses were analyzed in an electronic spreadsheet (i.e. Excel) using a double-input strategy. Data were converted to matrices for subsequent analysis in UCINET 6, a network analysis software. Metrics related to network structure (density, degree network centrality, eigenvector centrality, and QAP within the domains of general interactions, research and knowledge, and collaboration) were computed for interaction variables for each network. NetDraw, a feature in UCINET, was used to generate diagrams of the networks. Findings from the focus groups and from the SNA were used in a complementary fashion to provide insight into network interactions and research and knowledge sharing. The data from each network were not pooled; data were analyzed separately for each of the networks. Data has yet to be analyzed collectively for a cross-case comparison.

Research Findings

Members from 4 networks from British Columbia, Ontario and Nova Scotia participated in the study. Results will be presented according to Site below.

Site 1

The network at Site 1 (BC) is a provincially-based, voluntary, public health network that comprised of high-level actors from Health Authorities, government ministries, universities, non-profit organizations, and allied sectors. Its mandate was to advance the population health approach to public health and to reduce health inequities. Of 28 members, 12 participated in the SNA questionnaires and/or the focus group. The focus group and SNA showed that general interactions between members of this network are fairly scattered - not all members interact with each other, interactions are not necessarily on a regular basis, and members may not be very intimately involved. It was made explicit in the focus group that the main purpose of the network is for knowledge exchange, new ideas, and shared discussion between members. There are no particular projects or activities that the network commits to as a group. Knowledge exchange relates mostly to information about what is going on at other networks that members are also part of, or information about inequities activities in parent organizations, rather than scientific knowledge. The way in which research and knowledge are exchanged is at times

disorganized - the focus group revealed that processes for exchanging information are informal and ad hoc. This network is characterized by a high degree of trust, and members also collaborate in a variety of different ways.

Site 2

The network at Site 1 (ON) is a municipally-based, mandated public health network that is comprised of public health practitioners, managers and a non-profit organization representative. All 5 network members participated in the focus group and/or SNA questionnaires. It was clear from both the SNA questionnaire and focus group data that this network is very tightly connected. This level of interaction does not occur uniformly among all members, however. Certain categories which involve more intimate or specialized interactions (such as seeking advice or knowing more personally) only involve some members. Research and knowledge exchange is not a primary function of this network. In the SNA analysis, the domain with the highest number of low-density scores was "research and knowledge". Flow of research and knowledge through the network is somewhat half-hazard: each member receives information from their own sources and then they share it with the group, but they do not receive information as a group. There are also specialized roles for different types of research and knowledge between network members. This network had a high level of collaboration and largely had a common language and common goals.

Site 3

The network at Site 3 (NS) is a regionally-based, voluntary public health network that is focused on to improving communication, coordination, and collaboration among partners working toward improving and enhancing active living in Antigonish and Guysborough counties. Of 16 members, 10 participated in the focus group and SNA questionnaires. This is a connected network where members trust each other and have common goals. They have strong relationships, as indicated by correlated multiple ties. Research findings don't drive this network, which uses a range of information sources and draws on experiential knowledge. The network is only moderately connected in terms of network-related research, but basic information exchanges about research and knowledge is fairly evenly distributed. Overall, correlations across a number of research and knowledge exchange indicators were moderate to strong, positive, and statistically significant, meaning that there is a strong tendency to use the same people for multiple purposes within this domain.

Site 4

The network is a regional, community based, non-profit organization dedicated to promoting, supporting, and advancing sustainable development in the Antigonish area. Of 13 total members, 7 participated in the study. Common language and common goals link this network moderately. Nevertheless, these two relationships are correlated, suggesting that while members might only be moderately cohesive, these links related to language and goals are strong ones. Focus group participants spoke of having common values and a common vision as a facilitator of network functioning. They serve as a foundation for different types of information exchanges.

Trust, another indicator of collaboration and perhaps important for complex conversations, is also a moderate cohesive force. These densities were higher than those in research and knowledge (discussed below), indicating that they are the most important to the network, and hold it together, rather than exchanges about research. While research and knowledge exchange was not very prominent, these types of conversations were held across the network, with no specific "expert".

