



Resources



Systems thinking for noncommunicable disease prevention policy

Guidance to bring systems approaches into practice

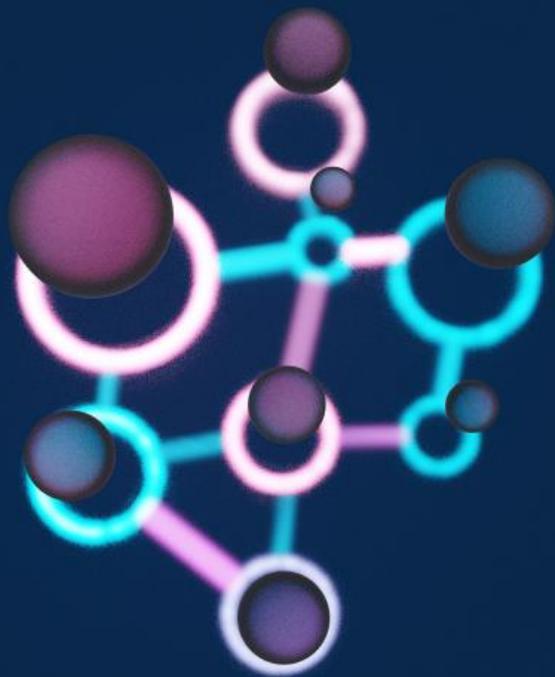


Table 4. Costs and benefits of systems approaches throughout the NCD prevention policy cycle

Approach		Research with a systems lens	Concept mapping	Cognitive mapping	ABM	SDM	CLD	GMB	Network analysis	QCA
Systems approaches in action (page numbers)	Problem identification and policy analysis	25	26	27	28	29, 30				
	Policy development					32	33	34	35, 36	
	Policy implementation	38–40								
	Policy monitoring, enforcement and evaluation					42		43	44	45
Resources required	Time and cost	Orange	Green	Green	Orange	Orange	Green	Red	Orange	Orange
	Access to stakeholders	Orange	Orange	Orange	Green	Green	Orange	Red	Orange	Orange
	Other data	Green	Green	Green	Orange	Orange	Green	Green	Red	Red
	Computer resources	Green	Green	Green	Red	Red	Green	Green	Red	Red
	Methodological expertise	Orange	Green	Orange	Red	Red	Orange	Orange	Red	Red
	Stakeholder understanding of systems thinking	Green	Green	Green	Orange	Orange	Green	Orange	Green	Green
Benefits	Process easy to communicate (transparency)	Orange	Green	Green	Red	Green	Green	Green	Red	Red
	Results easy to communicate (interpretability)	Green	Orange	Orange	Red	Orange	Orange	Orange	Green	Green
	Provides quantitative estimates of policy impact	Red	Red	Red	Green	Orange	Red	Orange	Red	Red
	Supports consensus-building	Orange	Orange	Orange	Red	Orange	Orange	Green	Red	Red
	Spatial representation	Orange	Orange	Orange	Green	Orange	Orange	Orange	Orange	Red
	Temporal representation	Orange	Orange	Orange	Green	Green	Orange	Green	Orange	Red
	Handling uncertainty	Red	Red	Red	Green	Green	Red	Green	Red	Red

For resources requirements: red: high; orange: medium; green: low.

For benefits: red: low; orange: medium; green: high.

General Reading: Complex Systems

- ❑ Rutter H et al. The need for a complex systems model of evidence for public health. Lancet. 2017;390(10112):2602-4. <https://spiral.imperial.ac.uk/handle/10044/1/52213>.
- ❑ Stearman J. Learning from evidence in a complex world. Am J Public Health. 2006;96(3):505-14. <https://dx.doi.org/10.2105%2FAJPH.2005.066043>.
- ❑ UK HM Treasury. Magenta Book 2020. Handling complexity in policy evaluation. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/879437/Magenta_Book_supplementary_guide_Handling_Complexity_in_policy_evaluation.pdf.
- ❑ Ladyman J, Wiesner K. What is a Complex System? New Haven: Yale University Press; 2020.
- ❑ Sterman J. Business Dynamics: Systems Thinking and Modeling for a Complex World. Boston: Irwin McGraw-Hill; 2000.
- ❑ Hovmand P. Community Based Systems Dynamics. New York: Springer; 2014.
- ❑ Meadows DH. Thinking in Systems. A Primer. 2008. <https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/climate-communications/psychology-amp-behavior/Meadows-2008.-Thinking-in-Systems.pdf>
- ❑ Hawe P, Shiell A, Riley T. Theorising interventions as events in systems. Am J Community Psychol. 2009 Jun;43(3-4):267-76. doi: 10.1007/s10464-009-9229-9. PMID: 19390961.

