Healthcare Coalition Alliance
Region 3
www.FLRegion3HCC.org

2022 Florida Region 3 Healthcare Coalition Alliance Supply Chain Mitigation Strategy

Assessment conducted 2019
Strategy Drafted June 2021
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Introduction

The healthcare supply chain in Northeast Florida and across the nation is complex. It supports patient care on a daily basis by producing and delivering medications as well as products ranging from gloves and gowns, to diagnostics, to pharmaceuticals and biomedical equipment, to surgical supplies. Around the world, our healthcare supply chain is confronted with countless challenges every day. During disasters or other catastrophic events, the healthcare supply chain can experience distinct strains depending on the event's nature and the impact on surrounding infrastructure.

Purpose: This document is intended to provide an overview of the emergency planning and response considerations of healthcare supply chain owners, operators, and end-users, as well as insights for the Florida Region 3 Healthcare Coalition Alliance (the "Alliance") and healthcare coalitions (HCCs) working with healthcare supply chain partners on preparedness, response, and recovery. It is not intended to be a comprehensive listing but aims to capture ***critical changes*** during serious or catastrophic events, compared to normal supply chain operations and planning and response contingencies. These documents have been derived from CDC and ASPR source documents and modified for use by the healthcare coalitions within the Northeast Florida region.

Plan Development: The Region 3 Alliance staff works with subject matter experts and the state Healthcare Coalition Working Groups to develop the basic planning template. The Supply Chain Mitigation Plan and all supplemental, supporting documents are presented to all healthcare coalition members during a scheduled Board meeting. The draft plan is then emailed to every member and posted on the Alliance website. Members are asked to provide review and input. Comments and feedback from members are analyzed and included in the final planning document presented to each Board for annual approval. This Supply Chain Mitigation Plan is considered a "living document," in that it is subject to an annual review and revision based upon recommendations following any type of test of the plan or change in State or Federal guidelines.

The final plan is provided to all Board members for approval annually at the June meeting. A copy of the approved plan is posted on the Coalition Alliance website (www.FLRegion3HCC.org) for use by all Coalition members.

The Alliance and Healthcare Coalition Role in Supply Chain Operations

The Alliance and Healthcare coalitions (HCCs) play a key role in linking public sector response agencies, including emergency management agencies and public health departments, and private healthcare facilities that serve as points of service. The Alliance and HCCs are key stakeholders, and though not direct components of the supply chain, they may be able to act as a coordination point between multiple vendors/suppliers and healthcare facilities to address supply disruptions. HCCs play an essential role in working with supply chain readiness and response planning members during normal operations.

By serving as a coordination and information-sharing hub, the Alliance and HCCs can: encourage best practices in communicating and engaging with supply chain components, standardize and provide guidance on activities that impact supply chain operations during emerging events, and provide

opportunities for supply chain components and coalition members to train and exercise with one another. The Alliance and HCCs can also play a role in helping healthcare facilities share information and coordinate strategies in their area to cope with specific supply (medication, equipment, dialysis solutions) shortages affecting their stakeholders.

The Alliance and HCCs serve as a unifier of the healthcare preparedness and response activities across a community – working to link the disaster preparedness and response plans to provide care and protect public health in their area. All HCCs should be able to act as information-sharing hubs for distributors and providers and have the ability to share product and delivery information and strategy. For the Alliance and HCCs with a broader role in emergency response, primary activities may include tracking impediments to product delivery, resource request management and brokering, and monitoring healthcare facilities' operational status and needs within the Alliance.

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Healthcare Supply Chain Operations

The healthcare supply chain involves the flow of numerous product types from manufacturer to a patient and requires various stakeholders who work in concert to meet patient care needs.