BC Population Health Network

Dr Anita Kothari and Dana Gore

Outline

1. Who we are
2. What we did
3. What we found
4. What do you think?
5. Next steps

Who We Are: The Team

- Dr Anita Kothari (akothari@uwo.ca)
- Dr Marjorie MacDonald
- Dr Benita Cohen
- Dr Charmaine McPherson
- Dr Shannon Sibbald
- Dr Maureen Dobbins
- Ms Dana Gore (dgore@sfu.ca)

Project Purpose

- The goal of this study was to determine the extent to which networks are effective structures for research and knowledge sharing and utilization.

What We Did: Methods

- February 7, 2011
- Focus Group
- Demographic questionnaire
- Social Network questionnaire
- n = 9/29 (focus group); n = 9 (SNA)

What We Found: Focus Group

Three major themes:

1. Working in a collaboration
 - Internal and external network functions
 - Barriers to network functioning
2. Information use
 - Information entry and circulation
 - Tools for information circulation
3. Network Impact
 - Internal
 - External

Working in a Collaboration

- External network functions
 - Advocacy for health inequity approach
 - “Guerilla in the bureaucracy”
 - Ambiguous role of network
- Internal functions
 - Incubator for ideas
 - Professional development
 - Knowledge and resource exchange
- Barriers
 - Conservative political climate
 - Constraints on members' time
 - Communication challenges

Information Use

- Information entry
 - Internal circulation from other members
 - Members send info as it comes up
 - No official organizational structure or repository for information that is exchanged in the network
- Potential facilitators
 - Webinars
 - Government connection
 - More academics in discussion

Network Impact

- Internal
 - Members receive: new info, help, advice, reactions + feedback to new ideas
 - Motivates members in their own work
 - Reduces isolation (re: inequities agenda)
 - Helps members 'define who they are' in public health
 - Keeps members accountable to the SDH/inequity agenda
- External
 - Difficult to measure effectiveness
 - Possible “mixed sense” about network impact
 - Linked to ambiguous role of network

What We Found: Intro to SNA

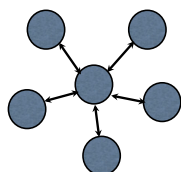
- SNA has four important features:
 1. it detects patterns of linkages between actors (i.e. clients of health service) or collective units (i.e. public health units);
 2. it is grounded in empirical data;
 3. it makes use of mathematical and computational models; and
 4. it is highly graphical.

Network

Some networks are centralized

Hub and Spoke

Efficient but not resilient

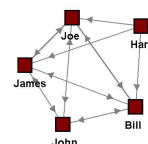


(J. Holley)

11

Networks

Some networks are closed (old boys networks); they may be effective but often are not innovative



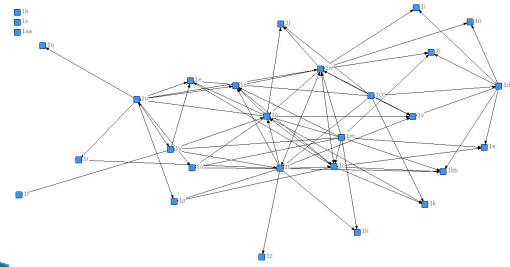
(J. Holley)

12

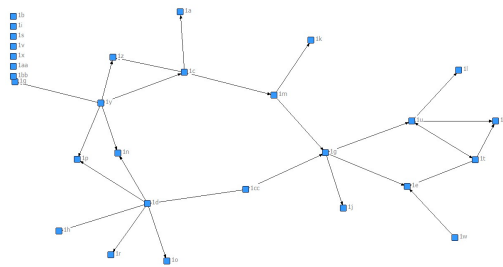
What We Found: SNA Results

- ▶ First - orientation
 - Response rate - ego centric perspective
- Sociograms, Metrics
- General Network Interaction
- Research and Knowledge
- Collaboration

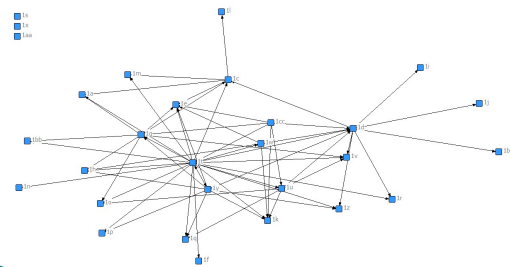
General Interactions: Engage in Regular Conversations



