

# **Pandemic Stockpile Guide**

## **Considerations For Healthcare Providers And Their Suppliers**



## Background

The experiences of the COVID-19 pandemic have made preparedness a top priority for healthcare leaders across the end-to-end supply chain. Emergency medical supply stockpiles are one tool for increased readiness. It's cost prohibitive for healthcare organizations to amass and maintain a large enough cache of supplies to independently handle any emergency or shortage – but holding a cushion of safety stock gives the organization critical breathing room at the onset of an epidemic or other crisis. This pandemic cushion can ensure continued operations while suppliers ramp up production and other response plans are executed.

This document provides a starting point to help healthcare providers and their trading partners determine what products to stockpile and how to manage the emergency inventories. This is not intended to offer a line-by-line formulary, but rather to support each organization's planning process as it establishes its own pandemic supply list.

## What Is A Stockpile?

Many people think of a stockpile as a set-aside store of supplies only used in the event of a crisis. This strategy allows supplies that have been set aside to go untouched and unused, more likely to expire and be discarded — which could lead the organization's leadership to question the value of the stockpile.

Instead, supply chain leaders are encouraged to create living stockpiles that continually turn and are replenished. To do so, the organization must:

- Identify the products most needed in their “stockpiles”
- Determine how much inventory levels should increase for those items
- Determine where the additional inventory will be carried
- Set up procedures for regularly turning and replenishing this inventory

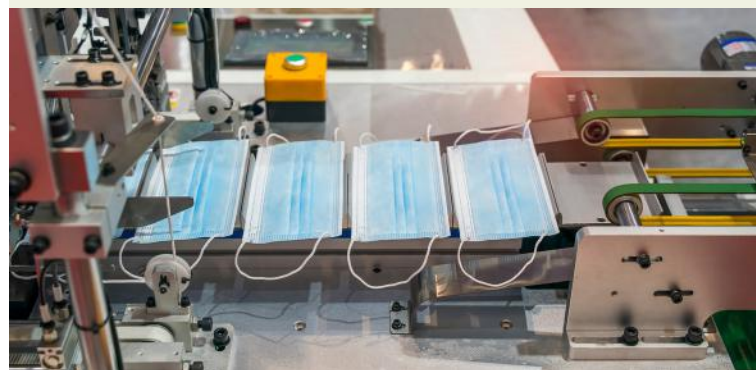
A living stockpile might look to the outside observer like normal operations – products are purchased, stored, used, and replenished. The difference is that for key identified items, target inventory levels are higher than would be required during normal times.



## Advance Planning Considerations

- Pre-event orders
  - » Providers can work with their distributor and other key suppliers to pre-establish emergency order lists and procedures
- Pre-approved substitutions for critical items
- Supplier vetting procedures
  - » The huge demand spike for personal protective equipment (PPE) at the outset of the COVID pandemic led organizations to search globally for additional product sources and resulted in bidding wars, fraud, and other unforeseen negative impacts
  - » Providers should consider preemptively working with their primary distributor to determine roles and procedures for vetting new suppliers during a crisis
- Diversification of sourcing
  - » Providers should evaluate their dependence on specific manufacturers and specific manufacturing locations
  - » To reduce the risk of product shortages resulting from a crisis at a specific company or in a specific geographic region, a mix of domestic, near-shore, and overseas sources is recommended

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## Possible Considerations For Pandemic Stockpile Product Selection

- Product criticality
- Likelihood of shortages or disruptions during an epidemic
  - » Where is the product made?
  - » Where its components and raw materials come from
  - » How much demand is likely to increase during an epidemic?
    - Will product likely be needed everywhere or only in specific locations (for example, face masks were needed almost universally during COVID; hazmat suits were needed in specific hospitals during Ebola threat)?
    - What products are rarely used during normal times but likely to spike in demand during an outbreak?
- Manufacturers' ability to increase production in the face of scarcity
  - » Scarcity can be caused by (1) Lack of alternatives – unique countermeasures for which alternatives do not exist, unless innovation creates them; or (2) Lack of product – where alternatives exist but production needs to ramp up to meet increased demand.
    - » Keeping this distinction in mind allows federal partners to target interventions appropriately – support innovation or trust industry to ramp up production to fill the gap in a stockpile.
- Special product considerations
  - » Fit testing requirements for N95s (consider having at least two brands that have been fit-tested on staff)
  - » Shelf life/expiration dates: stockpiling products with tight expiration dates is more likely to lead to waste unless supplies are carefully managed and turned
  - » Clinical technique and training: stockpiling products that are unfamiliar to clinicians, particularly those that require a change in clinical technique, can be problematic
  - » Pediatric versus adult products/sizes
- Products needed by type of pathogen
  - » COVID-19 is a respiratory virus necessitating respiratory protection above all else
  - » The next pandemic might require a different product mix



