

Systems Thinking, D&I, and Policy: The Example of Tobacco Control

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Old London Bridge, circa 1600s

Initiative on the Study & Implementation of Systems

- Transdisciplinary initiative to study systems approaches in tobacco control
- A proof of concept for applying systems thinking methods to public health
 - Concept mapping
 - Social network analysis
 - System dynamics modeling
 - Knowledge integration



Leischow S et al, AJPM 2008;35(2S):S196-S203;
NCI Monograph 18. *Greater than the Sum*, 2007.

<http://cancercontrol.cancer.gov/tcrb/monographs/18/index.html>

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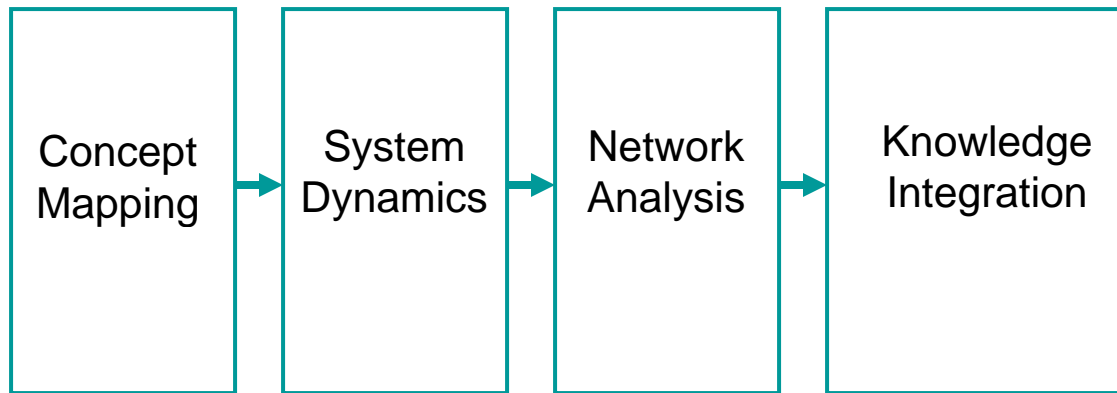
Complicated vs. Complex Systems

Complicated	Complex
Command and control	Facilitation and empowerment
Make it happen	Let it happen
Well-defined roles	Agent-based participatory action
Organized structures	Self-organizing patterns
Discrete evaluations	Continuous evaluation
Siloed action	Coalition alignment

Best & Holmes, *Evidence and Policy*, May 2010; Snowden DJ & Boone ME, *Harvard Business Review* 2001;79:69-76; Trochim W et al, *How do we organize: Purposeful adaptive systems*. NIH Monograph, 2007 . <http://cancercontrol.cancer.gov/tcrb/monographs/18/index.html>

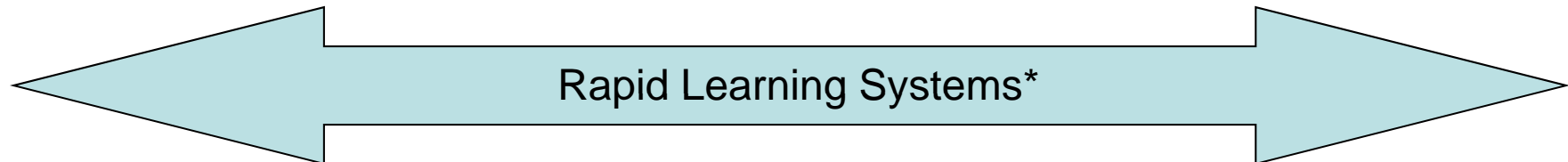
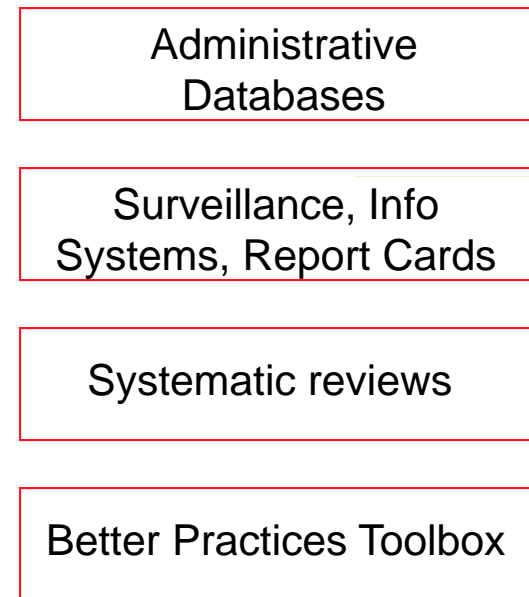
Action Research

WHOLE SYSTEMS METHODS



STRATEGIC CHANGE

REFINING METHODS



*Etheredge L. *Health Affairs* 2007 26(2): w107-w118

Generation 3: Systems Models

LANGUAGE

- Knowledge integration
- Knowledge translation
- Knowledge mobilization
- Knowledge exchange and uptake

KEY ASSUMPTIONS

- Knowledge cycle is tightly woven within priorities, culture, and context
- Explicit and tacit knowledge need to be integrated to inform decision making and policy
- Relationships mediate throughout the cycle, and must be understood from a systems perspective, in the context of the organization and its strategic processes
- Degree of use is a function of effective integration with the organization(s) and its systems

