

# “Making Canada Whole”: Multi-Jurisdictional Collaboration as a Strategy to Advance Supply Chain Resilience for Canadian Health Systems

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## Appendix A

Session	Key ideas, common themes and decision points
1. December 2022	<ul style="list-style-type: none"> <li>• <i>CoP orientation</i>: Reaching common ground on purpose, structure and platform</li> <li>• <i>Need for systems mapping before a policy or leadership design</i>: Studying the current players, policies and regulations and key weaknesses and strengths; leveraging current positive policies, relationships and procedures to align the CoP solution accordingly.</li> <li>• <i>Drug shortages as a longstanding and complex issue</i>: Despite the long precedents of pharmaceutical shortages and disruptions, we are learning the same lessons over and over.</li> <li>• <i>Learning from existing successful frameworks</i>: Use existing models as a starting point for progress, e.g., from military models, PHAC, British Columbia.</li> <li>• <i>Incorporating economic indicators in leadership decisions</i></li> <li>• <i>Building trust and relationships before crises</i>: Trust building in regular times, leveraging it in crisis</li> <li>• <i>Today's global and complex SC entails an "All Hazard" approach</i>: Recognizing the complex nature of healthcare SCs; prioritization, vigilance and a critical lens</li> </ul>
2. January 2023	<ul style="list-style-type: none"> <li>• <i>Essential need for data infrastructure and visibility</i></li> <li>• <i>Framing and language of a collaborative leadership strategy</i>: At the early stages, relationships in the network are loose; importance of clarifying goals and purposes to engage all stakeholders; avoiding prescriptive language to foster collaboration.</li> <li>• <i>Need for data sharing and transparency</i>: Transparency is a direct key to unlock current issues in procurement and distribution; the importance of knowing where certain suppliers are, at all times, to ensure an efficient SC</li> <li>• <i>Leveraging current jurisdictional models</i>: Quebec's E-prescribing as a good example; looking into how each province manages crises, discovering and leveraging the strengths</li> <li>• <i>Having long-term goals but focusing on quick steps</i>: Identifying one or two areas to have quick wins, getting closer to the long-term goals in short steps</li> </ul>

