

Addressing Complex and Cross-Boundary Challenges in Government:

The Value of Strategy Mapping

John M. Bryson

University of Minnesota Hubert H. Humphrey School of Public Affairs



IBM Center for
The Business
of Government

2023

Addressing Complex and Cross-Boundary Challenges in Government: The Value of Strategy Mapping

**John M. Bryson, with Bill Barberg, Anne Carroll, Colin Eden, Bert George,
Jose J. Gonzalez, Jessica Rochester, Laure Vandersmissen, and Bishoy Zaki**



2023

TABLE OF CONTENTS

Foreword	4
Executive Summary	6
Introduction	8
Benefits of Strategy Mapping	12
Three Examples of Strategy Management-at-Scale	16
CASE #1: Intergovernmental Strategy Mapping Yields Equity-Centered Plan	18
CASE #2: Understanding and Managing Pandemic-Related Risks to the Norwegian Health and Social Care System Due to the COVID-19 Pandemic	24
CASE #3: Transforming the Family Justice System in Canada	31
Comparing and Contrasting the Three Cases	38
Leading Strategy Management-at-Scale	40
Getting Started and Recommendations	43
References	47
Appendix	49
About the Authors	54
Key Contact Information	57
Recent Reports from the IBM Center for The Business of Government	58

FOREWORD

On behalf of the IBM Center for The Business of Government, we are pleased to present this report, *Addressing Complex and Cross-Boundary Challenges in Government: The Value of Strategy Mapping*, by John M. Bryson with co-authors Bill Barberg, Anne Carroll, Colin Eden, Bert George, Jose J. Gonzalez, Jessica Rochester, Laure Vandersmissen, and Bishoy Zaki.

Government leaders today face serious, seemingly intractable public management issues that go to the core of effective governance and leadership. These types of challenges run the gamut from the pandemic to economic dislocation, homelessness, and natural and manmade disasters. These major crises have complex causes, and the resources needed to properly address them often transcend the capacity of any single government agency. Addressing these challenges effectively requires what the National Academy of Public Administration calls “new approaches to public governance and engagement.” Such approaches necessitate collaboration or co-alignment across the efforts of multiple organizations.

This report describes strategy management-at-scale, an approach to enable planning that addresses the major challenges facing governments at all levels. Integral to this approach is the use of collaborative strategy mapping—an invaluable leadership and management method to foster direction, alignment, and commitment. Strategy mapping helps leaders understand needed system changes, and to articulate needed interventions. Strategy mapping helps users visualize the cause-and-effect chains in a system and the actions that can be taken to introduce reforms—linking aspirations with capabilities.

To highlight these links, the report offers three case examples of coalitions that used strategy mapping for different purposes and to different effect. While the primary purpose of the strategy mapping efforts varies across the cases, each example illustrates that by using a few simple rules to formulate statements and creating links, causal maps help reveal relevant values, possible goals and strategies, and specific tactics and actions.

Along with describing how strategy mapping works in practice, this report highlights the benefits of this approach. The authors offer insights into how best to implement strategy mapping, leveraging available technology to help scale the application and use of the tool. The report culminates with recommendations and advice on how to start doing strategy management-at-scale by using strategy mapping.



DANIEL J. CHENOK



BILL DAVIS



This report builds on the IBM Center's long-standing research into leveraging new tools and approaches to governance that better position government agencies to address complex challenges that cross or transcend traditional agency boundaries. The report provides practical recommendations on how governments can work with each other and with partners to leverage strategy management at scale and use strategy mapping to address complex, boundary-spanning problems.

Daniel J. Chenok
Executive Director
IBM Center for
The Business of Government
chenokd@us.ibm.com

Bill Davis
Senior Partner
U.S. Federal Enterprise Strategy Leader
william.davis@us.ibm.com

EXECUTIVE SUMMARY

Communities, regions, and nations increasingly face boundary-crossing challenges that require the efforts of many organizations and groups to address them effectively.

Communities, regions, and nations increasingly face boundary-crossing challenges that require the efforts of many organizations and groups to address them effectively. These challenges include, for example, the global COVID-19 pandemic; homelessness; inclusive workforce development; disparity in educational achievement, income, and wealth; public safety; and many aspects of climate change. These challenges can be overcome only when multiple organizations work toward shared over-arching goals. Reasonably aligned efforts of multiple organizations can transform systems.

Strategic management of single organizations is well understood: It involves processes and techniques for developing a mission, doing strategic planning, aligning organizational structures, deploying resources, implementing actions, evaluating outcomes, and ongoing learning and adjustment. However, new techniques and processes are needed to make sense of the challenging situations involving complex, interconnected issues in which multiple organizations must make contributions to make the changes needed to effectively confront the challenge. Strategy management-at-scale is a boundary-crossing process designed to create direction, alignment, and commitment across agencies and among independent organizations at the scale of the challenge or issue to be addressed.

One of the most promising techniques for facilitating strategy management-at-scale is strategy mapping. Strategy mapping is a technique to help leaders across multiple levels, organizations and/or sectors understand the system in need of change and articulate the interventions needed to bring about the desired changes. Strategy mapping helps users visualize the cause-and-effect chains in a system and the actions that can be taken to change the system. In other words, it links aspirations and capabilities, the essence of strategy.

The map and mapping process itself functions as a shared intellectual framework and backbone to help guide the effort. It helps create shared meaning through participation and dialogue. It facilitates negotiation and commitment to agreements about what to do, how to do it, and why; and then communicates strategies in a way that is easily understood and acted upon. It provides a framework, for guiding, monitoring, reviewing, and evaluating strategy implementation.

This report contains three case examples of coalitions that used mapping for different purposes, and to different effect. Many software packages are available to facilitate strategy mapping and choosing the right one depends on what and how you are using strategy mapping.

- **The Minnesota SNAP-Ed project** used a largely manual mapping process to develop and coordinate a strategy for improving nutritional outcomes among Native American communities.
- **The Research Council of Norway** funded a project that used mapping to respond to the emerging COVID-19 crisis to determine the risks and opportunities relevant to managing the pandemic. They used a cloud-based software called Strategyfinder in virtual conferencing sessions.
- **A coalition involved with the Canadian family justice system** is working to reduce adverse childhood experiences. They used a strategy mapping process focused on coordinating the implementation and evaluation of a system transformation over the long term and they are relying on a software called InsightVision to help manage strategy implementation.

Leadership in strategy management-at-scale is different from strategic leadership of a single organization. Because large-scale issues can only be addressed effectively by multiple organizations together, no one leader has the oversight or control needed. Through mapping, stakeholders understand how their efforts are part of the larger strategy, and they can see how their own and other organizations working alone or together can contribute to greater success. The map is integral to managing the complexity involved in dealing with many relevant ideas, organizations, and their interconnections at different levels and often different sectors as they contribute to creating useful change.

INTRODUCTION

In this report, we describe *strategy management-at-scale*, an approach increasingly necessary to address the big challenges facing governments at all levels, nonprofits, businesses, and the citizenry as a whole.

Strategy management-at-scale is very different from the strategic management of a single organization. It involves leading cross-boundary, cross-level, and/or cross-sector initiatives. Strategic leadership of a single organization often involves the development of a strategic management system to ensure direction, alignment, and commitment across the organization (Drath et al., 2008; Bryson, 2018). The system will include a focus on mission; strategic planning; alignment of organizational structures, processes, and budgets; implementation; evaluation; and ongoing learning and adjustments.

This introduction focuses on three topics: 1) Prevalence of cross-boundary, cross-level, cross-sector challenges, 2) the need for new approaches to managing strategy management-at-scale, and 3) strategy mapping.

Prevalence of Cross-Boundary, Cross-Level, Cross-Sector Challenges

Boundary-crossing challenges are ubiquitous, which is why strategic leadership of collaborations, communities, and social movements is becoming more common and necessary. Leading multiple collaborating (or at least coaligned) organizations to achieve a common purpose is what we call leading strategy management-at-scale, meaning the scale of the challenge to be addressed (Bryson, et al., 2021, 2023).

Such cross-boundary issues include the global COVID-19 pandemic, homelessness and the lack of affordable housing, racial gaps in educational achievement, the damage from adverse childhood experiences, and recovery from natural and human-made disasters. Such issues occur in an environment where no one is wholly in charge and power must be shared. They demand a response from multiple organizations to create a system change. Multiple strands of reasonably aligned (if not directly coordinated) effort are required, but while those efforts are often framed as “transformational,” they are not.

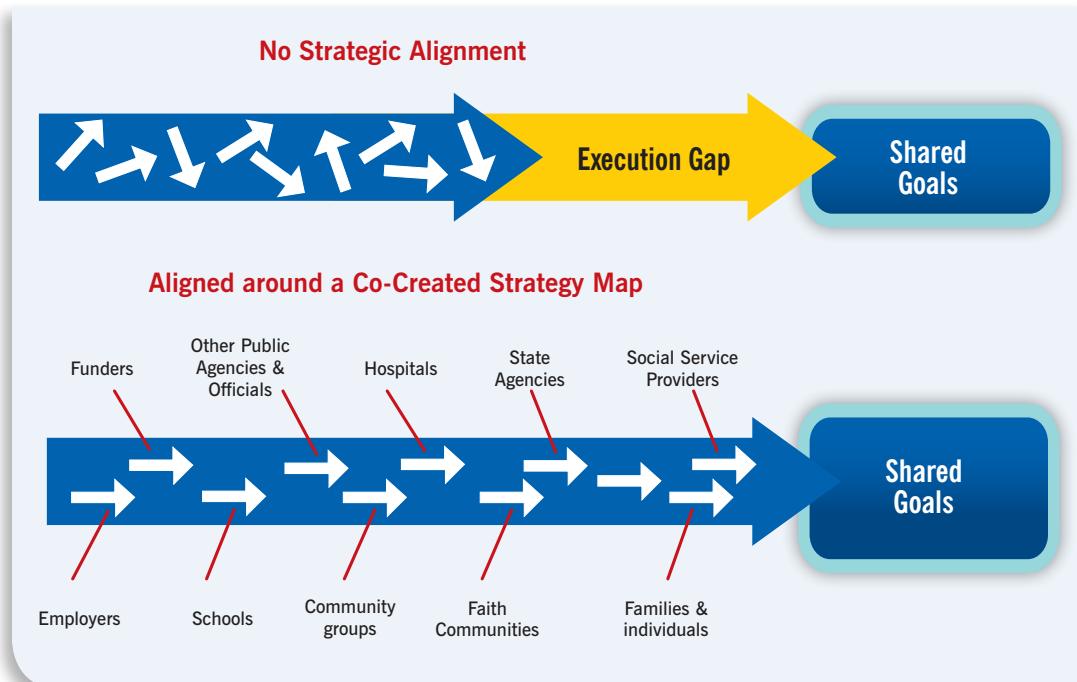
By themselves, they typically do not fundamentally alter systems or power relationships among people. When coupled with community organizing, coalition building, and advocacy, however, they can fundamentally alter systems and power relationships, and thus transform large systems.

Need for New Approaches

Strategy is what links aspirations and capabilities. It is the means to achieve desired ends. Leading strategy management-at-scale builds on organizational strategic management but differs from it in significant ways. The big challenge at scale is how to create communication, co-alignment, and collaboration across organizations in pursuit of shared objectives. When they are coordinated, each organization's strategies create magnified effects because each organization's efforts, resources, and strengths are enlisted in serving the overall effort. If all organizations are moving in the same direction—even when no person or organization is in charge—the overarching challenge can be far more effectively addressed than if each organization is headed in a separate direction.¹

Figure 1 captures the difference between misalignment and alignment. The arrows represent different organizations or programs. The absence of alignment toward a shared objective obviously gets in the way of progress, while alignment clearly facilitates the achievement of shared aims. Figure 1 shows some of the range of organizations involved in improving community health.

Figure 1. The Value of Alignment Around a Co-Created Strategy Map



1. Addressing these challenges effectively requires what the National Academy of Public Administration (NAPA), in its Election 2020 Project white paper Enhancing Public Governance: An Agenda for 2021 and Beyond, calls “new approaches to public governance and engagement.” The new approaches NAPA recommends call for reasonable collaboration among, or at least alignment of, the efforts of multiple organizations (and parts of organizations, such as the federal government), associations, and groups in an approach involving sharing power, pooling authority, and aligning resources and purposes around achieving a shared objective.

Strategy Mapping

One of the most promising techniques for facilitating strategy management-at-scale is *strategy mapping*.² Strategy mapping results in a causal map, which is a statement-and-arrow diagram in which statements are causally linked to one another using arrows. The map shows the interrelationships of a set of changes, reflecting the means-ends or if-then relationships; in other words, an arrow means “might cause,” “might lead to,” “might result in,” or some other kind of influence relationship. To work up a chain of arrows, you keep asking, “What happens if we do that, or what would the consequences be of doing that?” To work down a chain of arrows, you keep asking, “How would we do that, or what would it take to do that?” Both arrows-out and arrows-in can lead to more than one statement.

In causal strategy mapping, each chain of arrows indicates the causes and consequences of an idea or action. This makes it possible to articulate many ideas and their interconnections in such a way that people can know *what* to do in an area of concern, *how* to do it, and *why* (Bryson et al., 2004, p. xii; Ackermann and Eden, 2011, p.3). (Alternatively, causal mapping can be used to understand a system in which changes are needed, as in the Norwegian pandemic risk management case discussed below. In that case, the system of risks needed to be understood first before effective strategies could be developed.)

When used as a part of strategy development and implementation, strategy mapping prompts users to see how implementation of specific strategies could change a situation. For example, strategy might be focused on a broad goal like improving products, services, or relationships with key stakeholders, but the map also would include action steps and their causal links to each other and to the strategy. It also shows how outcomes result from the strategies. Strategy mapping therefore becomes an extremely useful tool for changing a situation for the better.

Strategy Mapping in Practice

Catalyst is a developing collaboration of nonprofits in the Twin Cities area of Minnesota focused on improving the ecosystem of support for minority-owned business enterprises (MBEs) and entrepreneurs of color. Figure 2 shows the collaboration’s goals (in red) and strategies (in blue) that resulted from a 2019 strategic planning retreat that produced the collaboration’s first strategic plan. The collaboration’s overarching purpose is “Help MBEs succeed.” The map indicates that there are two direct paths (supported by multiple actions) to doing so: “Build the capacity of organizations that serve minority businesses” and “Increase the quantity and quality of stage-appropriate supports for minority businesses in Minnesota.” The two paths can be pursued simultaneously by actions to “align strategic partners to improve outcomes for minority businesses” and “provide incentives for ecosystem partners (including beyond Catalyst) to participate in scalable collaborations.” Following the chains of arrows down leads to the collaboration’s strategies, such as “build joint capacity.” The strategies are supported by a rich set of statements detailing actions that are linked by arrows indicating what leads to what. The full map contained 309 statements produced during in a day and a half retreat involving 14 participants and three facilitators. The map helped the group understand and manage the complexity of the various interconnected causal chains of actions needed to achieve the group’s mission.