Research & Knowledge: Discuss Innovative or New Idea With



Collaboration: Use a Common Language with



What do you think & Next Steps

- ▶ Need to take limitations of study into account
- ▶ Written report detailing all questions, across sites

Ottawa Diabetes Risk Assessment Collaborative

Dr Anita Kothari and Dana Gore

0

Outline

1. Who we are
2. What we did
3. What we found
4. What do you think?
5. Next steps

1

Who We Are: The Team

- Dr Anita Kothari (akothari@uwo.ca)
- Dr Marjorie MacDonald
- Dr Benita Cohen
- Dr Charmaine McPherson
- Dr Shannon Sibbald
- Ms Dana Gore (dgore@sfu.ca)

*This project was funded by a CIHR Operating Grant

2

Project Purpose

- The goal of this study was to determine the extent to which public health networks are effective structures for research and knowledge sharing and utilization.

3

What We Did: Methods

- June 23, 2011
- Focus Group
- Demographic questionnaire
- Social Network questionnaire
- n = 3/5 (focus group)
- n = 5/5 (SNA)

4

What We Found: Intro to SNA

- SNA has four important features:
 1. it detects patterns of linkages between actors (i.e. clients of health service) or collective units (i.e. public health units);
 2. it is grounded in empirical data;
 3. it makes use of mathematical and computational models; and
 4. it is highly graphical.

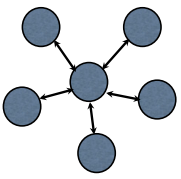
5

Network

Some networks are centralized

Hub and Spoke

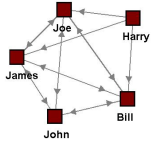
Efficient but not resilient



(J. Holley)

Networks

Some networks are closed (old boys networks); they may be effective but often are not innovative



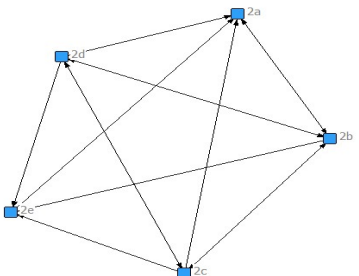
(J. Holley)

What We Found: SNA and Focus Group Results

- ▶ General Interactions
 - Tightly connected network
- ▶ Research and Knowledge
 - Focus on action vs. research
 - Specialized roles
- ▶ Collaboration
 - High degree of collaboration
 - Common language and common goals

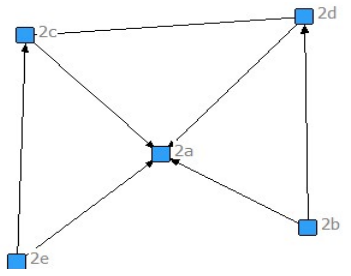
8

General Network Interactions: Regularly Occurring Conversations



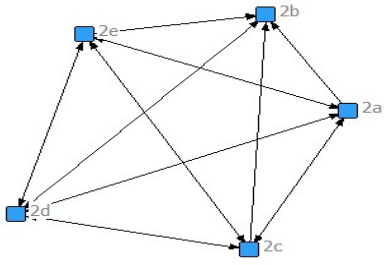
9

Research and Knowledge: provides scientific research



10

Collaboration: common language



11

What do you think & next steps

- ▶ Need to take limitations of study into account
- ▶ Next steps: written report detailing all questions, across sites
- ▶ What do you think?

12

Public Health Networks Study Results

Guysborough–Antigonish Active Living Network

Dr Anita Kothari and Dr. Charmaine McPherson

0

Outline

1. Who we are
2. What we did
3. What we found
4. What do you think?
5. Next steps

1

Who We Are: The Team

- Dr Anita Kothari (akothari@uwo.ca)
- Dr Marjorie MacDonald
- Dr Benita Cohen
- Dr Charmaine McPherson
- Dr Shannon Sibbald
- Ms Dana Gore (dgore@sfu.ca)

*This project was funded by a CIHR Operating Grant

2

Project Purpose

- The goal of this study was to determine the extent to which public health networks are effective structures for research and knowledge sharing and utilization.