Healthcare supply chain stakeholders include:

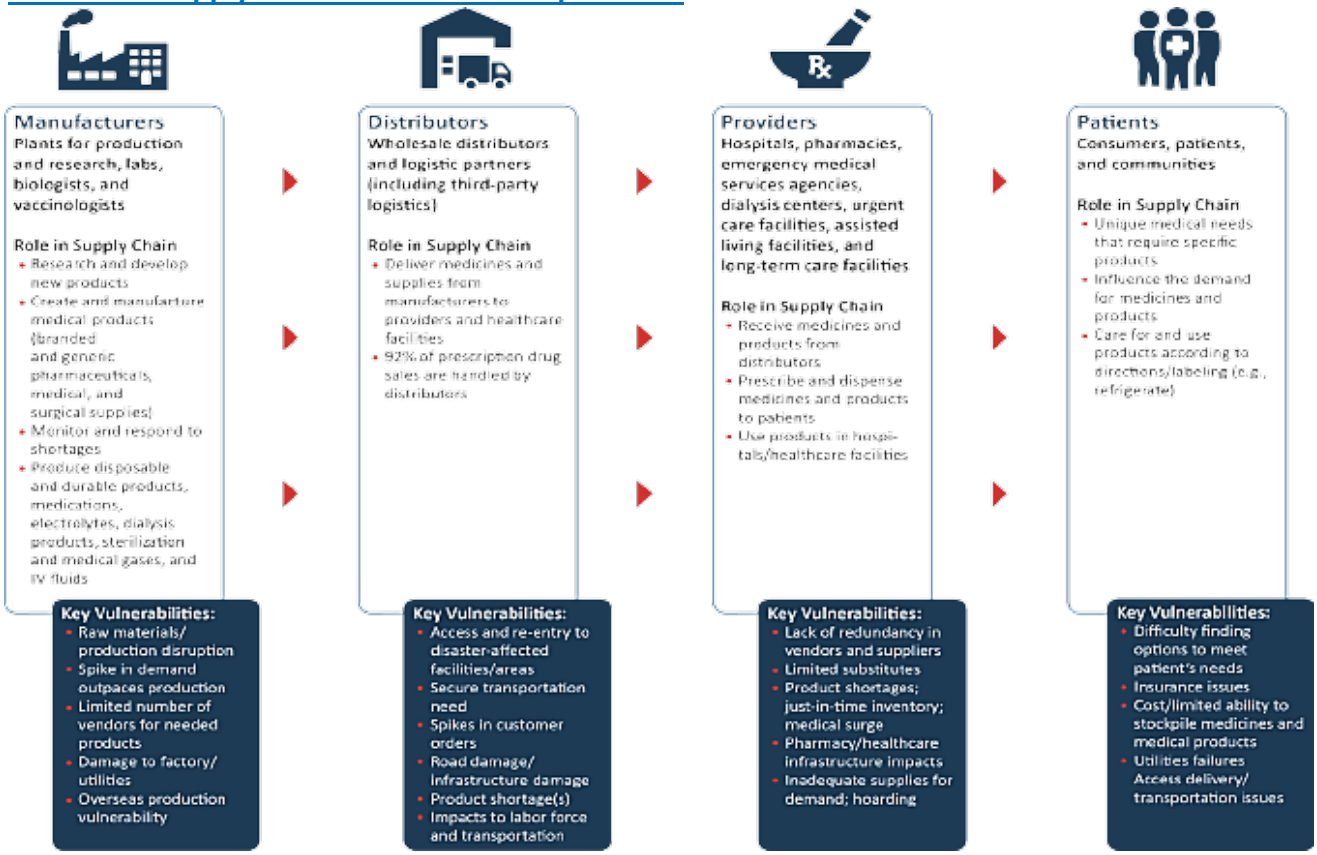
- Manufacturers
- Distributors
- Providers
- Patients
- Healthcare Coalitions
- Federal Programs[1]

Descriptions of each stakeholder, their roles in the supply chain, and a few critical vulnerabilities to plan for are included on the following few pages.

Under normal conditions, the complex processes that make up the supply chain are nearly invisible due to steady-state production and healthcare product delivery. Healthcare supply chain stakeholders adhere to their daily roles and standard operating procedures.

The following infographic displays the normal operations and activities of healthcare supply chain stakeholders and critical vulnerabilities for each stakeholder.

Healthcare Supply Chain Under Normal Operations



[1] Although the healthcare supply chain is largely owned and operated by the private sector, several federal offices and agencies have a role in supporting the continuity of supply chain operations during emergencies and events that could impact healthcare operations and have established partnerships with key components of the supply chain in order to accomplish this. Appendix C outlines some of the key federal partners roles "at-a-glance" that are consistent with the purpose of this particular document.