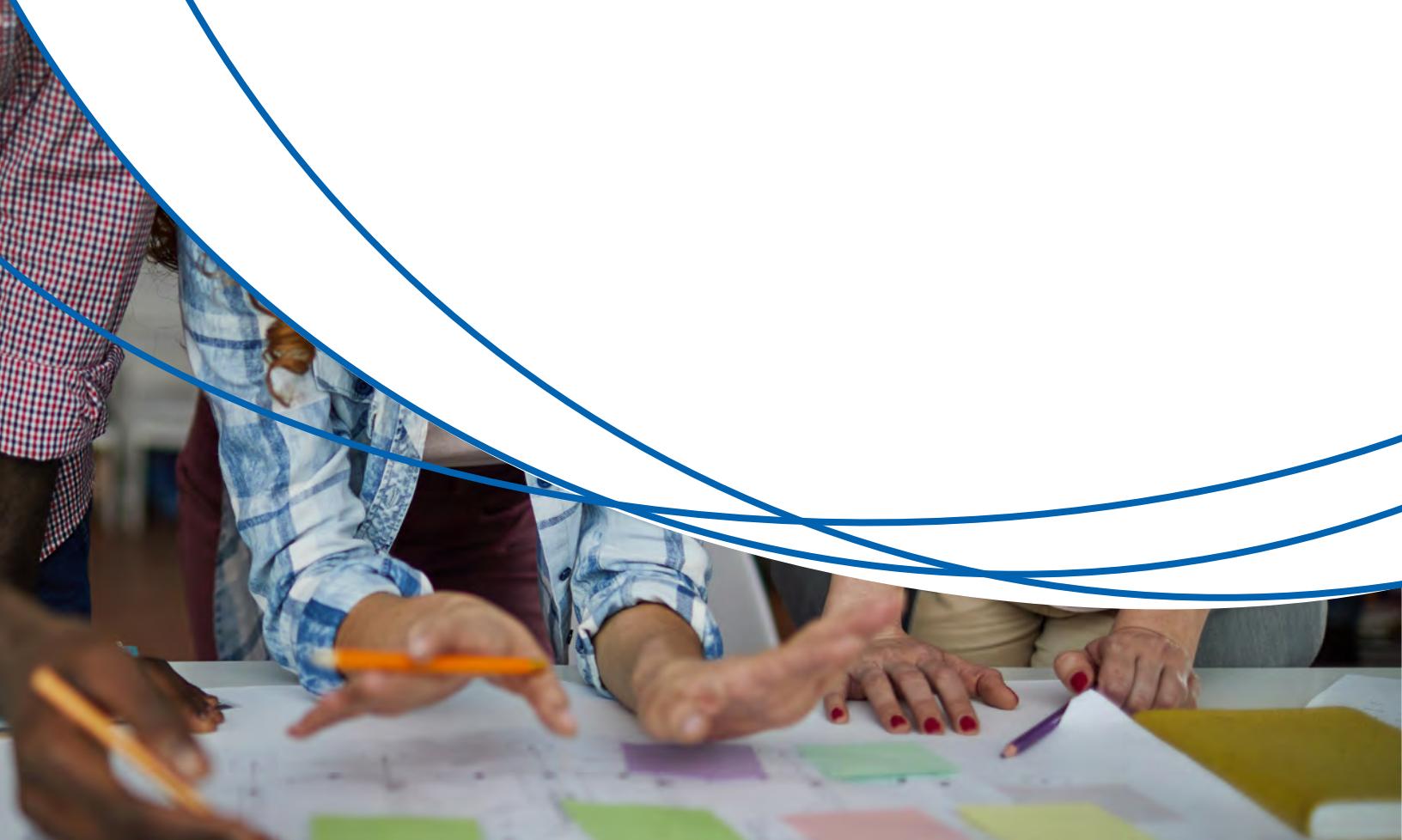
(Note that the numbers have no real meaning; they are simply addresses in a relational database that makes use of the Decision Explorer software.)

2. Strategy mapping has developed in a variety of fields, including operations research (e.g., Eden, Jones and Sims, 1983; Checkland and Poulter, 2007; Friend and Hickling, 2012); the business world (e.g., Kaplan and Norton, 2003; Eden and Ackermann, 2011; Armstrong, 2019; MacLennan and Markides, 2022); public management (e.g., Eden and Ackermann, 2011; Bryson et al., 2004, 2014); and community strategy management (e.g., Epstein, 2009; Barberg, 2019); among others.

Figure 2. Goals and Strategies from Catalyst's 2019 Strategy Map

The map helped inform Catalyst's response to the pandemic and the civil unrest following George Floyd's murder in Minneapolis on May 25, 2020, both of which disproportionately badly affected MBEs. The map helped Catalyst "build [the] joint capacity" needed to channel very large amounts of federal and state money to MBEs, as well as provide many hours of needed technical assistance. Catalyst has now stood up a \$20 million loan fund for MBEs and is exploring how to become a legal entity, pursue efforts to significantly expand its membership, and create a compelling advocacy strategy at the state legislature.

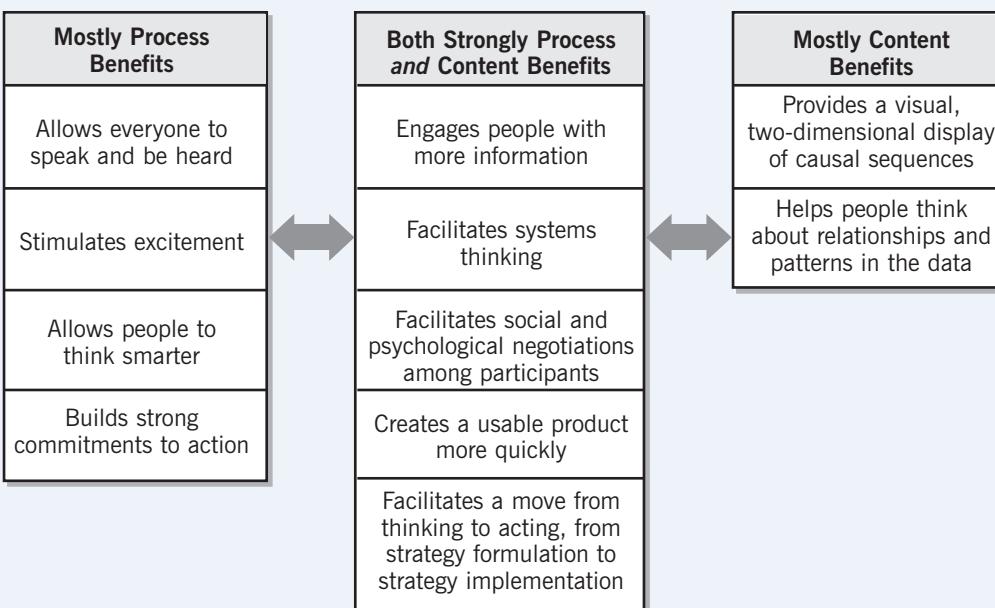
Benefits of Strategy Mapping



Benefits of Strategy Mapping³

Strategy mapping is a particularly powerful method for helping organizations figure out what to do, how to do it, and why. Group strategy mapping overcomes the two main challenges to strategic success: 1) helping the group come up with ideas that are good, worth implementing, and possible to implement; and 2) building the coalition of support necessary to implement those ideas. In other words, group strategy mapping helps the group *think smarter* and *build needed commitment to action*. Let us explore in more detail why this may be the case. Exhibit 1, Strategy-Mapping Benefits, shows these benefits as three lists.

Exhibit 1. Strategy-Mapping Benefits



Source: Bryson, et al., (2014), p. 19. Reprinted with permission.

On the *content* side, the main benefit is a visual, two-dimensional map of causal sequences linking mission, goals, and strategies (or in some approaches objectives, strategies, and capabilities). This is a huge benefit—a *really* big deal. The map allows key decision makers or stakeholders to literally be *on the same page*. The map also can enable key decision makers or stakeholders to say, “Yes, I see what you are saying.” Participants can see patterns and connections among the high-level view of mission and goals, and they can see where their individual organization might contribute to the overall purposes of collective action. (Maps for individual organizations would typically go into far more detail regarding implementing actions.)

Mapping produces better content because it helps participants understand the gaps and resulting tensions between their aspirations and the current situation, as well as grasp the contradictory information and competing points of view that must be addressed as part of negotiating what to do about those gaps and tensions. When completed, a map provides a record of agreements about what to do, how, and why, and therefore provides an external organizational memory, so that people do not have to keep it all in their heads.

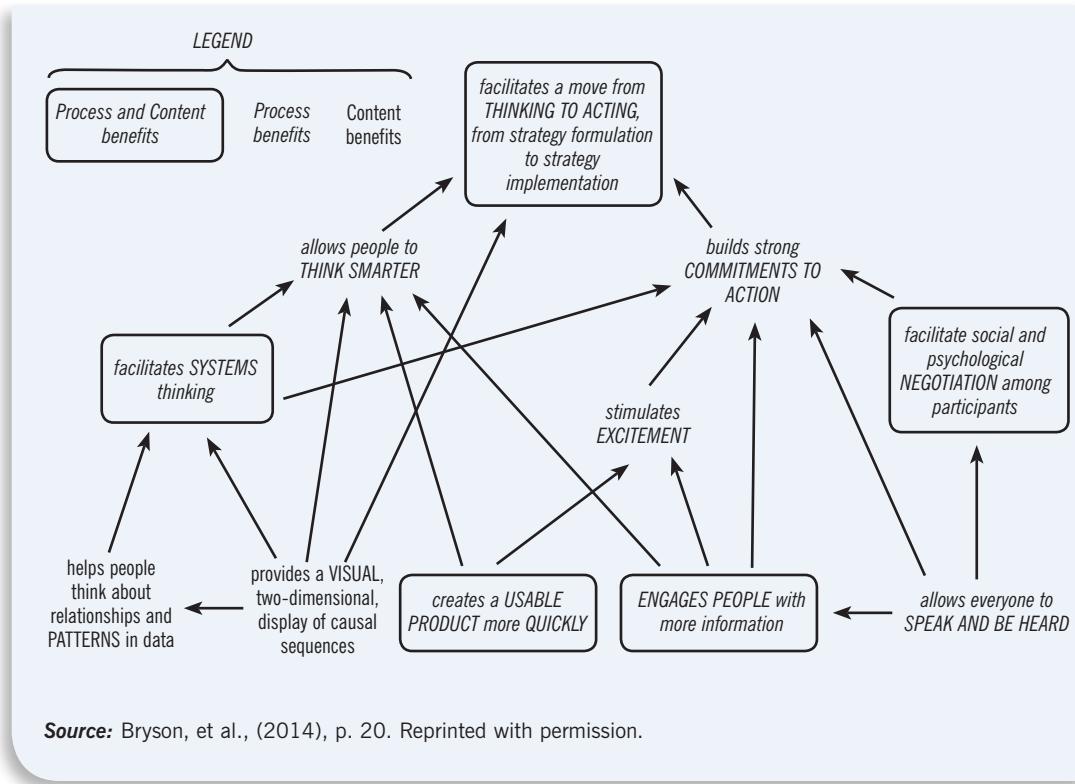
3. This section draws from Bryson, Ackermann, and Eden, 2014, pp. 19-23.

The process benefits are more numerous. A good process is key to getting the necessary understanding, agreement, commitment, and political power that is needed to implement strategies, achieve goals, and further the mission. Most importantly, strategy mapping facilitates movement from thinking to acting and from strategy formulation to strategy implementation. Mapping engages people, stimulates excitement, allows people to speak and be heard, and facilitates the social and psychological negotiation among participants needed to produce understanding and agreement, and to build strong commitments to action. It helps them see the big picture and thus facilitates systems thinking so they can think smarter and be more productive.

Mapping also helps participants deal with emotion-laden issues and understand others' logic. Getting to good outcomes is made more likely because mapping helps people be creative, imaginative, and improvisational. Finally, because mapping provides a continuously changing group memory and reference point for further work, it releases time and attention to focus on creating new information and thinking about relationships and patterns in data.

Clearly, the content and process benefits of mapping are substantial. The format of Exhibit 1, however, fails to show the intimate interconnections of content and process benefits, and as a result hardly does them justice. The map form does. Consider the same information presented as a map that shows the direct and indirect links among them as illustrated in Figure 3.

Figure 3. A Map of the Most Important Benefits of Strategy Mapping



In Figure 3, the most important benefit of doing strategy mapping is to facilitate the “move from thinking to acting,” which is what strategic management and strategy management-at-scale is all about. Achieving this benefit depends on two penultimate benefits—it “allows people to think smarter” on the left side of the map, and it “builds strong commitments to action” on the right side. These three benefits come from the process benefits side of Exhibit 1, but note how important the content benefit “provides a visual display of causal sequences” is to helping people “think about relationships and patterns in data” and to “facilitate systems thinking,” both of which are necessary to “allow people to think smarter.”⁴

Meanwhile, “building strong commitments to action” begins in Figure 3 with “allowing everyone to speak and be heard,” which leads to “engage[ment] with more information, which “stimulates excitement,” leading to “strong commitments.”

To summarize, the map makes three points visually: First, the *content* benefits are mainly about helping people to think smarter. Second, the preponderance of the *process* benefits is about building strong commitments to action. And third, the *interconnected content and process* benefits “facilitate a move from thinking to action.” In short, process and content jointly give you much more than you get by process or content alone. Mapping is especially helpful for linking both when way too often in practice the focus is on one or the other.

4. The map, in other words, serves as a “boundary object” (Carlile, 2002; Spee and Jarzabkowski, 2009; Quick and Feldman, 2014), meaning an object or model that supports collaboration across boundaries. The map does so by helping the group move from one way of seeing the world to another as the group creates, revises, and reaches agreements along the way.

Three Examples of Strategy Management-at-Scale



Large-scale changes necessarily involve many different efforts by multiple organizations across multiple levels (federal, state, and local) and sectors (government, nonprofit, foundations, business, and civil society). Building out an overall framework for change in the form of a strategy map can be immensely helpful in such a complex environment. The map can be refined over time as the details of the strategy emerge and as different organizations align their efforts and resources to support different parts of the larger strategy.

Since many people and organizations will need to be involved, co-creating a framework enables collaboration, or at least co-alignment, among a diverse group of stakeholders. As a result, the overall strategy map will be more high-level than the far more specific, action-oriented maps of individual organizations. That said, the overall strategy map highlights the larger purposes toward which individual organizations' strategies can be aligned so that collective benefits are magnified.

This section presents three different case illustrations of strategy management-at-scale. Each deal with a different kind of issue, each used a different approach, and each made use of a different strategy mapping software.⁵ The cases are these:

- **CASE #1: Minnesota SNAP-Ed project** involves the State of Minnesota's Department of Human Services, seven sovereign tribal nations, and the University of Minnesota Extension Service. The case led to greatly strengthened relationship among the parties and far more effective strategies. Mapping was done manually in a workshop format with results codified and presented using LucidChart.
- **CASE #2: Research Council of Norway** funded an effort develop a pandemic risk strategy that subsequently was used by municipalities and hospitals in Norway. This case first involved understanding the complex system of risks and issues involved in a pandemic before moving to developing an array of strategies to manage them. A mapping software called Strategyfinder™ that included powerful analytic capabilities was used in a virtual conference environment to map the system and develop effective interventions.
- **CASE #3: Canadian family justice system project** working to reduce adverse childhood experiences is the third example. This project used a strategy mapping process focused on coordinating the implementation and evaluation of a system transformation over the long term while relying on a software called InsightVision to help manage strategy implementation. Many software packages are available to facilitate strategy mapping. Choosing the right package depends on how you'd like to use it.

