

STAKEHOLDER AND SYSTEMS ANALYSIS FOR INTEGRATED POLICY AND STRATEGY

BRIEF OVERVIEW

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INTRODUCTION

Understanding evidence about effective policy in complex systems requires the ability to synthesize research and theory across diverse fields. There is a growing understanding of the need to balance traditional, “reductionist” scientific methods with more ecological, integrative paradigms. The increasing emphasis on systems thinking as an organizing rubric reflects a confluence of trends among very different fields that have begun to emphasize systems thinking, including business, engineering, physics, military science, agriculture, weather forecasting and public health.

The aim of this Brief Overview is to introduce some of the systems thinking tools that are valuable at the early stages of conceptualizing and planning comprehensive policy in the face of such complexity. Four tools are presented:

- ❖ **Stakeholder analysis** ~ a systematic approach to understanding the various players that are key to success of the new venture, and their characteristics that will influence the development and impact of the initiative.
- ❖ **Logic Modelling** ~ a common method for showing and evaluating how the various elements in an integrated strategy are intended to complement each other and create synergy towards desired outcomes.
- ❖ **System Dynamics Modelling** ~ an advanced technique to map and mathematically model the interactions among the various forces that affect process and outcome.
- ❖ **Rapid Reviews** ~ a new approach to knowledge synthesis that provides scientifically defensible conclusions in a timeframe that works for policy development.

STAKEHOLDER ANALYSIS

Purpose

“Stakeholder analysis is a process of systematically gathering and analyzing qualitative information to determine whose interests should be taken into account when developing and/or implementing a policy or program ... Actors (persons or organizations) who have a vested interest in the policy that is being promoted are considered stakeholders in the process. These stakeholders or “interested parties” can usually be grouped into the following categories: international, public, national political, commercial/private, nongovernmental organization (NGO)/civil society, labor, and users/ consumers” (Schmeer, 2000).

Some of the potential benefits of stakeholder analysis include the following. Whether or not these benefits are realized depends on the positioning and implementation of stakeholder analysis within the overall initiative.

- ❖ Helps to refine understanding of the initiative, and to conceptualize factors that will influence success
- ❖ Starts to map the “politics” within which evidence will influence policy
- ❖ Highlights collaboration and communication needs
- ❖ Enables the team to identify opportunities and anticipate problems
- ❖ Guides the process of building consensus and buy in
- ❖ Provides critical data for modelling – logic for evaluation, system dynamics, etc.
- ❖ May attract resources and in-kind support

Methods

The approach to stakeholder analysis recommended here involves four steps:

- ❖ **Identify** all potentially key stakeholders and audiences the initiative may need to consider
- ❖ **Prioritize** the potential stakeholders to pinpoint those whose power and influence are most likely to affect the initiative
- ❖ **Understand** how the interplay amongst these stakeholders may play out
- ❖ **Strategize** a comprehensive approach to manage for success.

Stakeholder analysis usually relies on key informant interviews. The aim of the interview is to gain insight into a range of key factors that include:

- ❖ **Perspective** ~ the values, interests, beliefs, opinions, and attitudes likely to shape stakeholder actions.
- ❖ **Motivation** ~ the incentives and leverage that will align stakeholder actions with policy directions for the initiative.

- ❖ **Position** ~ leadership ability and style, power, and influence; current and potential alliances; the stakeholder's strengths, weaknesses, opportunities and threats for possible collaboration; and prospective roles within such a collaboration.

These insights then can inform negotiation of roles and relationships, development of communication plans tailored to needs and preferences, and further work to model and understand dynamics (the logic and systems models, rapid reviews).

InSource has the expertise and resources to undertake stakeholder analysis. AFMNet has the expertise, and recent data on consumer behaviour and industry factors, which can provide important information about context and stakeholders, to inform both data collection and interpretation.

Key Points

The literature is unlikely to include many if any good evaluations of integrated strategies and best practices. The Canadian context is sufficiently unique that any interpretation of the evidence and best practices will have to be informed by a thorough analysis of key stakeholders, and then adapted to realities here.

Stakeholder analysis is a well-developed methodology that provides a detailed analysis of context to serve as a cornerstone to guide and inform further analysis, collaboration strategy, and consideration of the merits of alternative policy options.

The project team has the expertise and capacity to conduct this foundational work. Consideration might be given to how to position this within the larger project so as to obtain full benefit.

LOGIC MODELS

Purpose

A logic model is a visual representation showing how a comprehensive and integrated policy, and associated strategy, is designed to achieve intended results. It makes sense of the strategy elements that are linked together in a causal chain, creating synergy and alignment, and maintaining focus. It helps us see the relationships among elements in the complex pattern of systems change. It provides a basis for setting priorities.