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3. March 2023	<ul style="list-style-type: none"> <li>• <i>Need for bridging efforts across jurisdictions:</i> Creating an engagement framework across all different jurisdictions.</li> <li>• <i>Leadership awareness:</i> Informing the C-Suite on the importance of SC: The members identified the need for leadership to be educated on the crucial role of SC in the quality of care.</li> <li>• <i>National engagement mechanism for crisis:</i> Devising a pre-defined mechanism activated in the face of a crisis in order to coordinate the national response.</li> <li>• <i>Jurisdictional policy misalignment as a barrier:</i> Variability in processes, structure, frameworks and policies makes it hard to reach a common ground.</li> <li>• <i>Focusing on a specific initiative to build momentum and show value.</i></li> <li>• <i>Development of a critical product list:</i> Coming up with a list of drugs as essentials and harmonizing efforts in securing them.</li> <li>• <i>Merging the Leadership and Policy Workgroup and the Sourcing and Procurement Workgroup.</i></li> <li>• <i>Need for specialty area partnership:</i> Engaging clinical experts (e.g., a neonatologist) in the decision-making process and the upstream SC.</li> <li>• <i>Federal and provincial roles must be aligned:</i> Need for harmonizing efforts at the provincial, territorial and federal levels by having them at the same table.</li> </ul>
4. May 2023	<ul style="list-style-type: none"> <li>• <i>Avoiding duplication of efforts:</i> Using existing initiatives (such as Health Canada and PHAC) to move forward; taking lessons from past shortages.</li> <li>• <i>Need to standardize critical supply list:</i> The definition of "critical" varies based on the filter one uses.</li> <li>• <i>Clinician engagement for identifying priorities during disruptions:</i> Agile and effective management of disruptions needs expert opinions.</li> <li>• <i>Proactive inventory strategies in the face of intermittent disruptions:</i> Feasibility of having a list of supplies and having real-time data on inventories across Canada.</li> <li>• <i>The issue of inconsistent leadership:</i> Inter-jurisdictional collaboration and policy making is dependent on political will and who's in the chair.</li> <li>• <i>The issue of the equity of resource allocation during shortages.</i></li> <li>• <i>Emergency management:</i> Managing SC in major disruptions must be focused on facilitating and supporting front-line operations rather than gatekeeping.</li> <li>• <i>In the face of a lack of data infrastructure, inter-jurisdictional collaboration is essential:</i> Given the limited data infrastructure of healthcare products in Canada, collaborative decision-making is a convenient solution for informed management.</li> </ul>
5. June 2023	<ul style="list-style-type: none"> <li>• <i>Need for a national engagement strategy with clear roles, routine meetings and active engagement with provinces and territories:</i> Members of the workgroup underscore the importance of established relationships before a crisis; they discussed the channels and schedule of those relationships.</li> <li>• <i>Need for a centralized leadership:</i> Workgroup members, based on their experiences during the COVID-19 pandemic, are proponents of having someone in charge during a crisis.</li> <li>• <i>Defining what "shortage" means and when to act upon it:</i> Acknowledging the importance of constant surveillance and how to achieve it. Proactive management of supplies. Discussion of creating an alert system to avoid surprises.</li> <li>• <i>The inherent tension of provincially delivered healthcare:</i> Provincial authorities are accountable for their own province, a recognized hurdle in establishing collaboration. Again, highlighting the role of an authority body in unifying the leadership.</li> </ul>
6. August 2023	<ul style="list-style-type: none"> <li>• <i>Shortages are inevitable:</i> The solution we are looking for will not be designed to solve SC disruptions but how to proactively and collaboratively manage them.</li> <li>• <i>Challenges of procuring pharmaceuticals from the global markets during major disruptions:</i> Highlighting the importance of supporting domestic manufacturers, volatile global SC and having contingency plans for the essential product lists that are procured from other countries.</li> <li>• <i>Building on the current strengths:</i> We do not need to reinvent the wheel, acknowledging recent initiatives at the governmental level. The leadership role of Health Canada and how to leverage it.</li> <li>• <i>Inter-jurisdictional coordination, in some cases, is currently nonexistent/profoundly limited:</i> Some initial steps would be facing the fundamental challenge of bringing together those jurisdictions that rarely work together.</li> </ul>