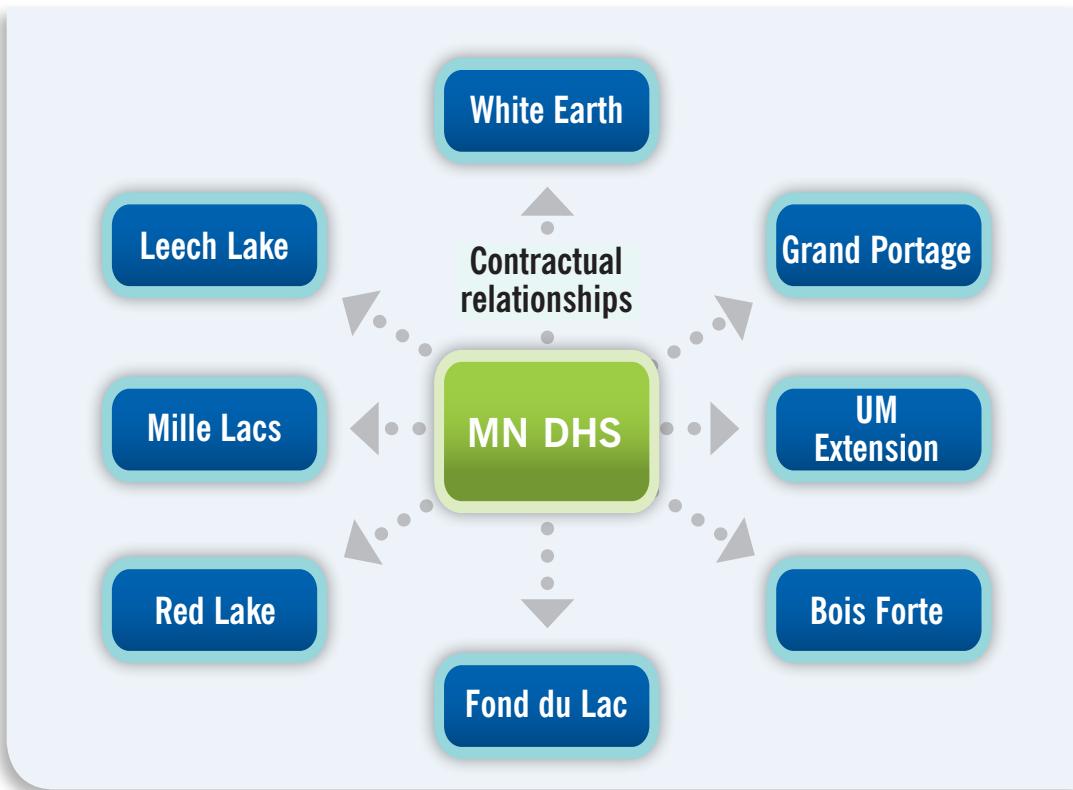
5. Strategy mapping is particularly helpful for addressing some of the challenges outlined in the NAPA report referenced in footnote 1 above. Specifically, strategy mapping provides a "shared and effective way across agencies and their partners to structure, integrate and monitor large-scale, long-term strategies, and supplement or extend expertise to manage complex strategies." Strategy mapping also helps articulate "a governmentwide learning agenda" aimed at improving performance in relation to addressing cross-agency, cross-level, and cross-sector challenges. Strategy mapping also helps show "points of responsibility for assessing and refining models for effective collaborative governance" in relation to specific challenges.

CASE #1:**Intergovernmental Strategy Mapping Yields Equity-Centered Plan**

By Anne Carroll and Jessica Rochester

Introduction

The U.S. Department of Agriculture's Food and Nutrition Service funds the Supplemental Nutrition Assistance Program-Education (SNAP-Ed) grant program, promoting evidence-based nutrition education and obesity prevention for people in low-income households that are eligible for SNAP. The Minnesota Department of Human Services (DHS) administers Minnesota's SNAP-Ed program by setting statewide goals and priorities and contracting directly with implementation partners.⁶ The partners include seven sovereign Tribal Nations, a Native-governed technical assistance provider, and the University of Minnesota as illustrated in Figure 4. Partners help participants improve their diet and physical activity, for example, by offering training on how to make healthy food choices on a limited budget, including shopping, food storage, and cooking skills.

Figure 4. Minnesota SNAP-Ed Organization

As the state agency charged with setting multiyear statewide goals and priorities, DHS had historically developed these and announced them to local implementation partners. In 2019, however, SNAP-Ed staff decided to build on the baseline trust they had developed with these partners and bring them together to jointly create a 10-year vision for Minnesota SNAP-Ed that aligns with federal guidance and addresses community priorities and programming strengths.

6. In FY 2019, Minnesota SNAP-Ed served 15,000 unduplicated people through direct education, reached about 240,000 through social marketing and policy, system, and environmental changes, and worked within 1,100 partnerships.

DHS chose an outside consulting team (Carroll, Franck & Associates) to ensure a robust process in which everyone could participate. To honor commitments to inclusion, multiple perspectives, and careful listening, a planning team of SNAP-Ed staff, partner leads, and the consultants served as process stewards. The team jointly developed the process to meet the needs of the key stakeholders, which included partner staff, program participants, cultural guides, and DHS SNAP-Ed staff.

With guidance from the planning team, the consultants then implemented the process summarized below:

- **Round 1 Input, April 2019:** The Planning Team reached out to key stakeholders, provided information, and gathered input on programming successes, improvement ideas and resources, how to better measure success, potential future high- and low-impact efforts, and future community benefits. Tools were primarily an online survey with additional outreach and input via direct contacts; results provided significant guidance for the goals/strategy workshop.
- **Strategy Mapping, May 2019 (2 days):** Two consultants facilitated this workshop for a wide range of partners' and DHS staff to complete a comprehensive SWOT (strengths, weaknesses, opportunities, and threats) analysis followed by inclusive strategy mapping. See details and results below.
- **Round 2 Feedback, late May 2019:** The planning team gathered feedback on draft goals, strategies, and tactics from partner staff, program participants, cultural guides, and DHS staff through three virtual sessions and an online survey. Results were used to refine strategies and implementation tactics.
- **Finalized Goals and Strategies, June 2019:** Consultants used Round 2 feedback to finalize the statewide goals and strategies; DHS shared them publicly and is using them to guide SNAP-Ed initiatives in Minnesota.



University Extension Participant Reflection

Prior to the two-day visioning meeting, DHS asked all partners to submit topic areas of interest to address through our collective . . . plan. When we arrived at the visioning meeting, all partners' content areas were displayed on the wall without identifying who submitted the topics. That was the first realization of the commonality across all partners. The worry that it would be hard to identify common topics for our 10-year vision quickly dissipated. There was a feeling of solidarity just seeing the list—we have so much in common!

Strategy Mapping

Because this project's success depended on collective knowledge and participation, all partner staff were invited to attend the two-day goal/strategy workshop, and all who wanted to attend were supported to do so. The gathering was at a central Minnesota location chosen by the partners, and each was allocated funds for travel and lodging. The first moments of the visioning process set the tone for the two days. The gathering began with a grounding exercise, as everyone was invited to stand in a circle and participate in a cleansing smudging ritual (burning sage, cedar, or sweet grass), which is common across Native American communities.

Facilitated by the consultants, the workshop began with a comprehensive SWOT analysis. Participants then used results from Round 1 engagement, partner needs assessments, the SWOT results, and their own knowledge and expertise to drive the strategy mapping process.

The consultants provided strong process guidance and teaching as the well-prepared participants worked through strategy mapping, allowing them to focus first on content. As the workshop progressed, participants were able to work more independently with their peers to develop a robust set of long-term goals (5-10 years), midterm strategies (3-5 years), and implementation tactics (1-2 years).

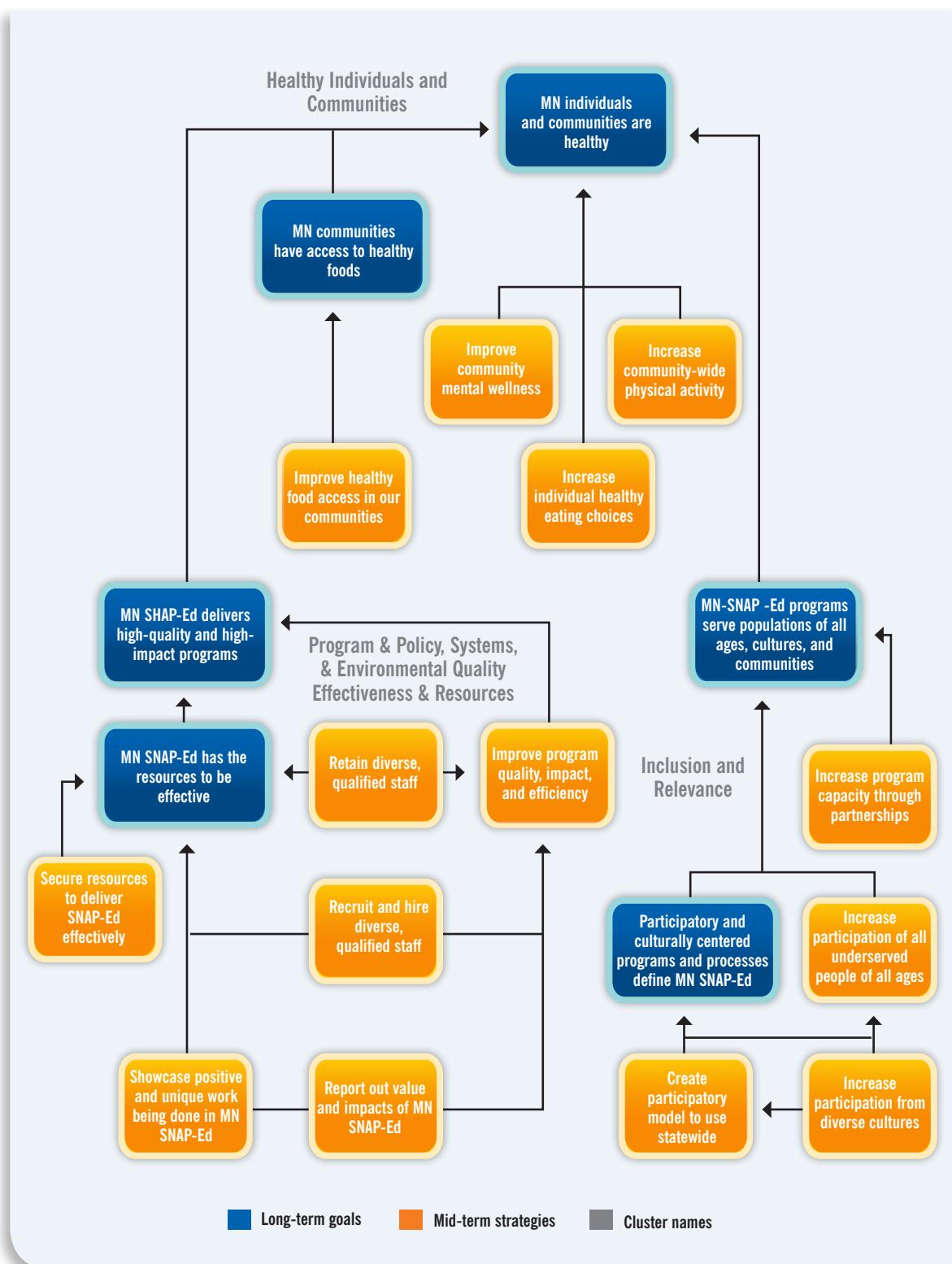
Participants were actively engaged and developed nearly all the goals, strategies, and tactics during this intense workshop. Afterwards, the consultants and planning team cleaned up causal connections and edited some descriptions for clarity. DHS and the consultants then invited feedback on the high-level results from key stakeholders, and from that guidance made a few important refinements.

Selected results are shown below, beginning with Figure 5, Summary Goals and Key Strategies. The figure represents a high-level view of the overall map. In the next section we will "zoom in" to a specific strategy subcluster.

Clusters. Once the map was substantially complete, three content clusters emerged: Healthy Individuals and Communities; Program and Policy, Systems, and Environmental Quality, Effectiveness, and Resources; and Inclusion and Relevance.

Goals, strategies, and tactics: The complete map includes six goals, 15 strategies, and approximately 126 tactics.



Figure 5. Summary Goals and Key Strategies



Tribal participant perspective

For us, the visioning work and the resulting document meant everything, because for the first time, what we do made sense. The way SNAP-Ed was talked about before didn't live and breathe in our minds. After visioning, we saw ourselves and our work plans reflected in SNAP-Ed. The visioning document was more functional for our everyday work and made our work present.

Tribal partner reflection

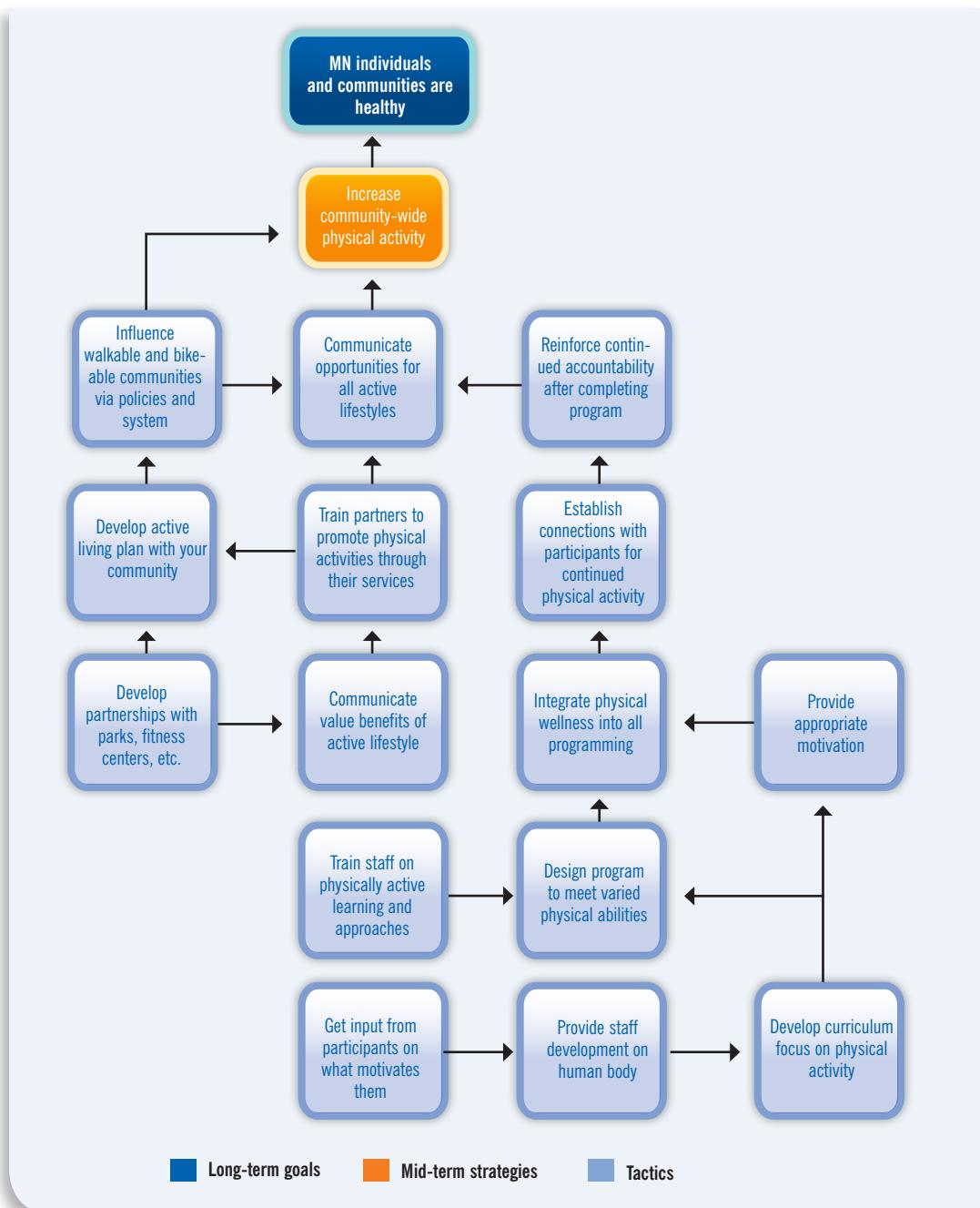
The result is one unified plan that sets forth clearly the goals that need to be met but allows each individual educator to meet those goals in a way that reflects the uniqueness of the people, cultures, and communities we serve.



Below is an example of a strategy subcluster with descriptions, associated state-level indicators and targets, and reflections on the process and results from staff at DHS and the Tribal and University of Minnesota Extension partners.

Cluster: Healthy Individuals and Communities

Strategy subcluster: Increase communitywide physical activity. See Figure 6, which zooms in to elaborate on the strategy statement that appears around one o'clock in Figure 5. By the close of FY 2022, increase communitywide physical activity as shown by the number of participants who increase the frequency of their physical activity: 8,411 participants will report an increase in the frequency of the number of times per week they are physically active for at least 30 minutes.

Figure 6. Cluster, Healthy Individuals and Communities

University Extension implementation note. We continue to “walk the talk” as we live out this strategy. Our hires in 2021 included two Native American staff, one an elder to support both statewide programming and work with urban American Indian communities; one Hmong and one African American SNAP-Ed educator to work in the Twin Cities metro; one East Asian SNAP-Ed educator to work in Rochester; and one Somali SNAP-Ed educator to work in St. Cloud. In leadership positions, we hired a SNAP-Ed educator who is a person of color for an open Extension educator position and are working to hire a native Spanish speaker for the southwest regional coordinator position. We have also hired a native Spanish-speaking specialist to support Spanish language resource development efforts and have contracted with multiple BIPOC vendors to support our ability to communicate, build, and implement culturally grounded education.