## Considerations For Stockpile Product Inventory Management

- Expiration management
  - » How will inventory be turned to avoid product waste and ensure that product is within its effective shelf life when needed?
- Inventory levels
  - » Number of days' inventory to carry
  - » How days' usage will be calculated
  - » Consider: how long will it take to for manufacturers to ramp up production?
- Location for product storage
  - » Options include: on site at provider facilities, at a provider-managed off site facility, or at a distributor location
  - » The plan may include certain inventory levels on site and off site – for example, the provider might carry an additional week's inventory at its facilities, and work with its distributor to manage another three months' inventory at the distributor warehouse

The product storage plan may include certain inventory levels at both **on site** and **off site** locations.





## Tools Developed By Federal Partners And Industry Experts

### 1 Partnering With The Healthcare Supply Chain During Disasters

This tool is aimed at federally funded healthcare coalitions to assist in conducting supply chain assessments for their communities. It provides an overview of considerations for emergency planning and response considerations of manufacturers, distributors and providers as well as insights for healthcare coalitions (HCCs) working with healthcare supply chain partners on preparedness, response, and recovery.

### 2 Disaster Available Supplies In Hospitals (DASH)

DASH is an online, interactive tool for hospital emergency planners and supply chain staff to estimate supplies that may need to be immediately available during various emergencies based on their hospital's characteristics. The tool currently has four modules: Pharmacy, PPE, Burn, and Trauma. ASPR TRACIE created the tool in collaboration with the Health Industry Distributors Association, the Region VII Disaster Health Response Ecosystem, and other subject matter experts.

## Recommended Product List By Category

The lists below address medical supply needs. Other needs include radiology/imaging products, pharmaceuticals, and housekeeping supplies.

### Respiratory & Anesthesia

- Aspirators
- Endotracheal Tubes
- Gas Masks
- Nasal Cannula
- Nasogastric Tubes
- Oxygen Analyzers
- Oxygen Tents
- Respirators
- Respiratory Pumps and Filters
- Resuscitator Bag Valves and Masks
- Oxygen and Pulmonary Resuscitators
- Anesthesia Units
- Apnea Monitors
- Suction Pumps
- Suction Tubes
- Tracheal Tubes

### Wound Care/Access

- Gauze and Bandages
- Adhesive Dressings
- Blood Collection Tubes
- Blood Transfusion Equipment
- IV Catheters
- Cutaneous Dressings
- Infusion/IV Pumps
- Intubation Tubes
- Lancets
- Liquid Dressings
- Medical Needles/Syringes/Safety Needle
- Surgical Staplers
- Suture Clips
- Sutures
- Tourniquets
- Solutions

### PPE

- Bouffant Caps
- Shoe Covers
- Surgical Gloves
- Surgical Gowns
- Surgical Masks
- N95 Respirators
- Face Shields
- Hand Sanitizer
- PAPR Respirator
- Hazmat Suits

### Equipment

- Blood Pressure Equipment
- Bronchoscopes
- Defibrillators
- Endoscopes
- Forceps
- Infant Incubators
- Laryngoscope Handle and Blades
- Retractors
- Sterilizers
- Stethoscopes
- Thermometers and Temperature Scanners
- Ventilators and Circuits
- X-Ray Apparatus and Screens
- Crutches

### Laboratory & Diagnostic

- Protective Screens/Shields for X-Ray Facilities
- ECG Monitor
- Specimen Collection Devices

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