

Recovery Strategies for Public Health Supply Chains Post-Black Swan Event

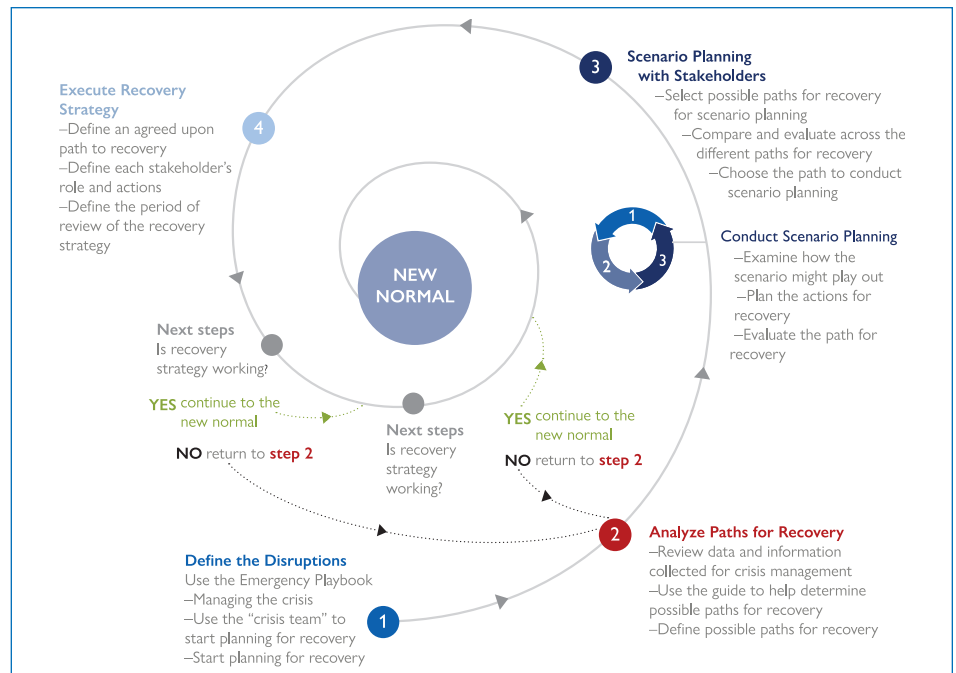
Major disruptions to the supply chain come without warning. These shocks are known as black swan events because they are rare.

The supply chain's resilience to these events depends on how well decision makers can adapt and manage the change, and transition to a "new normal". This guide outlines how your program/supply chain might operate following a crisis such as a pandemic.

There are **four main steps**:

- 1. Define the Disruptions**
- 2. Analyze the Path to Recovery**
- 3. Plan Scenarios With Stakeholders**
- 4. Execute the Recovery Strategy**

These steps aim to help you plan for recovery, weigh the information and advice you have received, and make informed decisions. You will need to frequently refine your decisions to improve the supply chain's responsiveness and resiliency. For example, demand may decrease or increase significantly and unpredictably. This will affect the recovery, so you will need to plan more frequently and to change course as needed.



Define the Disruptions

To start, you must understand how the disruption will impact the supply chain. Do this by examining both the demand and supply sides and comparing data/ information before/after the event.

Next, identify how demand and supply have been or will be affected by factors impacting demand and supply.

Finally, verify how demand may continue to be affected and that supply actions are being taken and are delivering the expected results. This will help with prioritizing the next steps of determining possible paths to recovery.

DEMAND

- Compare**
actual consumption data reported with a previous forecast or with consumption data prior to the black swan event.
- Identify**
external factors affecting demand, such as population shifts, mortality rates, possible alternative sources being used.
- Verify**
if some of the post-black swan policies will be kept, or if client/patient preferences shifted because of changed policies.

SUPPLY

- Compare**
supply and stock data with the current state of distribution channels prior to the crisis to pinpoint trends.
- Identify**
potential shocks to the distribution channels, such as reduced supply channels, as well as export restrictions.
- Verify**
and signal supply responses, such as seeking product substitutes or alternative suppliers to promote coordination across the supply chain network.

Analyze the Path to Recovery

Demand disruption is detected through consumption reporting, which can take one or two reporting cycles to identify. Adjusting forecasts to the newly anticipated levels of demand, and for the anticipated length of the impact, informs the supply side how long existing supplies will last. It also informs where supplies should be placed to meet the shifting needs of patients. The supply side shocks can be felt at both the manufacturing and distribution levels. The type of shock a supply chain experiences will dictate its path to recovery.