The result of this highly collaborative strategy mapping effort is a statewide plan that values respect, co-learning, and mutual benefit, with a commitment to incorporating community and cultural theories of change, participant voice, and community engagement. In 2020-21, work on key strategies progressed despite COVID-related program suspensions and related disruptions. This was especially important for issues and needs that became critical during the pandemic; local teams made significant progress on food access, transportation options, new partnerships, and expanded communications.



Tribal participant perspective

After the visioning, we felt like ONE state program. We felt we had permission to innovate in terms of community and participant voice in our programs and evaluation. We could explore ways to tell stories to showcase outcomes and impacts.



CASE #2:

Understanding and Managing Pandemic-Related Risks to the Norwegian Health and Social Care System Due to the COVID-19 Pandemic

By Colin Eden and Jose J. Gonzalez

The Challenge Addressed

What are the direct and indirect risks to the health and social care system arising from a growing number of COVID-19 cases and increasing mortality in Norway? The crucial challenges to strategy development and preparedness are posed by a *system of issues/risks*, in which the issues/risks and their outcomes interact with each other. The Research Council of Norway funded an effort in 2020 to help explore this system of issues and risks and what might be done about them.

The Strategy Making Group: Actors/Stakeholders Involved

In any pandemic, development of effective strategies for risk mitigation must involve interdisciplinary thinking, meaning working across traditional silos. In other words, participants from across a wide range of disciplines (i.e., roles, backgrounds, and organizations) must contribute knowledge and insight.

We coauthors were commissioned to engage a group of experts to clarify the system of COVID-19-related issues/risks and what might be done to manage them. The authors queried a range of epidemiological experts about the sorts of people who should be involved as experts. They suggested that ideally over 70 different disciplines should be involved.

Knowing that 70 participants would be too many to interactively construct a model of the system of risks, we narrowed the group size to 16 participants who would be able to cover all of the topics identified by the suggested 70-plus disciplines. By analyzing the overlaps, we identified 15 participants who could, between them, offer informed views covering all topics. We then added a 16th participant who likely would be able to take a well-argued, but ‘off-the-wall’ surprising perspective and create an ‘aha’ from other participants.

The Technology for Supporting the Group: About Strategyfinder™

A set of facilitated workshops took place using video conferencing. The workshops used a causal mapping software called Strategyfinder (<https://www.strategyfinder.com/>).

Strategyfinder is a software platform for helping groups collaboratively work in person or virtually on messy problems, develop strategies, and manage risks. With it, groups explore what causes what—means and ends—so that agreements can be negotiated with a full understanding of the expected outcomes and unexpected ramifications.

Strategyfinder is particularly helpful in situations where the complexity is, in part, due to differing perspectives. It allows each participant to simultaneously add their own views to the growing system of strategic issues or risks, via their own computer, thus increasing productivity. It also allows participants to see their views set in the context of others' perspectives.

Participants add causal links representing causal influences. In the resultant system of issues/risks, participants often discover feedback loops, including vicious and virtuous cycles.

Strategyfinder has powerful analysis tools to detect loops and find the parts of the system that are most central.

In short, the software serves two purposes: first, collecting and organizing knowledge as a causal network and, second, analyzing the causal network to help produce negotiated strategies that recognize the systemic nature of complex problems. In the case at hand, Strategyfinder enabled an issue/risk system to be jointly constructed by the members of the group. The resulting causal map shows the range of issues/risks and their causes and outcomes that contribute to the problem situation the group faces.

Strategyfinder allows participants to directly—and anonymously, to enhance honesty—enter their views through their own laptop/tablet. This capability also meant that during the COVID pandemic the Norwegian risk management task group was able to do all their work remotely, which was obviously a real plus. The individual contributions are simultaneously collected and displayed on each participant's screen. The facilitator works with the group to ensure that the different individual perspectives are structured to reveal significant causal chains of argument and vicious/virtuous cycles that allow for further reflection, extension, and debate amongst group members. Statements in the system are stylized with colors and fonts to enable the categorization of chosen issues/risks: for example, to show goals, strategies, key/central statements, highly potent options (those that 'hit' many goals), key drivers of vicious/virtuous cycles, etc. The software allows individuals to attach priorities to issue/risk via ranking, rating, and weighting features. In this way, the degree of consensus about aspects of the risk system and what to do about them can be evaluated.

The Process Followed

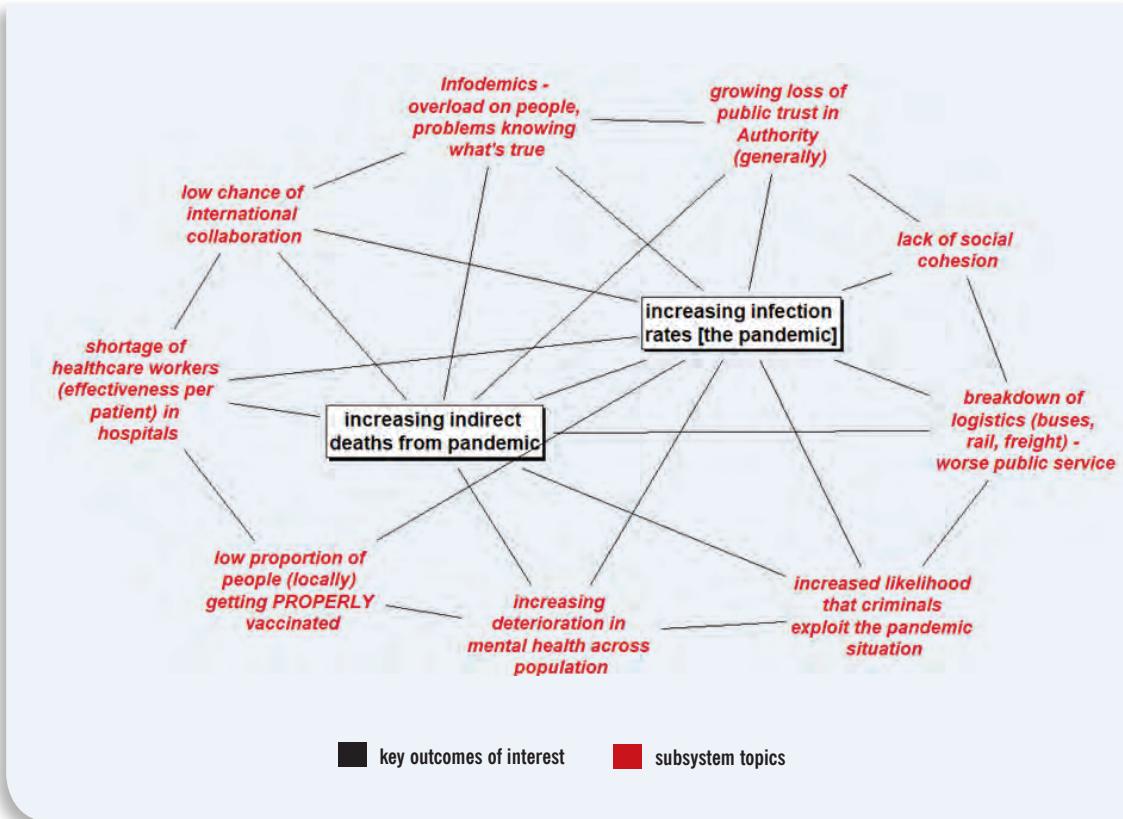
Four workshops, each two to three hours long, were organized with breaks approximately every hour. In each, 16 participants contributed from different locations using videoconferencing for communication and Strategyfinder for constructing, discussing, and validating the risk system, analyzing its structure, and developing mitigation strategies. The workshops were run by one facilitator. In the schedule below the process has been generalized, but it represents an accurate report on the process followed, along with some figures from the case.

In the first workshop, risks were gathered, and causal links among them were entered. By the end of the workshop, participants agreed on thematic clusters and their significance. In back-room work, the facilitator and a colleague used Strategyfinder to analyze and prepare new subsystem views, which they prepared for presentation and discussion at the next workshop.

The second workshop had the objectives of exploring each subsystem, adding missing and additional material, promoting discussion, and validating the model of the risk system. Again, participants reached agreement after a reassessment of the relative criticality of the subsystems.

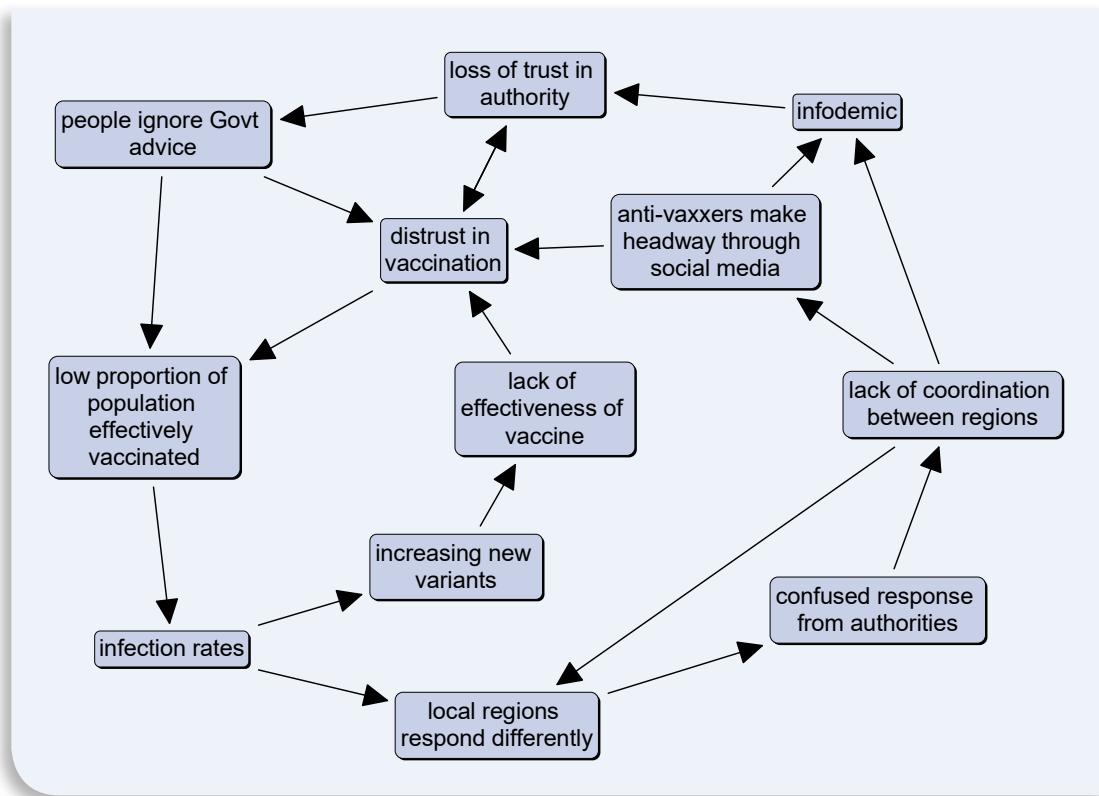
Figure 7 shows an overview of the subsystem topics that emerged from this stage.

Figure 7. The Interacting Subsystems Emerging from an Analysis and Validation of the Risk System



The third workshop focused on strategy development and strategy agreement. As a complex risk system likely contains vicious cycles, they were a key focus for strategy development. Several vicious cycles can be interconnected, compounding the effects as outlined in Figure 8. A small extract from the causal network of the generic model (see below). For example, a 'lack of coordination between local regions' is one possible cause of the 'infodemic' which, through various feedback loops, contributes further to the lack of coordination.

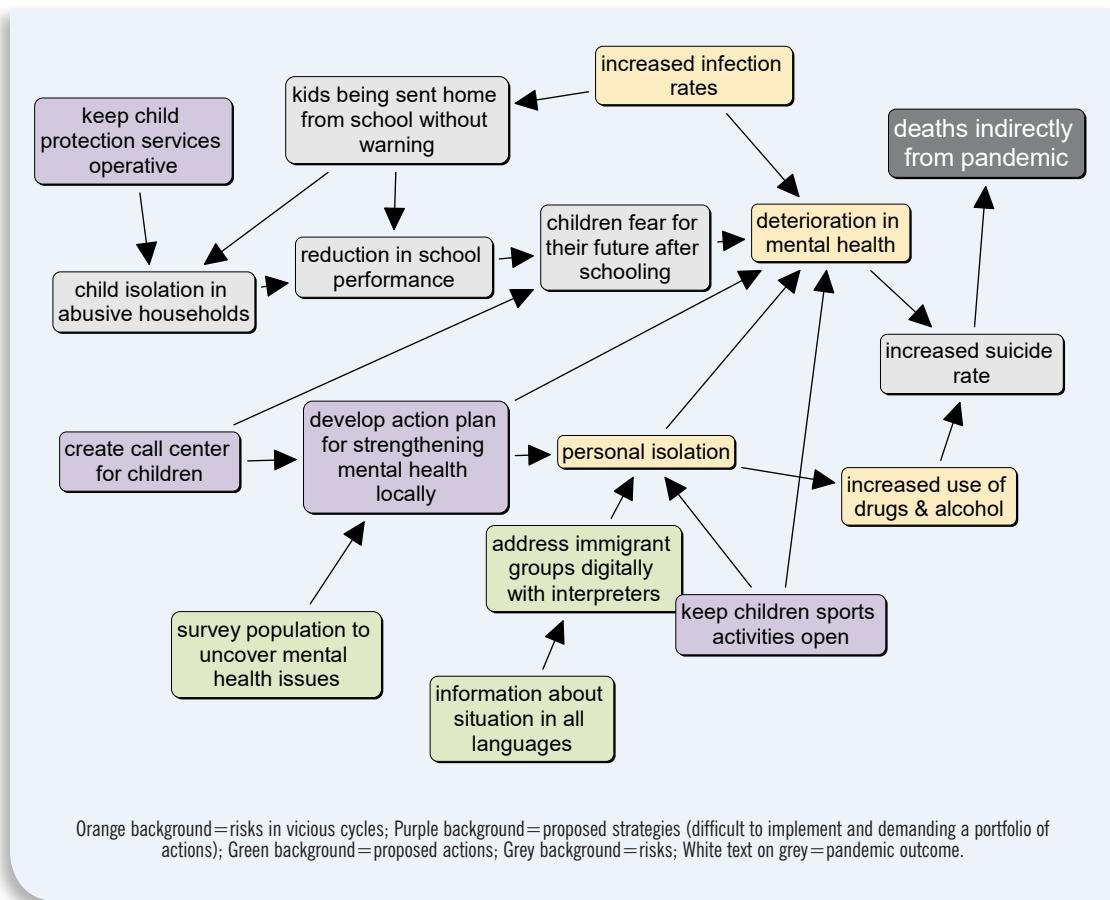
Figure 8. A small extract from the risk system, showing several vicious cycles. Each arrow represents a believed causal link between risks



Vicious cycles must be detected and understood because they mean that the risk situation may become continuously worse over time. It is therefore crucial that core vicious cycles are addressed with measures that are anchored in a proper understanding of the dynamic complexity. For example, one vicious cycle that effective policies could transform into a virtuous cycle would be to decrease infection rates, which would reduce new variants so that vaccines can be more effective, which leads to less distrust in vaccination, and so a higher percentage of the population get effectively vaccinated, leading to lower infection rates, and so on.

The starting focus for strategy development is the risk that promotes the most vicious cycles, and if fully mitigated would reduce the maximum amount of bad dynamic change in the situation. Developing strategies starts with participants making their own suggestions about potential mitigating actions/strategies and linking those statements to the risk they expect to mitigate. When everyone has made their suggestions and the facilitator has reviewed them with the group, Strategyfinder allows each participant to evaluate the options. Evaluation occurs by constraining choice, for example, by highlighting limited resources. Figure 9 shows strategy development focused on the mental health subsystem.