In effect, it provides a tool for evidence-informed storytelling about how change happens. As a communication tool, logic models provide a common ground to work with stakeholders, who then can see where they fit in. Understanding purpose and fit motivates and coordinates action. It informs accountability.

A logic model also provides a formal framework in which to summarize evidence for, and evaluate performance of, policy initiatives. It supports ongoing learning by integrating research findings, practice wisdom, and policy strategy.

Methods

Stakeholder analysis can serve as a point of departure for a logic model. The analysis will have captured the perspectives and activities of diverse stakeholders. These then can become an initial set of elements to map into a logic model.

To be productive, the logic modelling must understand conceptually how each element may influence the process and outcome of policy options, and then anchor the element in existing evidence.

The elements need to be arranged to show the relationships among them. Six domains need to be described:

- ❖ **Purpose** for the policy initiative
- ❖ **Context** expressed as a synthesis of the stakeholder analysis conclusions to capture perspectives, motives and influence
- ❖ **Inputs** to identify the key resources and infrastructure needed as conditions for success if the policy initiative is to achieve its goals
- ❖ **Activities** to encompass the range of actions needed to apply the resources, and to gain approval for and successful implementation of the policy and related programs/interventions
- ❖ **Outputs**. Practical and yet sensitive indicators that show that the activities are performed as planned and the expected changes produced (or not)
- ❖ **Effects** or results, to allow comparison of the intended to actual outcomes, and to provide a feedback loop for policy and strategy refinement as required.

Here's a simple representation to illustrate (Milstein & Chapel, Community Tool Box: <http://ctb.ku.edu/>, accessed March 6, 2007)

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

One process for building a logic model involves the following five steps:

- ❖ **Map** the conclusions from a stakeholder analysis onto the Purpose, Inputs, and Activities elements in the logic model.
- ❖ **Anchor** these elements in theory and evidence, both to validate and to show the causal links between them.
- ❖ **Confirm** the preliminary model through consultation with diverse stakeholders, and finalize the appropriate scope and level of detail needed in the model.
- ❖ **Complete** the model by specifying expected policy/intervention activities, outputs, short-, mid-, and longer-term effects, and expected feedback loops.
- ❖ **Integrate** the model into planning and evaluation activities, and refine as needed.

Key Points

Logic models serve three key purposes: understanding and justifying strategy, communicating and collaborating with stakeholders, and evaluating progress and achievements.

To be most useful, a logic model must be evidence-informed, stated in measurable terms, approved by key stakeholders, and integrated with policy development processes.

SYSTEM DYNAMIC MODELS

Purpose

A system dynamics model builds on stakeholder analysis and logic modelling, but goes further in three ways:

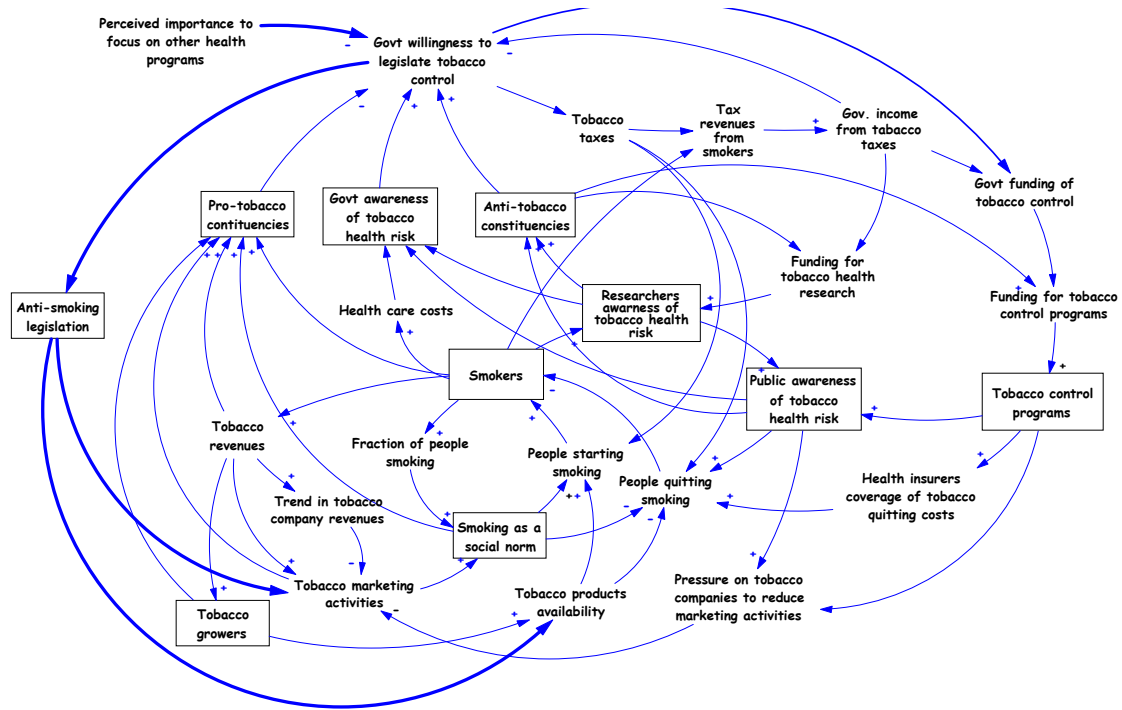
- ❖ **Mapping.** A visual representation or ecological map shows interactions among the facilitating and inhibiting influences of the various stakeholders and contextual factors, providing an overall sense of the dynamics of the system