Core texts for Social Network Analysis:

- Hanneman, Robert A. and Mark Riddle. 2005. Introduction to social network methods. Riverside, CA: University of California, Riverside (<http://faculty.ucr.edu/~hanneman/>)
- Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing social networks*. SAGE.
- Thomas W. Valente. *Social Networks and Health. Models, Methods, and Applications*

Stakeholder network analysis toolkit

- <http://stakeholdernet.org/>
- Supporting manual

Workshop 2: Tuesday 13th May 2025

- Practical session
- Survey development
- Visualising and analysing data
- Interpreting data

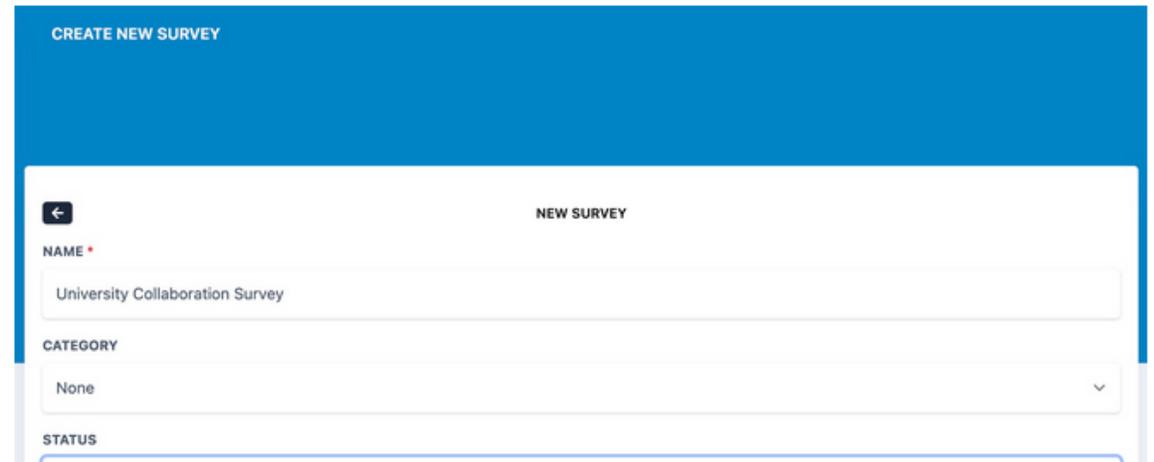
Stakeholder Net

Creating a new survey

Quickly and easily get started with Stakeholder Net.

Create a new survey

1. Log in to Stakeholder Net and click on SURVEYS from the left-hand side menu.
2. Click on the + symbol on the top right-hand side of the SURVEYS page.
3. Give the survey a name and set the STATUS to Draft.
4. Click the CREATE SURVEY button.



CREATE NEW SURVEY

NEW SURVEY

NAME *

University Collaboration Survey

CATEGORY

None

STATUS

Keep in touch



WHO Collaborating Centre for Research and Training on Complex Systems and Network Science for NCDs

A WHO Collaborating Centre to build capacity in systems science skills, and to formulate innovate ways to address NCDs.

<https://www.linkedin.com/company/who-collaborating-centre-for-research-and-training-on-complex-systems-and-network-science-for-ncds/>



COMPLEX SYSTEMS AND NETWORK
SCIENCE FOR PREVENTION AND CONTROL
OF NONCOMMUNICABLE DISEASES

*A WHO COLLABORATING CENTRE
FOR RESEARCH AND TRAINING*



Member group: WHOCC for Research and Training on Complex Systems and Network Science for NCDs

Private Listed

<https://www.linkedin.com/groups/13214019/>



Thank you

**WHO Collaborating Centre for
research and training on complex
systems and network science for
NCD prevention and control**

Website: <https://www.qub.ac.uk/sites/who/>