Figure 9. A small extract from the development of actions and strategies about deteriorating mental health



The fourth and final two-hour workshop was devoted to reviewing the strategies agreed upon in the third workshop and identifying those participants who would take responsibility for ensuring implementation (not necessarily for doing the implementation). Exhibit 2 shows an extract from the final document. In this page, the focus is on agreed strategies for the health care workers subsystem. Note that the reason for the strategy (*the in order to statements*) is explicitly noted; most strategies fail because the implementers proceed in a way that does not produce the intended outcome.

Exhibit 2. Extract from the Strategy Document: Implementation for Shortage of Health Care Workers—Agreed Strategies, their Purpose, and Implementation Teams

Establish high-level infection protection (PPE) for healthcare and emergency workers
In order to:
<ul style="list-style-type: none"> • Directly avoid a shortage of health care workers in hospitals • Control local outbreaks in hospitals, and so avoid having exhausted health care workers and so reduce possibility of low productivity of working health care staff because of a shortage of staff
Implementation Team: H, M
Priority of vaccination for health care workers
In order to:
<ul style="list-style-type: none"> • Directly avoid a shortage of health care workers in hospitals • Avoid local outbreaks of virus in nursing homes and hospitals • Avoid delays in ordinary medical education
Implementation Team: S, E
Limit visits and staff exchange
In order to:
<ul style="list-style-type: none"> • Avoid local outbreaks of virus in nursing homes and hospitals
Implementation Team: H, S
Not allow student health care workers to be in different locations
In order to:
<ul style="list-style-type: none"> • Avoid local outbreaks of virus in nursing homes, and so • Avoid hospitalization of care home residents and a shortage of care home staff
Implementation Team: A
Effective communication and cooperation between hospital and municipality
In order to:
<ul style="list-style-type: none"> • Avoid local outbreaks of virus in nursing homes, and so • Avoid care home residents being hospitalized and shortage of care home staff
Implementation Team: E
Avoid transportation by bus for health care workers
In order to:
<ul style="list-style-type: none"> • Avoid local outbreaks of virus in nursing homes, and so • Avoid care home residents being hospitalized and shortage of care home staff
Implementation Team: S
Arrange core hospital staff in cohorts
In order to:
<ul style="list-style-type: none"> • Avoid core health staff being quarantined
Implementation Team: H

The Results Achieved, Or Not

In summary, the case involved four workshops with a total of 10 hours of work from participants and additional work from the facilitator and a colleague. The group had never worked together before. By the end of the third workshop, they had agreed on 25 strategies over five of the key subsystems of risks. Workshop participants were able to go to work on implementation strategies soon afterward.

Later, when the Omicron wave raised new alarms, the Norwegian government expected that the high infectiousness of Omicron could overwhelm their capacity to respond. Accordingly, each county in Norway had to deliver a plan for how to best manage the situation. Each county has a constellation known as Helsefelleskapet (Health Community) defining areas of cooperation between the municipalities in the region and the hospitals in the region (in Norway, all major hospitals are publicly owned). Kristiansand municipality, the capital of Agder county in Southern Norway and a partner in the case work reported here, decided to lead systemic risk assessment and management workshops targeting the Omicron pandemic wave using the methodology developed and reported on here. Workshops involving the municipalities in Agder county, and the Hospital of Southern Norway were conducted in the last half of December of 2021. The new strategies developed in the workshops were implemented at the regional level.

Reflections On the Case

The manager responsible for crisis management in Kristiansand said, “By using Strategyfinder, you look at it from a system view. . . . From my point of view, it's about the vicious circles that are highlighted when you put people together and they are discussing how risks have an influence on each other, and that you can discuss and see the picture on a systemic view and then suggest different strategies for how to deal with it.”

This series of workshops took place at the beginning of 2021. Recently, *The Lancet* has reported on research that suggests that countries with a high degree of trust and social cohesion have managed the COVID-19 pandemic best.⁷ This conclusion interestingly matches the outcome from the risk mitigation work reported on here: that trust and social cohesion are two of the most significant risk subsystems in the COVID-19 pandemic. Beyond that, crisis managers in Kristiansand, one of the major cities of Norway, have invested in mastering Strategyfinder and using it for preparedness toward a range of different threats.

7. J L Dieleman et al. (2022) Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from Jan 1, 2020, to Sept 30, 2021, *The Lancet*,

CASE #3: Transforming the Family Justice System in Canada

By Bill Barberg

An innovative strategy mapping and management technique is being used to transform the family justice system across Canada by helping engage and align a growing network of organizations to plan and implement system-changing actions. In contrast to the *system* mapping approach taken initially in the Norway case described earlier in this report, this *strategy* mapping approach begins with aspirations and provides the tools to manage implementation. This transformative effort is made possible by the InsightVision software platform.

In Canada, the family justice system includes many independent organizations, from courts to lawyers to social service organizations. While each has different priorities and responsibilities in relation to family restructuring, they are interdependent. Over the past 20 years, numerous reports have identified serious concerns and called for change, but only incremental system improvement occurred. Accomplishing meaningful transformation in a complex, entrenched system is exceedingly difficult, but the 2013 reports spoke of the family justice system doing harm, and this led to renewed, urgent calls for change. A dedicated coalition in Alberta, called Reforming the Family Justice System (RFJS), answered the call.⁸

Based on a growing understanding of the impact of adverse childhood experiences (ACEs), RFJS sought to shift the focus away from a reactive, adversarial model to a proactive, well-being model. Because compelling research shows that toxic stress has a major impact on a child's brain development, lifelong health and well-being, coalition members believed that an understanding of the science could create the paradigm shift needed for the transformation.

In the first two years, RFJS mobilized partners, studied theories of system change, and created innovations and pilots. However, they began to struggle with the challenges that inhibit progress in nearly every effort to address complex social challenges:

- **The Need to Change Mental Models:** System transformation necessitates changing paradigms and culture.
- **Wicked Complexity:** System issues can be intertwined with complex social issues like poverty, substance abuse and historical racial injustices.
- **Managing Information:** Refining and implementing a strategy over several years requires recording and retrieving the information generated by all partners, funders, innovations, and projects.

RFJS was doing reasonably well on the first challenge, although not at scale. From 2016 to 2019, the other challenges significantly slowed the coalition's momentum. The leaders knew what needed to be done, broadly speaking, but were struggling without the tools to manage and lead participants in this large-scale undertaking.

In late 2019, Diana Lowe attended a webinar on strategy mapping put on by Bill Barberg. Barberg shared an approach to strategy mapping and a set of tools for overcoming the critical challenges of managing complexity and managing information that cause transformation efforts to fail. By early 2020, key leaders from RFJS and their peer organization, Access to Justice British Columbia (A2JBC), had enrolled in InsightFormation's program on using strategy maps.

8. To learn more about the backstory and early days of these efforts to transform the family Justice System, see www.insightformation.com/tfjs.

The InsightFormation Approach to Strategy Mapping

InsightFormation's approach to strategy mapping blends elements of the Balanced Scorecard (BSC) methodology (Kaplan and Norton, 2004), the Collective Impact framework (Kania and Kramer, 2011), the Geels Framework (Geels, 2004) of system transformation, and other valuable techniques. In this approach, progress is not linear from designing a strategy to managing its implementation. To transform a complex system, the process must alternate between these functions. Continually clarifying the goals is just as important as executing short-term actions.⁹

The InsightFormation process is supported by an online platform, InsightVision, that lets coalition members co-create a high-level strategy and also, crucially, manage the many details involved with implementation. InsightVision's functionality includes zoomable, interactive strategy maps that give all users a line of sight to the high-level objectives and the ability to both view and update the objectives, measures, targets, actions, and stories that support the strategy. InsightVision promotes an emergent process in which the details of the strategy are developed as different groups work on projects.

With Insight Formation's approach, strategy maps are built as a linked set of objectives, each of which describes an intentional change. The top of the strategy map shows the *outcome* objectives. Beneath that, a set of *strategy* objectives shows the interrelated changes that will lead to the outcomes. At the bottom of the map are the *asset and capacity development* objectives that describe how the coalition will build its capabilities to accomplish the strategy objectives. *System* mapping describes a current reality, but *strategy* mapping in this approach begins with aspirations. Given the context, the RFJS process focused first on the interrelated changes needed to achieve the hoped-for future state instead of dwelling on clarifying the system dynamics of the current reality.

Developing the Strategy Map

The Alberta and British Columbia coalitions wanted to develop their strategy based on the perspectives in the Geels framework (2004) as illustrated in Figure 10. Perspectives in the Geels Framework and Themes in the TJFS Strategy Map were used to develop the initial strategy map during a series of web conference calls.¹⁰ They called the map Transforming the Family Justice System (TFJS). The idea is that “regimes,” seen as structures, policies, rules, and practices are a product of the broader landscape and innovations developed along the way.

Figure 10. Perspectives in the Geels Framework and Themes in the TJFS Strategy Map

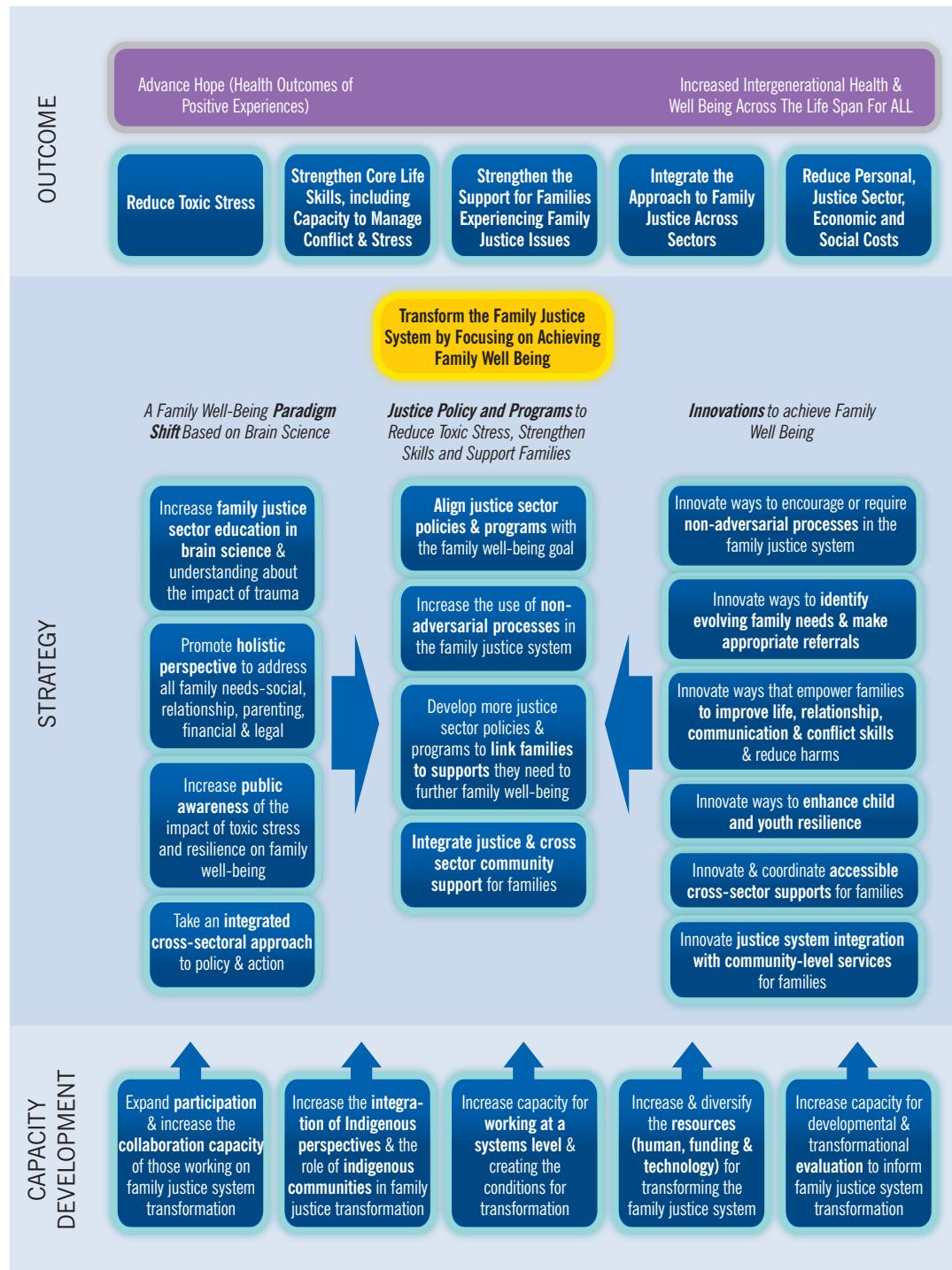


9. For more details on the background of this approach to strategy mapping, see www.insightformation.com/omta.

10. The Geels Framework was initially shared by Frank Geels (2004), and it is sometimes referred to as the Multi-Level Perspective for System Change (MLP). Learn more at www.insightformation.com/tfjs/geels.

This strategy map is larger than a typical Theory of Change; it is what Michael Quinn Patton calls a *theory of transformation* (Patton, 2019; see also Bryson, et al., 2021). The objectives in the strategy section are “stacked” for each theme rather than having the more traditional cause-and-effect arrows between individual objectives. Each objective names an intentional change that will be accomplished by the collective work of many organizations over the next several years outlined in Figure 11.

Figure 11. Transforming the Family Justice System Strategy Map



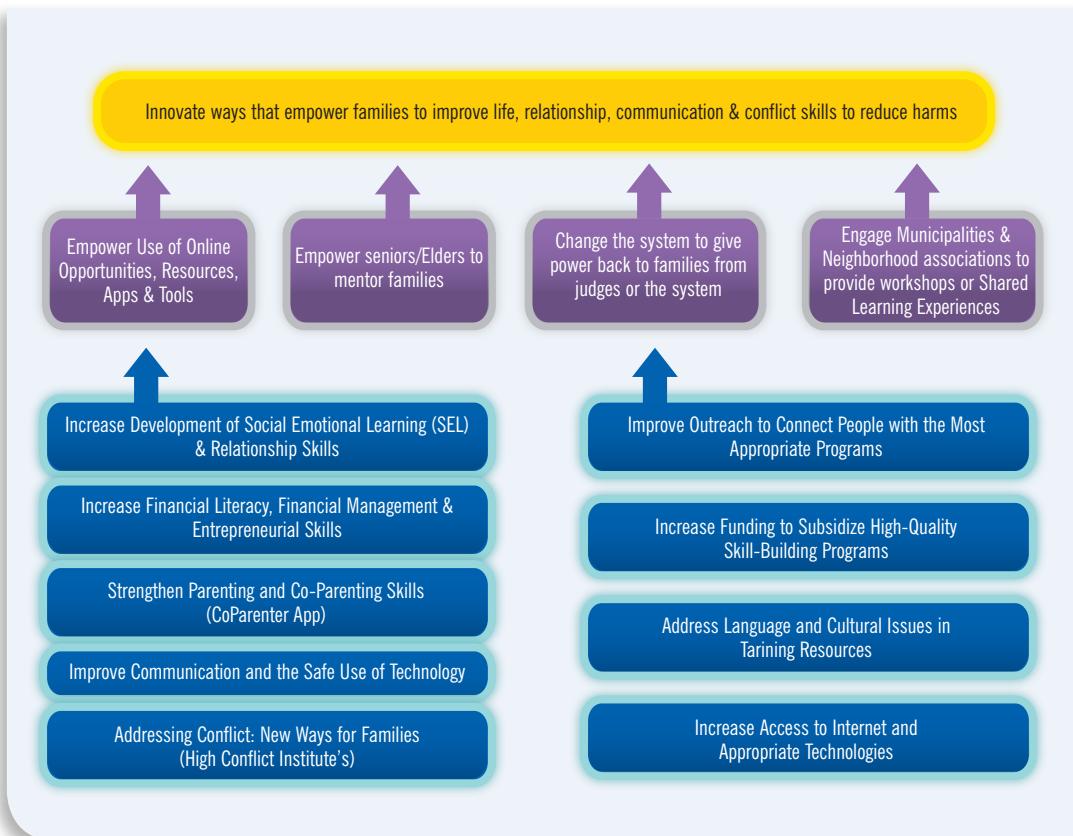
Building Out the Details

While both coalitions began with the same template, their province-specific strategy maps grew in different ways, though both used the Objectives, Measures, Targets and Actions (OMTA) framework. The OMTA approach is an alternative to SMART objectives, designed for system change or Collective Impact strategies.¹¹

In 2021, the RJFS coalition in Alberta focused much of their work on advancing a pilot in one community, Grande Prairie. In online workshops, they worked primarily on the innovation theme, where the goal is to define and launch prototypes that can realistically be implemented, evaluated, and refined. The coalition engaged people from many organizations and sectors, including integrating Indigenous communities and perspectives, which is a capacity development strategy.