DEMAND DISRUPTIONS



Categorize Demand Disruptions

- Unavailability of supply
- Inability to visit facilities
- Reallocation of health workers
- Population displacement
- Discouraged or fearful population



Adjust Forecasts for Anticipated Duration

- Patients return when supplies restored
- Patients return post-black swan
- Patients return when services restored
- Patients relocate due to shifting demands
- Patients return after awareness campaign



Re-Plan the Supply Chain

- Assess time to sustain and recover
- Redistribute to balance supply/shifting demand
- Monitor process to eliminate bottlenecks
- Monitor supply impacts/ change demand assumption
- Develop public-private partnerships for a resilient supply chain

Plan Scenarios With Stakeholders

Carrying out the recovery strategy likely involves multiple parties that need to collaborate and share priorities. Actions taken must be consistently measured for expected outcomes. Availability of health commodities at the service delivery level is the most critical factor.

To effectively monitor supply chain recovery, gather real-time supply chain data wherever available and use this as a first measure of how the recovery is progressing.

SUPPLY DISRUPTIONS



Categorize Supply Disruptions

- Pre-supplier level
 - Raw material shortage
- Supplier level
 - Demand spikes
 - Labor shortage
 - Plant closure
- Delivery and distribution level
 - Policy-driven
 - Bottlenecks
 - Transportation shortage



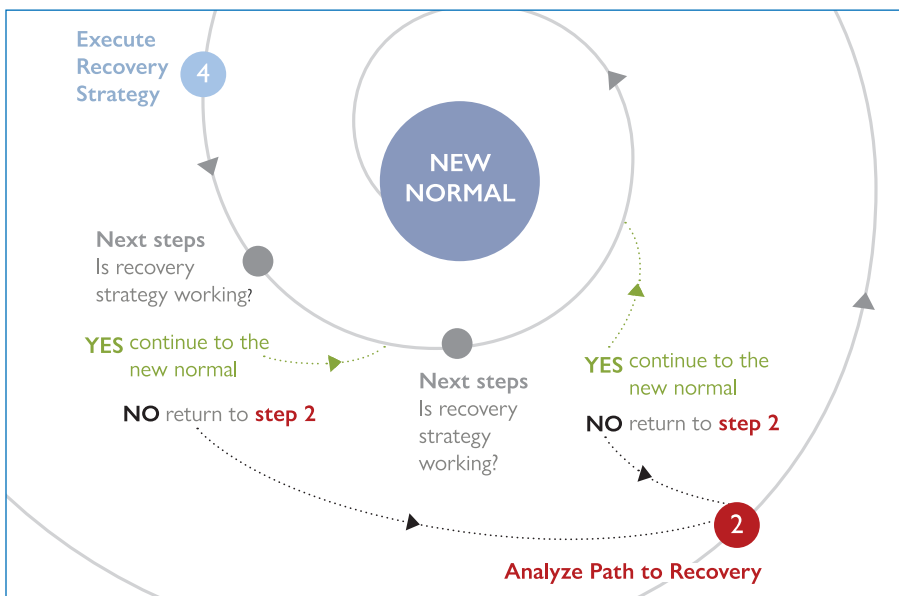
Adjust Forecasts for Anticipated Duration

- Alternate suppliers
- Alternative products
- Public-private partnerships
 - Available products
 - Trusted suppliers
 - Distribution channels



Re-Plan the Supply Chain

- Re-plan supply chain based on demand recovery strategies and prioritized demand
 - Assess time to sustain/recover
 - Redistribute to balance supply with shifting demand
 - Monitor process to eliminate bottleneck
- Frequent planning key to long-term recover
 - Monitor supply impacts and changing demand assumptions
 - Develop public-private partnerships for a resilient supply chain



Execute the Recovery Strategy

Put the recovery strategy into practice, while executing the demand and supply adjustments in the plan and implementing any interventions recommended by the stakeholders.

Prepare the necessary measures and feedback needed to determine if the strategy is working. If the strategy needs adjustment, go to Step 2 to analyze the path to recovery and Step 3 for scenario planning to continue on the path to the new normal and ensure the long-term resiliency of the supply chain.



Supply Chain Recovery

when supply matches demand in a cost-effective way