# @ a glance

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# Network Mapping

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## What is network mapping?

Network mapping is also known as social network analysis.

> Social network analysis is the mapping and measuring of relationships and flows between people, groups, organizations, computers or other information/knowledge processing entities. The nodes in the network are the people and groups while the links show relationships or flows between the nodes. Social network analysis provides both a visual and a mathematical analysis of complex human systems.
>
> *Valdis Krebs* (http://www.orgnet.com/sna.html)

Network mapping and analysis helps us visualize and explore relationships within a group so that the group itself, and therefore its work and effectiveness, may be strengthened. Connections, strengths, gaps and opportunities are made visible, helping answer many key questions in the community-building process:

- Are the right connections in place? Are any key connections missing?
- Is the group as inclusive as it could be? Are all possible sectors, stakeholders, and networks represented?
- Who plays a leadership role? Who does not, but could?
- Are there opportunities for enhanced collaboration?
- Who are the mentors others seek out for advice?
- How do good ideas spread within this network? Who are the innovators?

> (*Adapted from: Valdis Krebs and June Holley, Building Smart Communities through Network Weaving, 2002*)

In short, network mapping and analysis helps groups look at how they are working together now, and how they might work together even more effectively to reach their specified goals.

Network mapping typically does not create an inventory of community assets. It assumes this has already been done. Other processes –community mapping, asset mapping, stakeholder analysis –are effective tools at that stage.

## How does network mapping happen?

The network mapping and analysis process begins with a discussion about what the network needs, or wants to know about itself:

- What is the goal?
- Who are the network members?
- What information about each network member is important?
- What types of connections does the network wish to examine?

Based on answers to these questions, a survey of network members is conducted.

### What is the goal?

Network mapping can be done for many reasons, but it is helpful to clarify goals at the beginning. Is the network seeking to discover its hidden leaders to improve its functioning? Is it looking to take advantage of current members' connections to expand its representation or its work? Is it trying to work on a complex, ongoing or seemingly intractable issue either internally or within the community? Is it focused on how members might collaborate on work in a certain area or on a certain topic?

### Who are the network members?

Choosing who will be surveyed is a key part of the network mapping process. The names of those answering the survey are typically included in the network questions within the survey itself, thus allowing participants to indicate their connections quickly and easily. It is therefore important to take time to construct a participant list that represents the network well and that will be able to help the network answer the questions it has about itself. Network coordinators, facilitators, and organizers are key members of their network and need to remember to include themselves on the participant list for the survey.

### What information about each network member is important?

Answers to this question guide what kinds of demographic questions are asked about the network mapping participants themselves. Are there specific sectors, organizations, audiences, age groups, or regions (for example) that the network is particularly interested in exploring? Typically there are about ten multiple-choice demographic questions on the survey.

### What types of connections does the network wish to examine?

Answers to the second question guide the network questions – the questions asked about the relationships between the participants. What are their current working relationships? Who provides advice and support? Who provides new ideas? Who would they like to work with in future? There are usually about four network questions, each of which lists the names of network members and also provides blank spaces in which participants can write additional names.

## How do we use the survey data?

Network analysis software uses the survey data to produce maps and (where necessary) numeric tables. The maps are pictures of relationships between the network members. The network's goals and questions about itself guide the production of the maps: who is included in each map, and which relationships are depicted in it, can be controlled and changed as necessary to help the network address its needs.

For example, a network may wish to look at a large map depicting relationships across its entire region, but it may also be interested in looking how its sub-regions relate in isolation. Or it may be useful to explore the relationships between those working with a particular audience or within a particular sector. The network mapper, together with the network, analyzes the maps and tables and develops a strategy to strengthen the network and the work it wishes to accomplish.

After this strategy has been in action for some time, network members are often surveyed again and the network is re-mapped, which may lead to another network-improving strategy. This process can be repeated any number of times.

As well as being a useful tool for guiding a network's activities, over time network analysis can help a group to demonstrate its growth, development and functional effectiveness.

## What is the connection to health promotion?

"Understanding the pre-existing social relationships in a setting is vital in health promotion, not only for encouraging important people to get 'on side' with an intervention but also for appreciating how the intervention itself might change social structures."

*Source:* Use of social network analysis to map the social relationships of staff and teachers at school. Penelope Hawe and Laura Ghali, Health Education Research 2008 23(1):62-69; doi:10.1093/her/cyl162

## Example of a network map

The left-hand image below depicts a network before a months-long network improvement strategy (Health Nexus' Connecting the Dots model). The right-hand image shows the same network five years after participating in the Connecting the Dots process. Note the significantly increased density of connections.
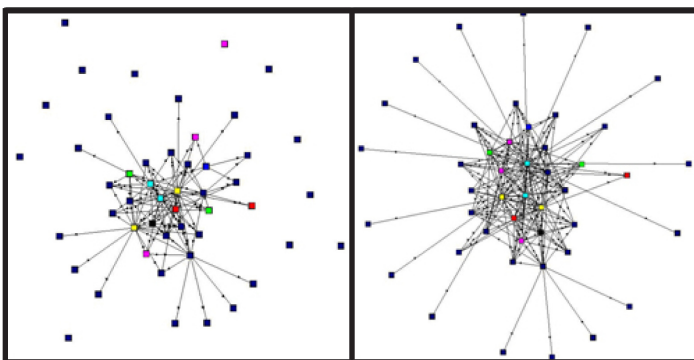


## References and Resources

### Online resources

- June Holley's Network Weaving website

- Building Smart Communities Through Network Weaving

- June Holley's blog

- Valdis Krebs' website

- Case studies

- Valdis Krebs' blog

- Social Network Analysis, a Brief Introduction

### Videos

- Nicholas Christakis: The hidden influence of social networks

- Nicholas Christakis: How social networks predict epidemics

- June Holley: Introduction to Network Weaving

### Books

- Linked: How Everything Is Connected to Everything Else and What It Means by Albert-Laszlo Barabasi. This book is an excellent and very readable overview.

- Social Network Analysis by John P. Scott

- Models and Methods in Social Network Analysis, edited by Peter J. Carrington, John Scott, and Stanley Wasserman

- Social Network Analysis: Methods and Applications, by Stanley Wasserman and Katherine Faust