A key step for refining the strategy objectives is to build out “zoom-in maps,” which are more detailed strategy maps that allow a user to zoom in from the high-level objectives to the more detailed *driver objectives*. In this case, different groups took on the creation of zoom maps for each strategy objective. Figure 12 is a Zoom-In Map for Innovative Ways that Empower Families to Improve Life, Relationships, Communication and Conflict Skills, and Reduce Harms—created by the RFJS in Grande Prairie.

Figure 12. Zoom-In Map for Innovative Ways that Empower Families to Improve Life, Relationships, Communication and Conflict Skills, and Reduce Harms



11. To learn more about the OMTA framework and download an OMTA Definitions Guide, visit www.insightinformation.com/OMTA.

With zoomable strategy maps, everyone has a line of sight to the different areas that work together to achieve large-scale change, so they can place their own work within that larger strategy. The “zoomability” is a key feature that improves engagement and alignment. This robust framework enables sustained progress over several years on the many details of accomplishing system transformation.

Developing Measures and Tracking Progress

In a lengthy transformation process, progress can be measured in a variety of ways. In InsightVision, targets are described as From-To Gaps, pairs of statements that describe the *current state* and the *desired state* for the objectives. Just as *quantitative* measures have a numerical baseline and a target, the From-To Gaps express a *qualitative* baseline and target. Exhibit 3 presents the From-To Gaps described for one objective.

Exhibit 3. From-To Gap for Supporting Children and Youth to Make Their Participation Meaningful

The screenshot shows the 'Objective Presentation' window of the InsightVision software. At the top, there is a title bar with the objective name: 'FJS: Support children and youth to make their participation meaningful'. Below the title bar are buttons for 'Apply', 'Display Settings', 'Edit', and 'Print to PDF'. The main area contains a table titled 'From (Current State) in 20xx' and 'To (Desired State) in 20xx'. The table has four rows. To the right of the table is a photograph of two people in a meeting. At the bottom of the window, there is a section labeled 'Measures'.

From (Current State) in 20xx	To (Desired State) in 20xx
Children and youth think that their exclusion from family justice decision-making is a given that they cannot do anything about.	Children and youth are made aware that meaningful participation in decisions that affect them is their right from birth and across all aspects of their lives.
Children and youth feel alone and unsupported in making their views known.	Children and youth are connected to at least one person trusted by the child or youth who takes on the responsibility of supporting them to participate meaningfully in decision-making.
Participation processes are rule bound, and designed to fit with the system.	Participation processes are tailored to meet the needs of the particular child involved.
Children and youth often do not share their true thoughts because of fear of repercussions.	Strategies are routinely in place that address the individual child and youth's risks and fears of repercussions.

Some changes are easily quantifiable. Consider the BC version of the objective in the lower left corner of Figure 11: “Provide opportunities for children and youth to participate meaningfully.” This is about developing prototypes that can be implemented, evaluated, refined and scaled. The measure to monitor progress is *the number of children and youth engagement processes defined in the “menu” of innovations*.

But not everything that is important can be measured. In the early stages of a transformation, one of the best ways to show progress, reinforce priorities and align people is to simply share stories. To overcome the challenge of creating a paradigm shift, it is vital for a coalition to have a tool for gathering and sharing qualitative results alongside the quantitative, which is why InsightVision includes this feature.

In Figure 13, this zoom-in map shows the range of objectives that RFJS identified as necessary for this paradigm shift, and the story tab below that shows the earliest signs of progress on this shift.¹²

Figure 13. The Zoom-In Map for Increase Family Justice Sector Education in Brain Science

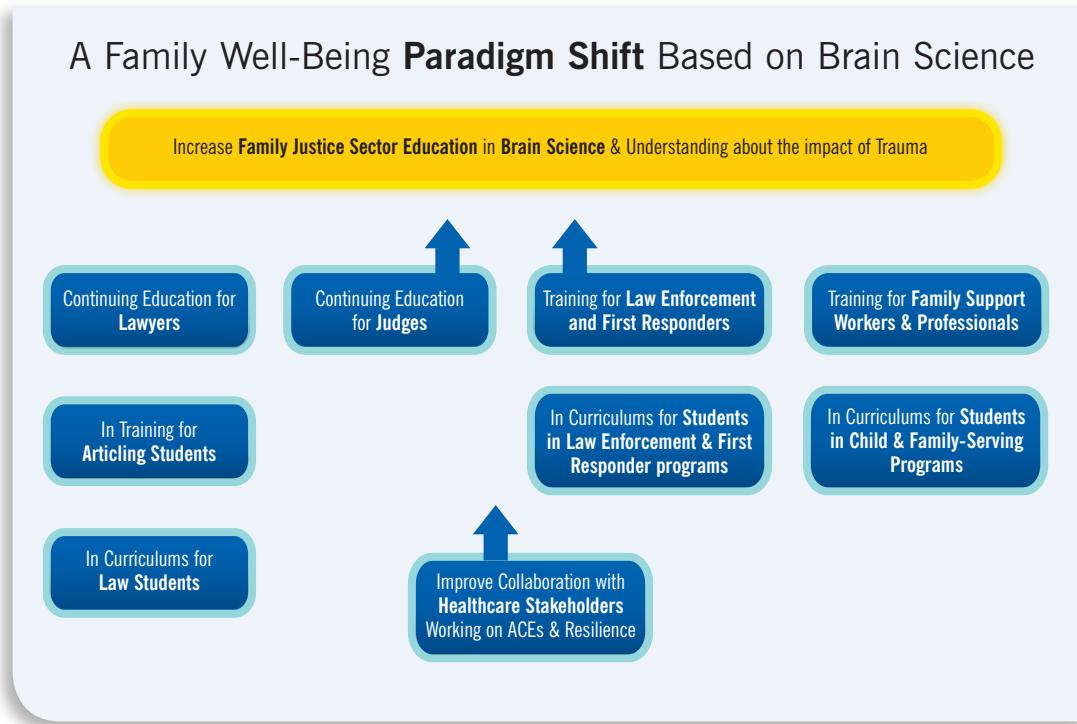


Exhibit 4. The Story Tab

The screenshot shows a software application window titled 'Objective Presentation'. The main title bar says 'FJS: Increase family justice sector education in brain science & understanding about the impact of trauma'. The window has several tabs at the top: Description, From-To Gap, Current Activities, Stories, Potential Measures, Notes, and Measures. The 'Stories' tab is currently selected. It contains a section titled 'Stories of progress for this objective' with two entries:

- Brain Story Certification Recommended for Alberta Judges**: A paragraph describing the support provided by the Chief Justice of the Court of Queen's Bench in Alberta for judges to take a 19-module Brain Story course.
- Brain Science Training becoming a Priority for Educating Lawyers**: A paragraph about RFJS running programs for lawyers on brain science for the Legal Education Society of Alberta.

To the right of the stories is a small image of a brain surrounded by people. The top right corner of the window has buttons for Apply, Display Settings, Edit, Print, and a close button.

12. To learn more about the way that measures, and actions were developed and to see how InsightVision supports scorecards and action monitoring, visit <https://www.insightinformation.com/lfjs/insightvision>.

At any given time, work on refining the strategy, developing actions, and monitoring progress will be going on at different speeds for different parts of the strategy. In InsightVision, the assets and information are visible to all, as is the progress, and so the tool grows steadily more robust with use.

Growing Impact

Solid progress is being made on the three challenges faced by a system-level transformation of the family justice system: changing mental models, challenging complexity, and managing information. The use of strategy maps and InsightVision is allowing the coalition to plan for the first, visualize the second (even as it changes and changes again), and handle the third.

In the early years, system transformation initiatives rarely can demonstrate easy-to-understand results, even if things are going well. Instead, the evidence of success is the multitude of aligned changes that would not likely have occurred without the systematic efforts to transform the targeted system. One important indicator of progress in this case is the enthusiasm expressed by long-time family justice champions whose experience tells them that change is certainly happening, where it was not happening before.

Many recent victories are directly attributable to the coalition's approach to strategy mapping and their use of supporting techniques and software. The movement is gaining momentum as the collaborators see how strategy engagement supports action among their network of individuals and organizations. Jurisdictions across Canada are beginning to see that a well-defined cross-sector strategy for transformation is possible with this method and these tools. Furthermore, these strategy engagement techniques are spreading to adjacent work on family violence, poverty, and community resilience.

Comparing and Contrasting the Three Cases



The three case illustrations show how useful and versatile strategy mapping can be as an element of strategy management-at-scale. The primary purpose of the strategy mapping efforts varied across the cases. In the SNAP-Ed case, the purposes included key actor involvement, relationship and commitment building, and the development of an implementable strategic plan.

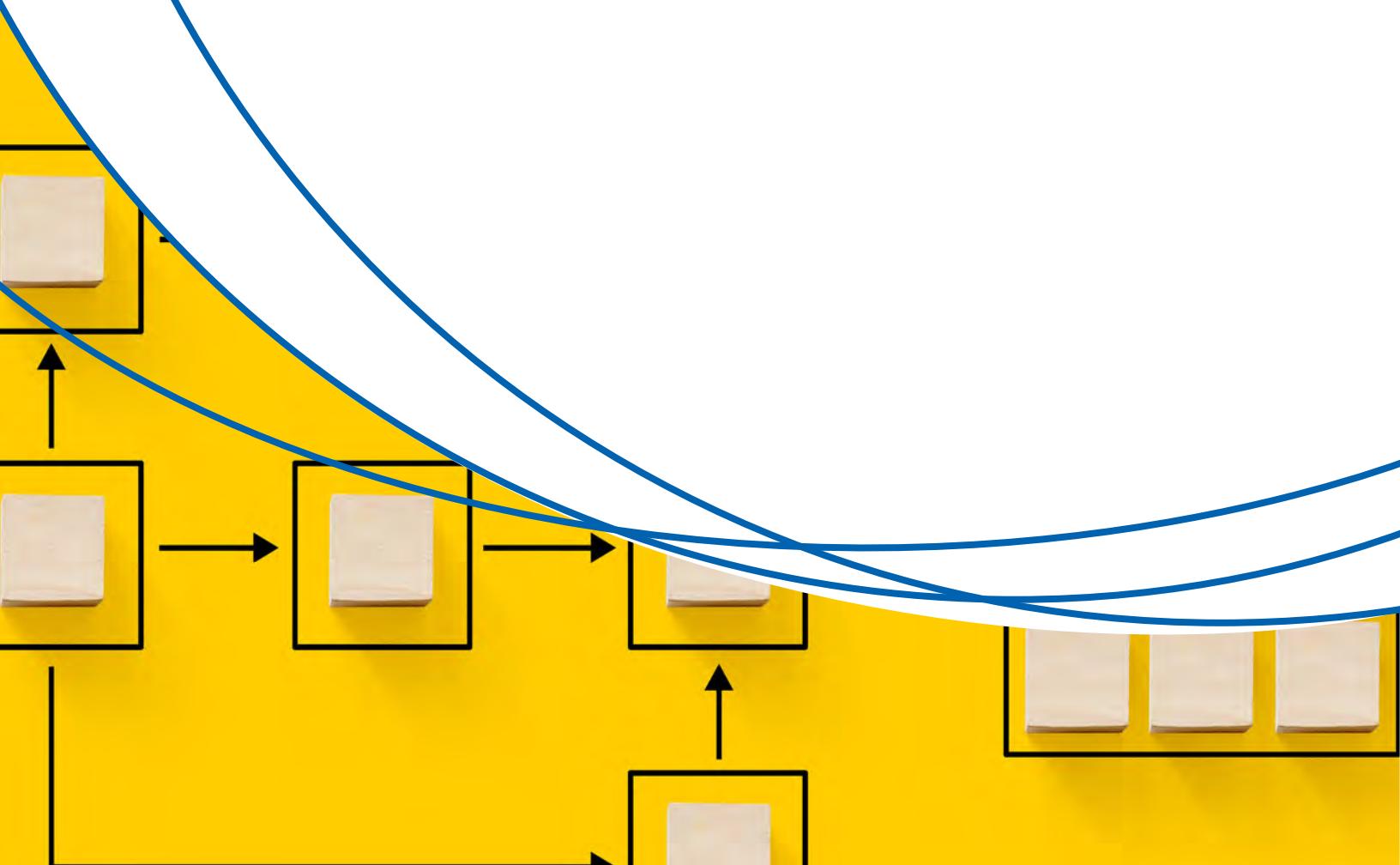
In the risk management case, the major purpose was to understand the system to be managed and to discern where the most effective interventions might be made. The TFJS case is a longer-term system change effort including key actor involvement, relationship building, understanding the system to be changed, catalyzing multiple independent implementing actions, and monitoring and managing the change effort over many years.

The purposes varied because of the complexity of the challenges. The SNAP-Ed case involved fairly simple challenges, while the risk management and TFJS cases were very complex. The level of understanding of the challenge also varied. It was reasonably high in the SNAP-Ed case, but very low overall in the risk management and TFJS cases.

In all three cases, the number of people directly involved in the mapping was relatively small, from 25 and two facilitators in the SNAP-Ed case, to 16 and a facilitator in the risk management case, and over 50 plus a facilitator over time in the TFJS case. The time needed to create the strategy maps beyond preparation and follow-up also varied, from two days in SNAP-Ed case, to 10 hours over four days in the risk management case, to over two years in the TFJS case.

Neutral facilitators were involved in all three cases. Zoomable, revisable strategy maps were developed in all three cases. In short, strategy mapping can be very helpful when it comes to strategy management-at-scale, but it is important to think strategically about why, how, when, and where to use it.

Leading Strategy Management-at-Scale



As already noted, strategy mapping is a *causal* mapping process. A causal map links statements with arrows indicating how one statement leads to another. A map visually shows a system of intentional changes that collectively lead to desired outcomes. Depending on the situation, these maps may include anywhere from two dozen to hundreds of statements. By using a few simple but important rules for formulating statements and creating links, causal maps help reveal relevant values, possible goals and strategies, and often more specific tactics and actions.

Strategy maps can create a long-term framework for change that is bigger than individual policies, organizations, or programs. The maps then help focus dialogue and deliberation among stakeholders, separately or together, on which possibilities actually *should* be chosen to accomplish the desired outcomes. The more deeply mappers engage, the more the maps act as a powerful vehicle for negotiating agreements that are owned by all the group.

Mapping is particularly useful as a part of a strategic management-at-scale approach for helping people from multiple organizations make things happen. Through mapping, stakeholders understand how their efforts are part of a larger strategy to achieve a system of changes and are prompted to think of how other organizations or actions could contribute to greater success. The agreements about means-to-ends ensures that actions are taken for the right reasons: because they can be expected to lead to agreed-upon desired outcomes.

The zoomable strategy map is a key enabler of what Senge, Hamilton and Kania (2015) refer to as the core capabilities of “system leadership” that extends beyond the performance management of single organizations. The method helps individuals and groups do the following:

- Make sense of challenging, complex situations
- Catalyze creative thinking
- Manage the complexity
- Develop and refine a collective’s mission, goals, strategies, and underlying assumptions
- Develop line-of-sight relationships between ideas
- Create shared meaning
- Facilitate negotiation and commitment to agreements
- Communicate necessary actions
- Provide a framework for implementation and evaluation

In short, strategy mapping is a powerful approach consisting of a set of mapping techniques and tools to be drawn on selectively based on the overall approach to organizational or system change and the specific context of application. But the techniques and tools are just that, techniques and tools. For strategy mapping to be of use, leaders need to think in systems terms and understand how different organizations and interventions can contribute toward achieving common goals. Taking a systems view focuses attention on achieving larger goals or objectives beyond what any single organization can accomplish.