3

What We Did: Methods

- June 16, 2011
- Focus Group
- Demographic questionnaire
- Social Network questionnaire
- n = 10/16 (focus group)
- n= 10/16 (SNA)

4

What We Found: Intro to SNA

- SNA has four important features:
 1. it detects patterns of linkages between actors (i.e. clients of health service) or collective units (i.e. public health units);
 2. it is grounded in empirical data;
 3. it makes use of mathematical and computational models; and
 4. it is highly graphical.

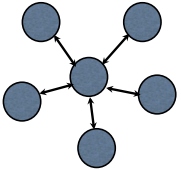
5

Network

Some networks are centralized

Hub and Spoke

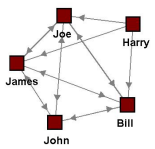
Efficient but not resilient



(J. Holley)

Networks

Some networks are closed (old boys networks); they may be effective but often are not innovative



(J. Holley)

What We Found: SNA and Focus Group Results

- ▶ General Interactions
 - Tightly connected network
- ▶ Research and Knowledge
 - Role of research in the network
 - Information sharing
- ▶ Collaboration
 - High levels of collaboration
 - Common language and common goals

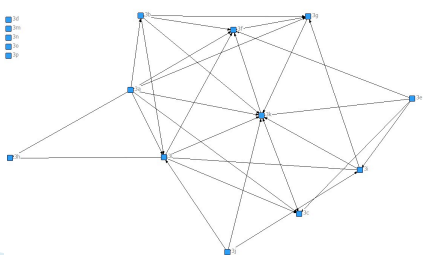
8

General interactions: QAP scores show tightly connected network

General Interactions	QAP Scores
Reg Convos X Seek Advice	0.522***
Reg Convos X Know Personally	0.483***
Seek Advice X Know Personally	0.531***
Research and Knowledge	
Provides Advice X Discuss New Idea	0.516***
Provides Sci. Research X Think Through Problem	0.456***
Discuss New Idea X Think Through Problem	0.662***
Collaboration	
Trust X Past Joint Activities	0.801***
Past Joint Activities X Common Language	0.732***
Common Language X Common Goals	0.769***

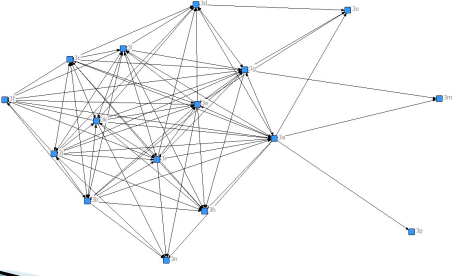
9

Research and Knowledge: Sociogram for "provides scientific research"



10

Collaboration: Sociogram for "trust"



11

What do you think & next steps

- ▶ Need to take limitations of study into account
- ▶ Next steps: written report detailing all questions, across sites
- ▶ What do you think?

12

Public Health Networks Study Results

Antigonish Sustainable Development

Dr Anita Kothari and Dr. Charmaine McPherson

0

Outline

1. Who we are
2. What we did
3. What we found
4. What do you think?
5. Next steps

1

Who We Are: The Team

- Dr Anita Kothari (akothari@uwo.ca)
- Dr Marjorie MacDonald
- Dr Benita Cohen
- Dr Charmaine McPherson
- Dr Shannon Sibbald
- Ms Dana Gore (dgore@sfu.ca)

*This project was funded by a CIHR Operating Grant

2

Project Purpose

- The goal of this study was to determine the extent to which public health networks are effective structures for research and knowledge sharing and utilization.

3

What We Did: Methods

- July 4, 2011
- Focus Group
- Demographic questionnaire
- Social Network questionnaire
- n = 7/13 (focus group)
- n= 7/13 (SNA)

4

What We Found: Intro to SNA

- SNA has four important features:
 1. it detects patterns of linkages between actors (i.e. clients of health service) or collective units (i.e. public health units);
 2. it is grounded in empirical data;
 3. it makes use of mathematical and computational models; and
 4. it is highly graphical.