- modelled, and pinpointing leverage opportunities where policy interventions can best make a difference.
- ❖ **Simulating.** The dynamic aspect of this approach shows how systems change over time, avoiding over-reliance on present realities when strategizing a future in which policy effects will play out over an extended period. Computer models capture available evidence to show what happens as these various influences play out, and how specific policy interventions/alternatives might work over time. They show how strategies or policy elements might interact. They help avoid unintended negative consequences of policy changes.
 - ❖ **Justifying.** System dynamic models can provide the most compelling and rigorous justification for proposed policy initiatives, and increase the likelihood of adoption. They further show why piecemeal policy interventions are unlikely to achieve the desired goals, and they highlight the value of a more integrated, whole-system perspective.

Methods

The key assumption of system dynamic modelling is that the complex behaviour of organizational and social systems in society results from ongoing **accumulations** (of people, assets, information, etc) and **balancing or reinforcing feedback mechanisms** (i.e. causal influences) (Homer & Hirsch, 2006). Evidence from a variety of sources can inform the mapping of these interactions – previous studies, policy change theory, logic models, stakeholder interviews, focus groups, etc. Once the accumulations and feedback loops are well described, and available measured and experiential data added in, an interlocking set of differential and algebraic equations describes the modelled effects of policy options to test hypotheses such as those in which the logic model is grounded.

A causal map for national tobacco control policy might look something like this (Richardson & Bammer, in press):



Formal system dynamic modelling is intensive work that is beyond the scope of many policy initiatives. Simpler approaches for using this way of thinking about complex problems are captured by Senge (1990) in “The Fifth Dimension”.

Key Points

System dynamics modelling is a sophisticated and sometimes necessary tool to understand and predict the range of effects from integrated policy strategy.

It is a demanding method that may be beyond the scope of a particular policy initiative; simpler mental mapping methods still add value.

For a truly evidence-informed comprehensive policy strategy, there may be few alternative ways to predict what happens when a mix of policy strategies are applied in concert.

RAPID REVIEWS

Purpose

Rapid reviews help guide and support the planning process to develop and implement policies informed by the best available relevant research, grey literature and expert opinion. They complement in depth evidence reviews, by offering a methodologically sound approach to better understand and refine critical success factors in an integrated, comprehensive strategy to affect complex systems. To illustrate, the appended review of

interorganizational partnerships was commissioned to inform and support a strategic prospectus for the U.S. National Institutes of Health when it became apparent that effective partnerships were key for the various strategic priorities in the prospectus.

Methods

Our rapid review methodology takes current knowledge synthesis methods, and accelerates the process to complete the review in a matter of weeks. A rapid review typically includes four steps:

- ❖ **Refining the research question(s)** ~ Working in partnership with project team and stakeholders, it is important to ensure that the question(s) being asked will provide the information they need. We recruit an expert panel from our extensive local, national and international networks and team suggestions, to validate or refine the question(s).
- ❖ **Retrieving the information** ~ Our team is skilled and experienced in systematic literature reviews. We modify the traditional systematic review by conducting a focused review of summary papers and meta-analyses related to the question(s) at hand. The expert panel is often expanded at this point, to include key individuals discovered in the literature review. The panel then reviews our draft bibliography to ensure that we are including all key documents from the published and grey literature, and contributes additional papers containing cutting-edge theory and research that may not yet be widely available.
- ❖ **Synthesizing the information** ~ We review the documents in the finalized bibliography, extract key components, and with feedback from the expert panel, develop statements on the evidence and/or create theoretical frameworks, depending on the research questions.
- ❖ **Interpreting the information** ~ Working in partnership with the project team and our expert panel, we develop key messages that are customized to fit the policy context.