Supply Chain Hazards, Threats, and Vulnerabilities

The healthcare supply chain is dependent on many variables, including raw material availability, machinery and parts, workforce, standards compliance, delivery methods, contracts and regulatory requirements, and underlying critical infrastructure systems such as power, telecommunications systems, and transportation (including vehicle and roadway, airport, railroad, and port components). When one element is compromised, there can be cascading effects up and down the supply chain. Disruptions to these systems can be caused by various hazards, underlying vulnerabilities, and threats that can directly impact the supply chain level. Examples include the following:

- **Natural Disasters** – While hazards vary from region to region, natural disasters have the potential to disrupt the healthcare supply chain in all parts of the world. Common hazards in Florida include hurricanes, tornadoes, flooding, and wildfires. All phases and components of the chain may be affected after events regardless of notice and may require assistance with response and recovery efforts.
- **Human-Caused Disasters** – These hazards also vary and can include cyber-attacks, acts of terrorism, and unintentional catastrophes like an oil spill, damage or impacts to goods during delivery accidents, or even unforeseen equipment breakdown.
- **Public Health Threats** – Biological threats can impact the healthcare supply chain by creating both dramatically increased and sustained demand for products, especially medical supplies. These events include disease outbreaks (of both commonly occurring and emerging diseases) and biological attacks.

Supply chain implications for public health-centric events differ from those of a natural hazard in that public sector partners – via public health officials (state, local, and federal, including the Strategic National Stockpile [SNS]) – can play a significant role in supply chain operations through activation of programs, language included in emergency declarations and public messaging, and more. Vendors for commonly needed products during these events, including vaccines and personal protective equipment (PPE), are often limited. Depending on the nature of the event, demand for these products can far exceed production capacity.

Steady-State Supply Chain Challenges

To meet patient care demands, all stakeholders should focus on mitigating the supply chain hazards, threats, and vulnerabilities unique to their area while identifying key actions that will enhance resilience during incidents. Some impacts can be significantly reduced through integrated mitigation and planning. Working with providers in the community and distributors to forecast ordering for different scenarios, including emergencies, can help set use and delivery expectations and plans and highlight areas where backup options are required.

Usual system vulnerabilities (upstream and downstream) may include:

- Industrial and personnel – Work stoppages, fluctuating transportation costs or fuel supply issues, geopolitical events, sabotage, market forces, and technological failures may negatively affect the supply chain components, especially those responsible for production and manufacturing.
- Operational – These can include production or supply problems such as lack of raw materials, lack of machine parts, regulatory actions (including product recalls), compressed manufacturing timeframes, product liability challenges, just-in-time ordering processes, disparate data systems, product cycles (obsolescence), and data silos between suppliers and providers.

- Just-in-time or low unit of measure programs – Healthcare providers often rely on these programs from their distributors. These programs keep costs down for providers and allow them to reduce labor costs, time, and space required to stock and rotate medical products. While these programs are efficient, they can also lead to fragile supply-demand relationships, especially during emergencies.
    - Just-in-time (JIT) inventory delivery means distributors are servicing provider customers almost daily in order to keep minimal stock (or" par" levels) at the facility.
    - In low-unit-of-measure (LUM) programs, distributors are the central source of product for facilities and will deliver to the specific departments on demand. In these programs, distributors "break down" products to the "each." (The "each" is the unit that is used on the patient. For example, distributors may take a box of 100 individually packaged items, break it down, and deliver 5.)
    - Hospitals relying on JIT and LUM strategies can be vulnerable to increased demand for supplies due to patient surges of patients and/or delayed delivery due to the disaster's effect on distributors.
- Consumer or provider brand (or product) preference for usual medications, equipment, or consumer distrust of novel medications/vaccines.

Pre-Event, Response, and Recovery Considerations

The following sections provide pre-event, response, and recovery considerations for various healthcare supply chain components. High-level considerations for the Alliance and HCCs are captured at the end of each section as well as in a separate table in Appendix A.