Taking a systems view also means reconceptualizing *leadership* as more than just leader-follower relations. Instead, leadership should be conceived of as inspiring and mobilizing the efforts of many individuals and groups to achieve *direction, alignment, and commitment* toward shared high-level goals (Drath et al., 2008; Bryson et al., 2021). Each of our examples has included individual leaders in positions of power and authority, but more important were the shared efforts by a group of organizational leaders and engaged citizens across boundaries, levels, and sectors to advance the common good.

Sample List of Strategy Mapping Software Programs

There many software programs available that can help with strategic planning and strategy implementation in general, but fewer that directly support strategy mapping. See Table 1 in the Appendix for a sample of strategy mapping-related software programs. The Table is the result of an extensive online review performed by Laure Vandersmissen and Bishoy Zaki at the University of Ghent and Bert George at the City University of Hong Kong, with contributions from others. Software programs especially helpful for strategy formulation are presented first, followed by programs that are better for strategy implementation. Strategyfinder is best for strategy formulation, while InsightVision is best for strategy implementation.

Getting Started and Recommendations



The variety of approaches to strategy mapping have some basic commonalities. Here we summarize them in the form of interconnected process guidelines (Bryson et al., 2004, 2014; Ackermann and Eden, 2011; Barberg, 2017, 2019):

1. **Recognizing when a situation can be mapped and is worth mapping.** If the purpose is to address an issue that is beyond the scope of a single organization to address, strategy mapping is almost certainly a useful way to figure out what to do, how to do it in general terms, and why.
2. **Preparing for mapping.** Have a reason for mapping and assemble the necessary materials for in-person or virtual sessions. Consider engaging an experienced facilitator. If you are new to strategy mapping, and especially if you are using new software, practice with friends first before you go live with key stakeholders. Be strategic about whom you invite to the mapping session.
3. **Facilitating mapping exercises.** Make sure to leave time for people to build relationships with one another and to establish some sense of common understanding, concern, connections, and trust. Consider using a skilled facilitator who is focused solely on ensuring the process is effective and has no stake in any specific substantive outcome.
4. **Beginning the map.** Start with an introduction. Review the process. Review ground rules. Begin with the focal issue of concern. Ask people to brainstorm statements about what they can imagine themselves doing about it, or what they think relevant issues are, rather than with a statement of goals. Have participants begin each statement with a verb—e.g., engage, create, develop, organize, buy, produce, etc. Statements should be no longer than six to eight words, as a way of assuring there is only one idea per statement. Gather as many ideas/statements as possible electronically or on self-adhesive notes.
5. **Developing clusters of ideas.** Group statements together that share a common theme.
6. **Establishing a rough hierarchy of statements.** Place statements so that superordinate outcomes are toward the top of a cluster and more detailed options or assertions are toward the bottom.
7. **Adding structure to the clusters.** Include links (arrows) indicating what causes what within and across clusters. To work down a chain of arrows, keep asking, “What would it take to do that, or how would you do that?” To work up a chain of arrows, keep asking, “What would the consequences be of doing that, or what would happen if someone did that?” Add statements as the process proceeds.
8. **Identifying goals, strategies, actions, assertions and/or enabling factors.** A possible goal is a consequence that is good in its own right (e.g., eliminate homelessness in City X by year 20XX). A goal (or outcome objective) is typically toward the end of a chain of arrows. A strategy is the pathway to achieving the goal. Another way to discern a goal is to ask, “What can be achieved if an effective way is found of addressing the issue at hand?” Note as well that some goals are negative-avoidance goals, or things to be avoided (e.g., don’t go bankrupt; see Bryson, et al., 2016).
9. **Finishing the map.** Review the map with the group. Link in any orphans (statements with no causal link either to or from). Preserve the map physically and digitally.

10. Analyzing the map. Examine the map frequently to understand the meaning of the statements and links. Search for busy statements (those that have many arrows coming in and going out); these are likely to be key issues. Also search for potent statements (those that lead to many additional statements). By pushing on the consequences of what might be done, you can identify the real purpose or purposes (mission, overarching goals, outcome objectives) of the overall initiative. Once goals are clarified, make sure the strategies for achieving them make sense and no desirable strategies are missing.

11. Co-aligning around the map. The coalition should decide on which statements represent actual goals and strategies. Then all should work separately or together on implementing the agreed-upon strategies and keep track of whether the goals are achieved. This means organizations should explore separately and together how to best use their own resources and other underutilized resources in the coalition or community to make greater progress on each of the map's goals. These organizations then should use the map to inform their decision-making.

Recommendation 1

Understand that strategy management-at-scale is very different from strategic management of a single organization:

The emphasis is on understanding the dynamics of complex issues and systems and then working to clarify a set of interrelated changes that would make a significant difference in bringing about desired outcomes

The organizations involved in the coalition (that may be cross-level and cross-sectoral) may have different missions, visions, and priorities. Nonetheless, they can still collaborate, or at least co-align, around a strategy map framework to advance all or part of a strategy that contributes to the shared purpose

Coalitions don't control their members' operational systems, and the larger supra-organizational systems are rarely intentionally defined or managed. The strategy focus, therefore, is on encouraging collaboration, or at least co-alignment, of efforts and in moving from unplanned systems to ones that are more intentionally planned. There is also a focus on breaking complex social issues down into smaller parts that might be a fit for different organizations.

Recommendation 2

Use strategy mapping to develop a deeper understanding of issues that cannot be solved by one organization alone. These are issues that cross organizational boundaries, levels (e.g., national, federal, state, and local) and/or sector boundaries (e.g., government, nonprofit, business, and civil society). Consider the multiple interests and knowledge sources needed to develop an adequate understanding. Include enough key informants to have reasonable assurance you do understand the issues involved. Recognize that more than one mapping exercise will likely be needed. Design a process to have mapping exercises build on one another.



Recommendation 3

Use strategy mapping to clarify both goals and the effective strategies to achieve those goals. This means creating an overview map to help guide the development of cross-boundary, cross-level, and cross-sector direction, alignment, and commitment. The overview map will not be very detailed but should show how various organizations (either separately or together) can contribute toward achieving shared goals that cannot be achieved by any organization alone. Individual organization can create their own more detailed strategy maps that take the broader, jointly-shared goals into account.



Recommendation 4

Effective strategy management-at-scale requires a shared information management platform that allows the participating organizations to see what needs to be done, what progress is being made, and where additional problem solving and learning are required (Barberg, 2017; Ansell and Gash, 2018; Ansell and Miura, 2020).

CONCLUSIONS

From challenges like the pandemic, homelessness, climate change and many others, communities and often nations require the coordinated or co-aligned efforts of multiple organizations across multiple levels and sectors if these issues are to be addressed effectively. When the organizations' efforts are reasonably aligned, they can transform systems.

Strategy management-at-scale is an important approach to creating direction, alignment, and commitment among independent organizations at the scale of the challenge or issue to be addressed. Strategy management-at-scale requires new approaches to leadership and new techniques and processes to help make sense of, and manage, the complex, interconnected issues involved in tackling boundary-crossing challenges.

Strategy mapping helps users visualize the cause-and-effect chains in a system and the actions that can be taken to change the system. Mapping helps stakeholders understand their efforts as part of the larger strategy and helps them see how their own and other organizations working alone or together can contribute to greater success. Strategy mapping helps manage the complexity so that useful change happens.

REFERENCES

- Ackermann, Fran, and Colin Eden. 2011. *Making Strategy, 2nd Edition*. Thousand Oaks, CA: Sage.
- Ansell, Chris, and Alison Gash. 2018 "Collaborative platforms as a governance strategy." *Journal of Public Administration Research and Theory*, 28(1): 16-32.
- Ansell, Christopher, and Satoshi Miura. 2020. "Can the power of platforms be harnessed for governance?" *Public Administration*, 98(1): 261-276.
- Armstrong, Ryan. 2019. "Revisiting strategy mapping for performance management: a realist synthesis." *International Journal of Productivity and Performance Management*, 68(4): 721-752.
- Barberg, Bill. 2017. "Implementing Population Health Strategies." In Ron Bialek, Leslie M. Beitsch, and John W. Moran, Editors, *Solving Population Health Problems through Collaboration*. New York: Routledge: 296-329.
- Barberg, Bill. 2019. "Case Illustration: Thriving Weld." In David Wiraeus and James Creelman, *Agile Strategy Management in the Digital Age: How Dynamic Balanced Scorecards Transform Decision Making, Speed and Effectiveness*. London: Palgrave Macmillan 250-252.
- Bryson, John M. 2018. *Strategic Planning for Public and Nonprofit Organizations, 5th Edition*. Hoboken, NJ: John Wiley.
- Bryson, John M., Fran Ackermann, and Colin Eden. 2014. *Visual Strategy: Strategy Mapping for Public and Nonprofit Organizations*. Hoboken, NJ: John Wiley and Sons.
- Bryson, John M., Fran Ackermann, and Colin Eden. 2016. "Discovering Collaborative Advantage: The Contributions of Goal Categories and Visual Strategy Mapping." *Public Administration Review*, 76(6): 912-925.
- Bryson, John M., Fran Ackermann, Colin Eden, and Charles B. Finn. 2004. *Visible Thinking: Unlocking Causal Mapping for Practical Business Results*. Chichester, England: John Wiley.
- Bryson, John M., Bill Barberg, Barbara C. Crosby, and Michael Quinn Patton. 2021. "Leadership for Social Transformation." *Journal of Change Management* no. 21(2): 180-202 <https://doi.org/10.1080/14697017.2021.1917492>.
- Bryson, John M., Barbara C. Crosby and Danbi Seo. 2023 (forthcoming). "Public Value Governance and Strategic Management. In Carsten Greve and Tamyko Ysa, eds. *Handbook of Strategic Public Management*. Northampton, MA: Edward Elgar.
- Carlile, Paul R. 2022. "A pragmatic view of knowledge and boundaries: Boundary objects in new product development." *Organization Science*, 13(4): 442-455.
- Checkland, Peter, and John Poulter. 2020. "Soft systems methodology." In *Systems approaches to making change: A practical guide*, pp. 201-253. Springer, London.

Drath, William H., Cynthia D. McCauley, Charles J. Palus, Ellen Van Velsor, Patricia M. G. O'Connor, John B. McGuire. 2008. "Direction, alignment, commitment: Toward a more integrative ontology of leadership." *The Leadership Quarterly*, 19(6): 635–653. <https://doi.org/10.1016/j.lequa.2008.09.003>.

Eden, Colin, Sue Jones, and David Sims. 1983. *Messing about in problems: an informal structured approach to their identification and management*. Pergamon.

Epstein, Paul. 2009. *The Public Health Quality Improvement Handbook*, Milwaukee: ASQ Quality Press: 252-267.

Friend, John, and Allen Hickling. 2012. *Planning under pressure*. Routledge.

Geels, Frank W. 2004. "From Sectoral Systems of Innovation to Socio-Technical Systems: Insights About Dynamics and Change from Sociology and Institutional Theory." *Research Policy*, 33(6-7): 1897-920.

Kamensky, John, Lisa Blomgren Amsler, John M. Bryson, Anne Khademian, Carolyn Lukensmeyer, F. Stevens Redburn, Michelle Sager, Antoinette Samuel, and Kathy Stack. 2020. *Enhancing Public Governance: An Agenda for 2021 and Beyond*. Washington, D.C.: National Academy of Public Administration, July 2020.

Kania, J., and M. Kramer. 2011. "Collective Impact." *Stanford Social Innovation Review*, Winter, 36-41.

Kania, John, Mark Kramer, and Peter Senge. 2018. "The Waters of Systems Change." Report, FSG, May 2018. Retrieved from <https://policycommons.net/artifacts/1847266/the-water-of-systems-change/2593518/> on 01 Jul 2022.

Kaplan, Robert S. and David P. Norton. 2004. *Strategy Maps*. Harvard Business School Press.

MacLennan, Andrew F., and Constantinos C. Markides. 2021. "Causal Mapping for Strategy Execution: Pitfalls and Applications." *California Management Review*, 63(4): 87-120.

Patton, Michael Quinn. 2010. *Developmental Evaluation*. The Guilford Press.

Patton, Michael Quinn. 2019. *Blue Marble Evaluation*. The Guilford Press.

Quick, Kathryn S., and Martha S. Feldman. 2014. "Boundaries as junctures: Collaborative boundary work for building efficient resilience." *Journal of Public Administration Research and Theory*, 24(3): 673-695.

Senge, Peter, Hal Hamilton, and John Kania. 2014. "The Dawn of System Leadership." *Stanford Social Innovation Review* 13, no. 1: 27–33.

Spee, Andreas P. and Paula Jarzabkowski. 2009. Strategy Tools as Boundary Objects, *Strategic Organization*, 7(2): 223-232.

APPENDIX

A Strategy Mapping Software Sampler

By Laure Vandersmissen, Bishoy Zaki, and Bert George

Software packages that are better for strategy formulation are presented first, followed by software packages that are better for strategy implementation.

Table 1. A Sample of Strategy Mapping-Related Software Programs¹

Software Name	Main Purpose Related to Strategy Mapping	Functionality	Analysis Tools	Price	Comments
<u>Strategyfinder</u>	<ul style="list-style-type: none"> • Enables considered development of effective approaches to change. Takes a team from strategic issues to agreed strategy consisting of goals and strategies with action packages • Explores competitive advantages based on inter-linked competencies • Strategic management of stakeholders • Strategic management of systemic risks 	<ul style="list-style-type: none"> • Specifically designed to support strategy formulation through causal mapping • Helps manage issue/problem complexity and enables systemic and sustainable strategies and outcomes to be considered • Allows for easy navigation of complex models, including multiple views and color-coding and labelling of statements • Summarises the map onto key statements (e.g., goals, strategies) and shows paths between key statements • Extensive facilitation guide provided 	<ul style="list-style-type: none"> • Includes an extensive array of strategy map analysis tools • Supports anonymous contributions and evaluations of potential strategies and actions • Facilitates progress monitoring 	<ul style="list-style-type: none"> • From €500/yr to €1250 dependent on the number of users/models supported • Enterprise Edition—1000 users, unlimited models—price on application 	<ul style="list-style-type: none"> • Cloud-based and usable on most browsers, so participants can contribute from anywhere simultaneously • Most powerful of the strategy mapping software pkgs. reviewed for purposes of strategy formulation • Can handle very large causal maps

¹ Fran Ackermann, Bill Barberg, Anne Carroll, and Colin Eden provided helpful background information for this table.