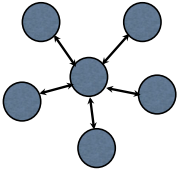
5

Network

Some networks are centralized

Hub and Spoke

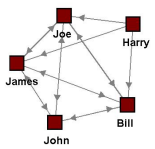
Efficient but not resilient



(J. Holley)

Networks

Some networks are closed (old boys networks); they may be effective but often are not innovative



(J. Holley)

What We Found: SNA and Focus Group Results

- ▶ Research and Knowledge
 - Role of research in the network
 - Information sharing across network
- ▶ Collaboration
 - Moderately cohesive network
 - Collaboration on overlapping areas

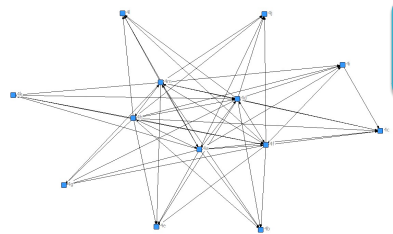
8

Research and Knowledge: Sociogram for "Provides Scientific Research"



9

Moderately Cohesive Network: Sociogram for "Trust"



"What do we stand for, what do we represent?"

10

Overlapping Collaborative Relationships

Collaboration	QAP Scores
Trust X Past Joint Activities	0.668**
Trust X Ongoing Joint Programs	0.723**
Trust X Common Language	0.909**
Trust X Common Goals	0.799**
Past Joint Activities X Ongoing Joint Programs	0.890***
Past Joint Activities X Common Language	0.715***
Past Joint Activities X Common Goals	0.650***
Ongoing Joint Programs X Common Language	0.796***
Ongoing Joint Programs X Common Goals	0.733***
Common Language X Common Goals	0.893***

11

What do you think & next steps

- ▶ Need to take limitations of study into account
- ▶ Next steps: written report detailing all questions, across sites
- ▶ What do you think?

12



An Inconvenient Truth: Community Networks, Knowledge Translation and Collaboration
 May 31, 2012

Anita Kothari, Benita Cohen, Marjorie MacDonald, Charmaine MacPherson, Shannon Sibbald

Western HealthSciences A. Kothari

Introduction

“There is no set time or section in network meetings where new evidence is supposed to be brought forward; there is an expectation within the network that people will bring information forward, depending on what they are working/focusing on. It happens “organically”, they don’t have mandates around it.”

Western HealthSciences

Introduction

Research Program - to determine the extent to which networks are effective structures for research use, interactions and collaborations. Today:

- Q1 Is there potential for knowledge sharing through collaboration?
- Q2 What does the knowledge sharing look like – what informational benefits are occurring?

Western HealthSciences

Simple Framework

COLLABORATION

➔

INFORMATIONAL

BENEFITS**

Western HealthSciences Cross, Borgatti & Parker 2001

Framework

COLLABORATION

- trust
- current joint activities, planned activities
- common language
- common goals

Western HealthSciences Cross, Borgatti & Parker 2001

Framework

INFORMATIONAL BENEFITS

solutions
meta-knowledge
problem reformulation
(validation, legitimization)

Western HealthSciences Cross, Borgatti & Parker 2001

Case Studies with Mixed Methods

- Multiple case study design (4 cases) using multiple data: document review, focus groups, social network analysis.
- Response Rates

	Site 1 (28)	Site 2 (5)	Site 3 (16)	Site 4 (13)
SNA	32% (9)	100% (5)	63% (10)	54% (7)
Focus Group	32% (9)	60% (3)	63% (10)	54% (7)

Western HealthSciences

Network Characteristics

	Purpose	Function
Site 1	To share information, resources and work on activities that further population health and reduce inequities.	Knowledge exchange and indirect advocacy
Site 2	To create awareness of an individual's risk of developing type 2 diabetes and to provide follow up to those individuals	Service delivery through community outreach
Site 3	To improve communication, coordination, and collaboration among partners working toward improving and enhancing active living.	Knowledge exchange, leadership and advocacy
Site 4	To promote, support, and advance sustainable development.	Leadership and advocacy, partnership formation

Western HealthSciences

Network Context

	Site 1	Site 2	Site 3	Site 4
Geography	Rural + Urban	Urban	Rural	Rural
Structure	Informal	Formal	Formal	Formal
Level	Provincial	Municipal	Regional	Regional
Age	6 years	3 years	2 years	6 years

Western HealthSciences

Roadmap for Analysis

- Three slides for each site:
 - 1) Collaboration (SNA - language, goals, trust & qual)
 - 2) Info benefits
 - (SNA – solutions (provides general advice about)
 - meta-knowledge (provides scientific research related to)
 - problem reformulation (thinking through challenging problem)
 - & qual
 - 3) Key messages