Implications

- Concept and role of evidence
- Cause and effect
- Levels of intervention
- Let it happen vs. make it happen
- Horizontal versus vertical integration

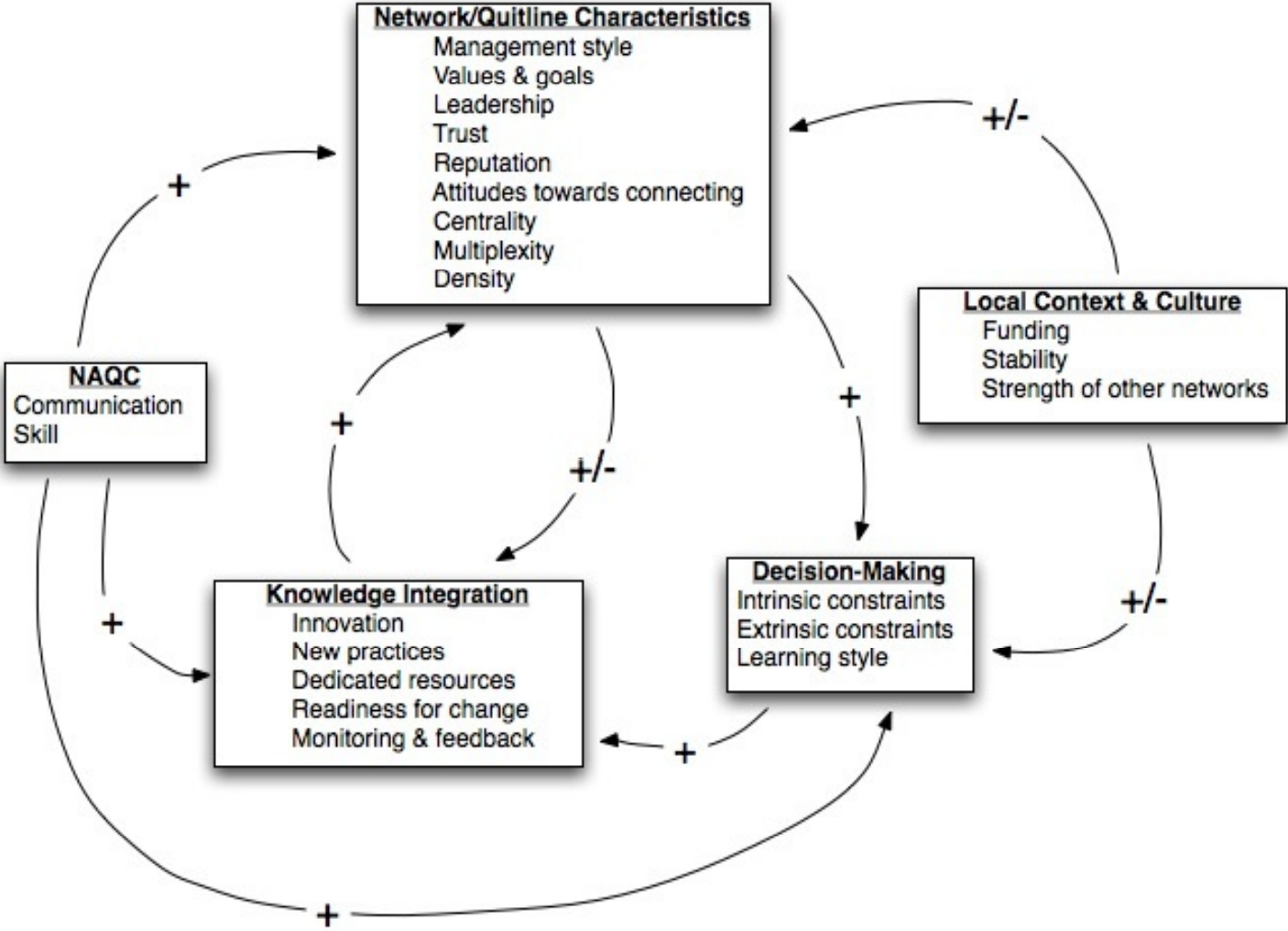


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Initial KIQNIC Map



Next Steps for Analysis

- Multi-level Modeling
- Cross Classification
- Longitudinal Analysis

Preliminary Conclusions

- Brokers either are structured to take the role or their reputation fosters the role
- Awareness of EBPs based on ties to key information brokers, and only when ties are intensive
- Importance of a neutral, trusted broker for integrating a health network and facilitating knowledge flows
- Adoption and implementation of EBPs only weakly explained by network ties

Realist Review Case Study ~ Large System Transformation

- Top down-bottom up “transformative” leadership
- Feedback and reporting
- Historical context
- Engagement and power
- Person-centred

Take Home Messages

- **Strategy.** Complex problems (chronic disease) in complex systems (public health) demand complex strategy and organizational partnerships
- **Conceptual Models.** Dissemination and implementation need to be reconceptualized through a systems thinking lens ~ simpler ways of thinking don't work
- **Adaptation.** Context counts ~ “evidence” needs to be blended with local knowledge and perspectives
- **Partnerships.** Tools for systems thinking exist to support organizational partnerships
- **Evaluation.** Network analysis? Multilevel modeling? Prospective, comparative case studies?