Table 1. A Sample of Strategy Mapping-Related Software Programs

Software Name	Main Purpose Related to Strategy Mapping	Functionality	Analysis Tools	Price	Comments
<u>Decision Explorer</u>	<ul style="list-style-type: none"> • Individual and group causal mapping • Issue/problem structuring, strategy formulation and implementation monitoring 	<ul style="list-style-type: none"> • Specifically designed to support causal mapping, especially for strategy formulation • Helps manage issue/problem complexity and enables systemic and sustainable strategies and outcomes to be considered • Allows for easy navigation of complex models, including multiple views and color coding and labelling of statements 	<ul style="list-style-type: none"> • Includes a wide array of strategy map analysis tools • Enables considered development of effective approaches to change including mission, goals, strategies, and action packages 	<ul style="list-style-type: none"> • Standard single user: £495 one-time charge • 5-user “saver pack”: £1980 one-time charge 	<ul style="list-style-type: none"> • Needs a large screen and data projection for in-person teamwork • All statements and links go via facilitator when working in a group mode
<u>Miro</u>	<ul style="list-style-type: none"> • Collaboration, design, and productivity 	<ul style="list-style-type: none"> • Collaboration and diagramming on a digital canvas • Not specifically designed to support mapping • Better for strategy formulation than implementation • Templates for many strategy concepts and tools • Some editing functions are challenging 	<ul style="list-style-type: none"> • Basic features available free • No built-in analysis features identified • Mobile apps 	<ul style="list-style-type: none"> • Free when getting started • Team: \$8/per member/month. • Business: \$16/member/month. • Enterprise: Custom pricing 	<ul style="list-style-type: none"> • Cannot easily handle large maps

Table 1. A Sample of Strategy Mapping-Related Software Programs

Software Name	Main Purpose Related to Strategy Mapping	Functionality	Analysis Tools	Price	Comments
<u>Mural</u>	<ul style="list-style-type: none"> Planning, collaboration, and productivity 	<ul style="list-style-type: none"> Collaboration and diagramming on a digital canvas Not specifically designed for strategy mapping Better for strategy formulation than implementation Templates for many strategy concepts and tools, some of which take time to master On-screen navigation can be challenging with many users 	<ul style="list-style-type: none"> No built-in analysis features identified 	<ul style="list-style-type: none"> Free package (3 whiteboards only) Team: (+\$9.99/member/month). Unlimited whiteboards Business: (\$17.99/member/month). Priority support and enhanced security features Enterprise: custom pricing 	<ul style="list-style-type: none"> Cannot easily handle large maps
<u>Lucidchart</u> <u>Lucidspark</u>	<ul style="list-style-type: none"> Lucidchart is a web-based diagramming tool. Lucidspark is a virtual whiteboard application that allows freeform ideation. 	<ul style="list-style-type: none"> Lucidchart allows visual collaboration on developing charts and diagrams. Lucidspark allows web-based collaboration to develop ideas and find collective direction. The two products offer many templates. The two can be used together for purposes of strategy formulation. 	<ul style="list-style-type: none"> No built-in analysis features other than voting and ranking 	<ul style="list-style-type: none"> Same pricing for each product Free individual-use versions available with limited features. \$7.95/month for 1 user or \$27/month (\$9/user, minimum 3), paid annually. Enterprise version available 	<ul style="list-style-type: none"> Easy to use, but hard to manage large maps
<u>Jamboard</u>	<ul style="list-style-type: none"> Web-based collaboration 	<ul style="list-style-type: none"> Collaboration and diagramming on a digital canvas Offers several management templates Not specifically designed to support mapping Better for strategy formulation than implementation 	<ul style="list-style-type: none"> Basic features available free No built-in analysis features identified 	<ul style="list-style-type: none"> Free as an app, but comes with limited tools 	<ul style="list-style-type: none"> Intuitive and easy to use Integrated with Google Drive, so widely available Cannot easily handle large maps

Table 1. A Sample of Strategy Mapping-Related Software Programs

Software Name	Main Purpose Related to Strategy Mapping	Functionality	Analysis Tools	Price	Comments
<i>InsightVision</i>	<ul style="list-style-type: none"> Online strategy engagement platform designed for refining, implementing and evaluating large-scale, long-term, multi-stakeholder strategies for social impact 	<ul style="list-style-type: none"> Better for strategy implementation than formulation Dynamic, zoomable strategy maps that include details of objectives, such as from-to gaps, stories, and links to supporting objectives Integrated measurement and robust scorecard functionality to track progress on objectives Supports planning, aligning, updating, and monitoring actions to support strategy implementation Communication features and formats support alignment, breaking down silos, and shared accountability to address complex social challenges or system change. 	<ul style="list-style-type: none"> Information is managed, structured, and presented to enhance insights and analysis by users 	<ul style="list-style-type: none"> No free version Pricing on request 	<ul style="list-style-type: none"> Cloud-based and usable on most browsers, so participants can contribute from anywhere simultaneously Most powerful of the strategy mapping software pkgs. reviewed for purposes of strategy implementation
<i>Creately</i>	<ul style="list-style-type: none"> Planning, collaboration and knowledge management 	<ul style="list-style-type: none"> Better for strategy implementation (project mgmt.) than strategy formulation Templates for many strategy concepts and tools Provides built-in online video chat 	<ul style="list-style-type: none"> No built-in analysis features identified 	<ul style="list-style-type: none"> Free version Personal: \$4/month. Team: \$4.80/user Enterprise: custom pricing 	<ul style="list-style-type: none"> Free version has limited capacity

Table 1. A Sample of Strategy Mapping-Related Software Programs

Software Name	Main Purpose Related to Strategy Mapping	Functionality	Analysis Tools	Price	Comments
<i>InPhase</i>	<ul style="list-style-type: none"> Strategy implementation and performance management 	<ul style="list-style-type: none"> Better for strategy implementation (project mgt.) than strategy formulation Templates for many strategy concepts and tools Quite complicated and requires training to use 	<ul style="list-style-type: none"> Various analytical features tied to performance management included 	<ul style="list-style-type: none"> No free version Pricing on request 	<ul style="list-style-type: none"> InPhase specializes in local government, healthcare and housing in the U.K.
<i>SpiderStrategies</i>	<ul style="list-style-type: none"> Strategy implementation and performance management 	<ul style="list-style-type: none"> The software uses the Balanced Scorecard approach to strategy mapping Better for strategy implementation Templates for many strategy concepts and tools Very data-driven High degree of interactivity, meaning the Balanced Scorecard strategy map can be linked with underlying data 	<ul style="list-style-type: none"> Causal relations can be identified 	<ul style="list-style-type: none"> Growth (+1 user): starting total monthly cost \$125+ Team (+10 users): starting total monthly cost \$1000+ Department (+25 users): starting total monthly cost \$2250+ Enterprise (+100 users): starting total monthly cost \$5000+ 	<ul style="list-style-type: none"> Cost is clearly an issue Cannot handle large maps easily The Balanced Scorecard approach is also a limitation

ABOUT THE AUTHORS

John M. Bryson is McKnight Presidential Professor Emeritus at the Hubert H. Humphrey School of Public Affairs at the University of Minnesota. He works in the areas of leadership, strategic management, and collaboration. He is best known for his best-selling and award-winning *Strategic Planning for Public and Nonprofit Organizations, 5th Edition* (2018). He is a fellow of the National Academy of Public Administration.

Professor Bryson has served in a variety of roles at the university and the Humphrey School, including twice being associate dean. He has consulted with a wide range of government, nonprofit, and business organizations.

Professor Bryson has received many awards for his work, including lifetime scholarly achievement awards from the American Society for Public Administration (2011), the Public Management Research Association (2018), the Public and Nonprofit Division of the Academy of Management (2019), the Public Policy and Public Administration Sections of the American Political Science Association (2020), and the International Research Society for Public Management (2021).



JOHN M. BRYSON

Bill Barberg is the president and founder of InsightFormation, Inc., a consulting and technology company that helps communities, regions, and countries develop and implement strategies for complex social challenges. Over the past 15 years, he has trained and coached several cutting-edge and nationally-recognized efforts to improve the social determinants of health and break the cycle of poverty and poor health. He wrote the chapter “Implementing Population Health Strategies” for the book, *Solving Population Health Problems through Collaboration* (Routledge, 2017). In 2018, Bill received the “Health System Transformation” award from Communities Joined in Action. In 2019, Bill helped launch the Population Health Learning Collaborative (PopHLC) www.improvepophealth.org. Bill received a BA in Economics from Gustavus Adolphus College in 1986 (Summa Cum Laude).



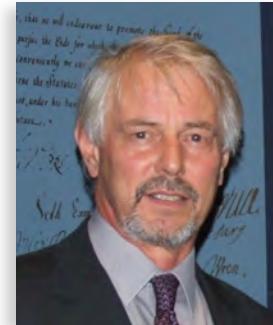
BILL BARBERG

Anne Carroll has been a consultant, trainer, and educator in public engagement and strategic planning for over 30 years. Her work in the public and non-profit sectors focuses on designing and collaboratively implementing ethical and equity-centered projects, helping stakeholders work through messy public issues, and bringing diverse groups of people and ideas from divergence to convergence to consensus. She helps participants bring multiple perspectives to issues, supported in part by having served 16 years as a local elected official and teaching and training at the Humphrey School of Public Affairs at the University of Minnesota.



ANNE CARROLL

Colin Eden is emeritus professor at Strathclyde University in Glasgow, Scotland. He has a background in the engineering industry as an operational researcher, became an operational research manager, and then moved into management consulting before joining academia. He has been a consultant to many multi-national top management teams and public organizations in Europe and North America. He is the author/editor of 11 books and over 180 scholarly articles and book chapters in management science, group decision and negotiation, project management, and strategic management. He is a fellow of the British Academy of Management and has been dean of the Fellows College. He is also a fellow of the Agder Academy of Sciences and Letters in Norway.



COLIN EDEN

Bert George holds a PhD in applied economics from Ghent University and specializes in strategic planning and management in public administration, public sector performance, and behavioral public policy. He is an associate professor in the Department of Public and International Affairs at the City University of Hong Kong. Previous tenured positions were at Ghent University and Erasmus University Rotterdam. Bert is an editor of *Public Administration Review*. He teaches strategy-related courses in several executive programs (e.g., at the Hertie School of Governance, Berlin) and advises governments across the globe.



BERT GEORGE

Jose Julio Gonzalez, PhD, is emeritus professor of Information and Communication Technology at the University of Agder, Norway, where he founded and directed the Centre for Integrated Emergency Management. He is also emeritus professor of Security Management at the Norwegian University of Science and Technology. He is a fellow of the Agder Academy of Sciences and Letters in Norway. In 2012 he received the Research Prize from the Academy of Science and Letters of Southern Norway, and in 2019 received the King's Medal for Merit for his contributions to societal security. He leads the innovation project Systemic Pandemic Risk Management (SPRM) involving three European countries.



JOSE JULIO GONZALEZ

Jessica Rochester has worked for nearly 20 years in human services program delivery and development, fundraising, and evaluation with a focus on access to healthy, affordable, and culturally responsive food. She is a SNAP Education Program Specialist at the United States Department of Agriculture - previously with the Minnesota Department of Human Services. Her work includes administrative oversight and providing training and technical assistance. Jessica earned a BA in Sociology from Grinnell College and a Master of Public Health from the University of Minnesota. She believes that quality, affordable, culturally relevant food is a human right.



JESSICA ROCHESTER

Laure Vandersmissen is a PhD student at the Department of Public Governance and Management at Ghent University in Belgium. Her research focuses on strategic planning in transnational and network governance settings. Laure holds two master's degrees, one in Public Administration and Management from Ghent University and one in International Relations and Diplomacy from the University of Antwerp. She is a fellow of the Research Foundation Flanders.



LAURE VANDERSMISSEN

Bishoy Zaki is a former practitioner with over 12 years of experience in policy learning and strategy. He has occupied several positions with different governmental agencies worldwide. He is a post-doctoral researcher at the Department of Public Governance and Management, Ghent University, Belgium. He teaches several courses including Public Policy, and Public Strategy and Behavior. His research focuses on policy theory, policy learning, evidence-based policymaking, and the role of expertise in policymaking. He has several publications in leading journals including *Public Administration Review*, *Policy & Society*, *Public Policy and Administration*, *Public Money and Management*, *Policy Design and Practice*, among others.



BISHOY ZAKI



KEY CONTACT INFORMATION

John M. Bryson

Email: jmbryson@umn.edu

Bill Barberg

Email: bill.barberg@insightformation.com

Anne Carroll

Email: carrfran@gmail.com

Colin Eden

Email: colin.eden@strath.ac.uk

Bert George

Email: brgeorge@cityu.edu.hk

Jose Julio Gonzalez

Email: josejg@uia.no

Jessica Rochester

Email: jessica.rochester@usda.gov

Laure Vandersmissen

Email: Laure.Vandersmissen@ugent.be

Bishoy Zaki

Email: Bishoy.Zaki@ugent.be

RECENT REPORTS FROM THE IBM CENTER FOR THE BUSINESS OF GOVERNMENT

For a full listing of our publications, visit www.businessofgovernment.org



Agility

Human-Centricity in Digital Delivery: Enhancing Agile Governance by Ines Mergel

Agile Government: The Role of Public Affairs Education by Angela Evans

Adopting Agile in State and Local Governments by Sukumar Ganapati

The Road to Agile GOVERNMENT: Driving Change to Achieve Success by G. Edward DeSeve

Transforming How Government Operates: Four Methods of Change by Andrew B. Whittford

Agile Problem Solving in Government: A Case Study of The Opportunity Project by Joel Gurin, Katarina Rebello



Digital

Artificial Intelligence in the Public Sector: A Maturity Model by Kevin C. Desouza

Aligning Open Data, Open Source, and Hybrid Cloud Adoption in Government by Matt Rumsey, Joel Gurin

Innovation and Emerging Technologies in Government: Keys to Success by Dr. Alan R. Shark

Risk Management in the AI Era: Navigating the Opportunities and Challenges of AI Tools in the Public Sector by Justin B. Bullock, Matthew M. Young



Effectiveness

Eight Strategies for Transforming Government by Daniel Chenok, G. Edward DeSeve, Margie Graves, Michael J. Keegan, Mark Newsome, Karin O'Leary

Managing The Next Crisis: Twelve Principles For Dealing With Viral Uncertainty by Katherine Barrett and Richard Greene, Donald F. Kettl

Other Transactions Authorities: After 60 Years, Hitting Their Stride or Hitting The Wall? by Stan Soloway, Jason Knudson, Vincent Wroble

Guidance on Regulatory Guidance: What the Government Needs to Know and Do to Engage the Public by Susan Webb Yackee

Federal Grants Management: Improving Outcomes by Shelley H. Metzenbaum

Government Reform: Lessons from the Past for Actions in the Future by Dan Chenok, John Kamensky



Insight

Leveraging Data to Improve Racial Equity in Fair Housing by Temilola Afolabi

Accelerating Government Innovation With Leadership and Stimulus Funding by Jane Wiseman

Using Data to Advance Racial Equity in Healthcare by Temilola Afolabi, Matt Rumsey

Enabling a More Resilient and Shared Supply Chain Strategy for the Nation: Lessons Learned from COVID-19 by Robert Handfield

The Key to Modern Governmental Supply Chain Practice: Analytical Technology Innovation by David Preston, Daniel Chen, Morgan Swink

Delivering on the Vision of Multi-Domain Command and Control by Dr. David Bray

Using Technology and Analytics to Enhance Stakeholder Engagement in Environmental Decision-Making by Jenna Yeager



People

The Age of Remote Work: How COVID-19 Transformed Organizations in Real Time by David C. Wyld

Reskilling the Workforce with Technology-Oriented Training by Stacie Petter, Laurie Giddens

Sustaining a Distant Vision: NASA, Mars, and Relay Leadership by JW. Henry Lambright

Distance Work Arrangements: The Workplace of the Future Is Now by John Kamensky, Emily G. Craig, Michaela Drust, Dr. Sheri I. Fields, Lawrence Tobin



Risk

Government transformation in tumultuous times by Institute for Business Value

Emerge Stronger and More Resilient: Responding to COVID-19 and Preparing for Future Shocks by Mike Stone, Tim Paydos

Emerging Technology for Response and Recovery: An International Dialogue by Kevin C. Desouza

The Rise of the Sustainable Enterprise by Wayne S. Balta, Jacob Dencik, Daniel C. Esty, Scott Fulton

Managing Cybersecurity Risk in Government by Anupam Kumar, James Haddow, Rajni Goel

About the IBM Center for The Business of Government

Through research stipends and events, the IBM Center for The Business of Government stimulates research and facilitates discussion of new approaches to improving the effectiveness of government at the federal, state, local, and international levels.

About IBM Consulting

With consultants and professional staff in more than 160 countries globally, IBM Consulting is the world's largest consulting services organization. IBM Consulting provides clients with business process and industry expertise, a deep understanding of technology solutions that address specific industry issues, and the ability to design, build, and run those solutions in a way that delivers bottom-line value. To learn more visit ibm.com.

For more information:

Daniel J. Chenok

Executive Director

IBM Center for The Business of Government

600 14th Street NW

Second Floor

Washington, D.C. 20005

(202) 551-9342

website: www.businessofgovernment.org

e-mail: businessofgovernment@us.ibm.com

Stay connected with the IBM Center on:



or, send us your name and e-mail to receive our newsletters.



IBM Center for
The Business of Government