Key Points

Rapid review can fill the gaps between full, in depth reviews, to provide a more integrated overall strategy and policy.

They are most likely to prove useful in providing the “glue” to address critical success factors when weaving together complementary policy elements or strategies.

CONCLUSIONS

There is a range of systems thinking tools that are valuable at the early stages of conceptualizing and planning comprehensive policy in the face of such complexity. Four such tools are summarized here; others are available. This overview describes how the four tools can be used in combination or separately.

Key issues to consider in selecting among them are:

- ❖ What is the scope of the policy options to be considered?
- ❖ To what degree is a systems perspective integral to the expected policy options?
- ❖ How important is it to work with key stakeholders as the project unfolds and policy options are developed?
- ❖ How and when in the process can systems tools best add value to other project activities?

APPENDIX 1

RAPID REVIEW ~ PARTNERSHIPS FOR STRATEGIC ADVANTAGE

NIH PARTNERSHIPS FOR STRATEGIC ADVANTAGE

PREPARED FOR THE STRATEGIC PROSPECTUS
of the
NIH OFFICE OF BEHAVIORAL AND SOCIAL SCIENCE

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The three OBSSR program directions – application-based research, interdisciplinarity, and systems-oriented approaches – all underscore the need for effective partnerships among the NIH Institutes and Centres. The high priority health issues transcend the boundaries of individual Institutes, and a systems-oriented approach requires innovation, new thinking and new methods to address the increasingly complex and interdisciplinary problems in health and disease emerging from foundational research.

Why partner? In the 21st Century global knowledge economy, success increasingly demands it. Friedman's (2006) "The World is Flat" documents the compelling case for a paradigm shift in all sectors, certainly including the knowledge production, synthesis and utilization functions which rest at the heart of the NIH health research and dissemination mission. Effective interorganizational partnership yields key strategic advantages, including more complete and powerful solutions to priority problems, better and more timely products, richer knowledge that is more likely to influence policy, greater efficiencies, and greater stability in rapidly changing environments (Huxham, 2003; Keil, 2000; Provan & Milward, 2001).

What is the evidence base for effective partnership? The weight and consistency of findings across a wide range of literatures and disciplines from the public and private sectors provides moderately strong research and theoretical evidence that the established principles of organizational partnership are robust and will hold when tailored to the NIH context. Interorganizational relationships vary along a continuum from informal sharing of information and coordinating activities through to more formal collaborative partnerships with common goals and objectives, ongoing interaction, defined complementary roles and working relationships, dedicated human and financial resources, and shared accountability for the expected mutual benefits (Butterfoss & Kegler, 2002; Gray, 1989, 1996; Milward & Provan, 2003). As the degree of collaboration increases, research highlights six key factors in realising the promise of "*the collaborative advantage*" (Huxham, 1996; Huxham & Vangen, 2005):

- **Clear common aims.** It often takes time and cycling through direction setting, action and trust building to build the superordinate partnership-level goal, common language and aims to enable and sustain productive partnership (Huxham, 2000; Kreuter et al, 2000; Lasker et al, 2001; Provan et al 2003).
- **Trust.** This essential foundation builds on itself over time with success, often starting with modest, low risk initiatives (Vangen & Huxham, 2003).

- **Collaborative leadership.** Effective interorganizational partnership requires sustained, engaged leadership and a shift in leadership style from “command and control” leading and managing to facilitating and empowering, from delegation to participation (Huxham, 2003; Lomas, 1993; Provan et al, 1995; Trochim et al, in preparation).
- **Sensitivity to power issues.** In an interorganizational partnership, each partner brings different resources to the table. Effective collaboration requires careful negotiation of expectations and ground rules for decision-making (Best et al, 2006; Butterfoss & Kegler, 2002; Greenhalgh et al, 2004; Huxham, 2003; Provan & Milward, 2001).
- **Membership structures.** Shared understandings about what the collaboration involves and formalized rules, roles, and structures enable participation (Butterfoss et al, 2002; Huxham, 2003; Roussos & Fawcett, 2000). Both governance and task structures are important. The evidence shows the need for effective coordination infrastructure with agreed action strategies, and sufficient resources, capacity, and role clarity to support good communication and management functions (Provan et al, 1995; 2001; in preparation; Synder and Wenger, 2003). Because membership often is dynamic and changing, continuing work is essential to sustain the shared understanding and common focus (Huxham & Vangen, 2000). Effective coordination structures speed uptake of innovations.
- **Action learning.** (Argyris, 1996; Denis & Lomas, 2003; Greenhalgh et al, 2004; Senge, 1990). Effective collaborations continuously improve through feedback loops and reflective shared learning.

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