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7. September 2023	<ul style="list-style-type: none"> <li>• <i>Discussion on the scope of the multi-jurisdictional strategy:</i> What types of products need to be in the scope of the strategy; when we can say the strategy is needed; what scale of product shortage mandates cross-jurisdictional collaboration. What is the threshold?</li> <li>• <i>Logistics challenges as a crucial criterion for the need of a multi-jurisdictional response.</i></li> <li>• <i>Using scenarios and simulations to develop and diagnose the framework:</i> Considering a scenario (e.g., blood collection tube shortage) can help identify the key players, existing groups and expertise needed to successfully implement the collaboration strategy.</li> <li>• <i>The primary function of the multi-jurisdictional strategy is information sharing:</i> The strategy does not aim for a decision-making and control platform per se, but it is primarily a source for information, knowledge and perspective sharing that otherwise may not be accessible; it definitely has the potential to inform decisions during shortages.</li> <li>• <i>Recurring disruptions might require changing inventory policies and local strategies:</i> Sharing jurisdictional experiences, real-time and retroactive data on shortages can have a huge impact on revisiting the existing inventory practices and finding solutions for current regional disruptions.</li> </ul>
8. November 2023	<ul style="list-style-type: none"> <li>• <i>Importance of shared data and collaboration for agility and effectiveness of SC leadership:</i> Gaining insight on how to manage disruptions using other jurisdictions' positive and negative experiences. How preparedness and being able to identify certain risks will strengthen our SC.</li> <li>• <i>The role of trust in the success of the strategy.</i></li> <li>• <i>Case simulation as a strategy for co-designing the solution:</i> Using a global event (outbreak of war in the east) and its consequences for Canada's SC. What are the most significant priorities that a multi-jurisdictional group has to address?.</li> <li>• <i>Canada's vulnerability in the global pharmaceutical SC:</i> The market size and structure of Canada's healthcare make it fragile in times of global disruptions.</li> <li>• <i>A multi-jurisdictional coordination strategy can help manage inventory and resource sharing:</i> The case of Alberta helping Ontario during the COVID-19 shortages; a discussion of using the military to aid in supplying resources.</li> <li>• <i>Feasibility of leveraging partners with international "boots on the ground":</i> Members discussed the possibility of leveraging the existing international connections and alternative procurement channels.</li> </ul>
9. January 2024	<ul style="list-style-type: none"> <li>• <i>Defining critical products and a list to be focused on for stockpiling:</i> An essential step toward national healthcare SC resilience: defining what is "critical," what criteria are relevant? Patient type, population, domestic capacity and inventory strategies.</li> <li>• <i>Discussion on the fiscal aspect of procurement.</i></li> <li>• <i>Discussion around what critical product lists are existing and how to build upon them:</i> Development of tools such as product metrics, procurement practices in hospitals and MedSurg to assess product criticality.</li> <li>• <i>Visibility and agile leadership during disruptions.</i></li> </ul>
10. February 2024	<ul style="list-style-type: none"> <li>• <i>Collaborative infrastructure for emergency management:</i> Discussion on existing federal, provincial and territorial committees on drug shortages/vaccination/immunization management and their potential role in fostering collaboration.</li> <li>• <i>The weak role of manufacturers in decision-making:</i> Manufacturers' role is limited to presentations; excluded from internal deliberations; thinking of the ways to interact with manufacturers.</li> <li>• <i>Reliability of Canada in vaccine manufacturing:</i> Global volatilities can easily lead to disruptions in Canada.</li> <li>• <i>The lack of a coordinating body to harmonize manufacturers and distributors and hold everybody accountable:</i> Once again, the need for centralized leadership at the top.</li> </ul>
11. April 2024	<ul style="list-style-type: none"> <li>• <i>Lack of visibility in inventory levels:</i> One of the major obstacles in procurement management is limited information on inventory levels and the complexity of the network.</li> <li>• <i>Coordination mechanisms exist, but are not effective enough.</i></li> <li>• <i>Deciding on the structure and key decision-makers for a Multi-Jurisdictional Collaboration Framework (MJCF):</i> Who are the key players whose presence at the collaboration framework is essential?.</li> <li>• <i>Discussion on what we learned from existing emergency management initiatives, such as the Vaccine Management Committee.</i></li> </ul>

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12. June 2024	<ul style="list-style-type: none"> <li>• <i>What the MJCF is and is not:</i> Re-emphasizing the role of MJCF in knowledge sharing. We are not working on a joint decision-making platform.</li> <li>• <i>What are the main risk factors? Differentiation of modifiable vs. non-modifiable risk factors.</i></li> <li>• <i>Where can the identified risk factors be used:</i> Discussion on how the risk definition could be used to inform both preparedness and response.</li> <li>• <i>Inequitable rationing as a critical risk factor that can be managed:</i> How can we address it?</li> <li>• <i>Risk quantification using real case studies is a valuable next step.</i></li> </ul>
13. September 2024	<ul style="list-style-type: none"> <li>• <i>Discussion on how the Risk Assessment Tool can be helpful in proactive SC risk management:</i> Identification and quantification of risks, their impact and how to address. Introducing the risk assessment tool (Risk Matrix) developed by the SC security workgroup. How useful such a tool is in SC risk management.</li> <li>• <i>Feedback on the Risk Matrix:</i> Cost and feasibility of mitigation measures need to be considered; it can be used as a feedback loop to evaluate mitigation plans, need for clearer definitions of risk categories.</li> </ul>
14. February 2025	<ul style="list-style-type: none"> <li>• <i>Immediate impact of the US tariffs on Canada's healthcare SC.</i></li> <li>• <i>Provincial and national policy responses.</i></li> <li>• <i>Testing and scaling the MJCF:</i> How is it going to be implemented?</li> <li>• <i>Review of other workgroups' progress.</i></li> </ul>

CoP = community of practice; MJCF = Multi-Jurisdictional Collaboration Framework; PHAC = Public Health Agency of Canada; SC = supply chain.