Western HealthSciences

Site 1 Sociogram - Trust

Western HealthSciences

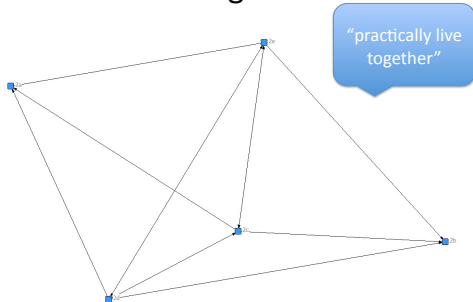
Network Degree Centrality – Prominent Individuals Site 1? Who Gets Informational Benefits?

		Site 1
Research and Knowledge	Q3 (provides gen. info)	10 %
	Q2 (provides sci.res.)	16 %
	Q5 (think thru prob.)	15 %

Site 1 Key Message

- Higher conceptual thinking, everyone an expert
- Different individuals accessed for different informational benefits. Balanced portfolio of complementary contacts.

Site 2 Sociogram - Trust



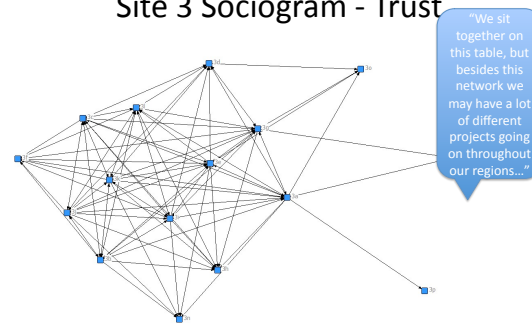
Network Degree Centrality – Prominent Individuals Site 2? Who Gets Informational Benefits?

		Site 1	Site 2
Research and Knowledge	Q3 (provides gen. info)	10 %	50 %
	Q2 (provides sci.res.)	16 %	81 %
	Q5 (think thru prob.)	15 %	50 %

Site 2 Key Message

- Focused topic area influences relationship building
- Individuals with status
- Different individuals accessed for different informational benefits

Site 3 Sociogram - Trust



Network Degree Centrality – Prominent Individuals Site 3? Who Gets Informational Benefits?

		site 1	site 2	site 3
Research and knowledge	Q3 (provides gen. info)	10 %	50 %	26 %
	Q2 (provides sci.res.)	16 %	81 %	44 %
	Q5 (think thru prob.)	15 %	50 %	38 %

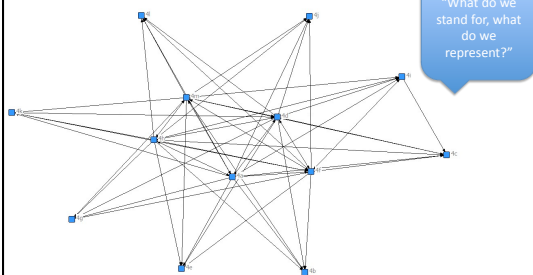
Western HealthSciences

Key Message Site 3

- Focused topic area influences relationship building
- Strong tendency to use the same people for multiple purposes with respect to research
- Community-derived information very important

Western HealthSciences

Site 4 Sociogram - Trust



Western HealthSciences

Network Degree Centrality – Prominent Individuals? Who Gets Informational Benefits?

		site 1	site 2	site 3	Site 4
Research and knowledge	Q3 (provides gen. info)	10 %	50 %	26 %	24 %
	Q2 (provides sci.res.)	16 %	81 %	44 %	15 %
	Q5 (think thru prob.)	15 %	50 %	38 %	21 %

Western HealthSciences

Key Message Site 4

- Higher conceptual thinking, everyone an expert
- Strong tendency to use the same people for multiple purposes with respect to research
- Community-derived information very important

Western HealthSciences

Inconvenient Truth

- Q1: Potential for collaboration and knowledge sharing – trust is high
- Q2: What Info Benefits occurring? Can we generalize across networks (eventually)? I don't think so.
- Can we ignore context? I don't think so.
- **Sensemaking:** Inductive (theory, hypotheses)/ Deductive (confirmation)??

Western HealthSciences

Questions?

Funded by CIHR

Anita Kothari
CIHR New Investigator in Knowledge Translation
akothari@uwo.ca

Western  HealthSciences