## Appendix B

### Case Simulation Scenario

The selected use-case scenario is a real-world supply disruption of epidural catheters:

Epidural catheters are a critical medical device used in pain management, labour and delivery and surgical anesthesia. In this case, a fire at a major European manufacturing facility, one of the world's largest producers of epidural catheters, has forced an emergency shutdown of operations. The facility supplies a significant share of the North American market, including Canada. While the manufacturer initially reassured healthcare organizations that alternative supply routes exist, early reports indicate global distribution networks are already experiencing significant strain, leading to uncertainty over the availability of new shipments.

Additional information:

- As of the latest assessment, hospitals in British Columbia maintain approximately four weeks' worth of epidural catheter stock under normal usage patterns. However, a prolonged disruption could create a gap in supply, particularly impacting labour and delivery units, surgical departments and pain management programs.
- Suppliers have not confirmed when new shipments will be available. Early estimates suggest delays of at least six to eight weeks before production can resume and stabilize.
- All provinces are beginning to assess their own epidural catheter stock, leading to concerns about hoarding or uneven distribution of remaining inventory.
- As of now, no official directive has been issued regarding emergency imports, alternative sourcing, or rationing protocols.

### Simulation protocol

#### 1. Welcome and introduction

The simulation exercise will begin with a brief introduction from the Supply Chain Advancement Network in Health (SCAN Health) team, outlining the simulation agenda, the Multi-Jurisdictional Collaboration Framework's (MJCF's) purpose, and the pilot test objectives.

#### 2. Case simulation introduction

Provincial Health Services Authority will then introduce the epidural catheter supply disruption scenario, describing:

- The cause of the disruption (fire and explosion at a key manufacturing facility).
- The severity of the shortage (only four weeks of stock remaining in British Columbia hospitals).
- The impact on healthcare institutions.
- The uncertainty of resolution, as global demand intensifies.

*Discussion questions:*

1. What are the greatest areas of risk in this scenario? What are the biggest challenges?
2. What would an effective multi-jurisdictional response look like for this type of disruption? What barriers might prevent that from happening?

#### 3. Information sharing and situational awareness

Next, expert partners will focus on identifying what information needs to be shared across stakeholders and how existing communication mechanisms support or hinder real-time decision-making. Expert Partners will discuss the availability and accessibility of critical supply chain data. The discussion will also explore the role of different stakeholders in gathering and disseminating information and whether there are gaps in data-sharing protocols.

*Discussion questions:*

1. What real-time information is needed to support proactive decision-making?
2. Where are the critical information gaps preventing real-time decision-making? And can these be overcome?

#### 4. Response coordination and decision-making

Expert partners will then be engaged in collaborative problem solving to develop short-term and long-term mitigation strategies. The focus will be on management actions (such as supply reallocation or alternative sourcing) that could help reduce the disruption's impact.

*Discussion questions:*

1. What are the biggest areas of impact for managing this disruption?
2. How can a coordinated response reduce the impact of the critical supply shortage?
3. What steps can be taken to ensure equitable care for vulnerable populations?

#### 5. Evaluation and feedback

The final segment will focus on gathering expert partner insights on the effectiveness of the MJCF in facilitating coordination across stakeholders. Expert partners will assess gaps in the framework and propose improvements for future supply chain resilience planning.

*Discussion questions:*

1. How effective was the MJCF in responding to this supply disruption?
2. Where is the future potential for a group like this? How would it come together?

#### 6. Wrap up