Supply Chain Vignette: Collaboration to Ease Drug Shortages

Manufacturers, distributors, group purchasing organizations (GPOs), and providers worked together to reduce the impact of the recent intravenous (IV) solution shortage. This shortage added costs and sometimes necessitated a change in site of care. In some cases, patients had to stay in the hospital where IV solutions were more likely to be available, rather than being transferred to less-costly home care settings. Through ongoing collaboration, suppliers and their clinical clients were able to ensure that available product was sent where it was needed most. Providers also found ways to make substitutions when necessary and identified ways to reduce product waste such as eliminating the use of IV bags in kits if they were not essential. — HIDA, Supply Chain Collaborative Newsletter (June 2019)

Manufacturers

Manufacturers create products – including pharmaceuticals, medical, and surgical supplies – using raw materials onsite in manufacturing plants and labs. As part of the manufacturing process, these companies identify and develop needed products, determine quantities necessary to meet demand, acquire raw materials, conduct safety trials, obtain regulatory approvals as required, and then make and package products for distribution. Manufacturing is a diverse and complex discipline, and the field is made up of countless different stakeholders, including brand and generic pharmaceutical manufacturers, medical supply and device manufacturers, and scores of others. International sources of raw materials and manufacturing sites are common. The following considerations and mitigation and response strategies capture high-level themes common across the different types of manufacturers.

Stage	Considerations	Mitigation and Response Strategies
Pre-event	• **Identify hazards, vulnerabilities, and threats** – Particularly events that could result in potential shortages in critical supplies (e.g., PPE, medications, medical devices) or damage to a production facility. ▪ **Raw materials disruptions** – A variety of events, including natural hazards, can disrupt manufacturer access to quality raw materials. ▪ **Production disruptions** – Include small-scale disruptions, such as a facility fire or machine breakdown, and larger-scale disruptions, such as a natural disaster in the area. This can also be due to staffing shortages after a disaster, work stoppage actions, or during an epidemic. ▪ **Product shortages** – Shortages in production can occur for various reasons – availability of raw materials, demand outweighing supply, and more. ▪ **Anticipate common supply needs** – Sustained demand for select products is common during disease outbreaks. For example, during the H1N1 outbreak of 2009, demand for PPE, including N95 masks, increased drastically.	• Design business continuity and disaster recovery plans around hazards, vulnerabilities, and threats identified in hazard vulnerability analysis (HVAs) and risk assessments. • Ensure redundant production capacity or alternate vendors. • Ensure business continuity plans clearly identify alternate materials sources and delivery methods and routes based on predicted hazards when available. In addition, develop plans for redundant production capabilities (e.g., identifying plants and facilities that can scale production when needed). • Comply with U.S. Food and Drug Administration (FDA) requirements for product shortage notification. Verified information on shortages is publicly available on the FDA website. • Forecast product demand using historical events (e.g., past flu seasons) and reviewing/revising formularies with distributors and providers. Also, determine when products with low production/use might be in high demand if primary products in the marketplace are in shortage.
Response	• Feasibility of surge production – Depending on the event, rapid surges in production may be required. • Damage assessment – Depending on the event, manufacturing may be compromised due to direct impact on the plant, loss of utilities, or impaired transportation. Determining the damage, systems affected, and assistance needed is critical to restoring services rapidly.	• Develop business continuity plans that identify and describe means for scaling production, such as reallocating material use and shifting production schedules for products with less demand, shift/workforce changes, raw materials available, machinery, scheduling, and re-tooling. • Identify other vendors for same/substitute products; ensure the ability to coordinate with and refer to in an emergency. • For public health and natural hazard events, manufacturers can use models and experiences

		from previous events to try to anticipate demand, but production timelines and capacity can limit flexibility to increase production. • Expedite approvals from the FDA to import approved products from abroad. *Be cognizant of the potential for unapproved supplies and materials being pushed on the market and how to validate.* • Obtain assistance through insurance providers, local, state, and federal emergency management to restore utilities and essential services or other assistance needed to resume production. Work with emergency management to help communicate what the site produces and the consequences of interrupted production prior to an event and during the response phase.
Recovery	• Resume normal operations and, if needed, repair damage. • Assess the impact of the event on staff, products, etc. • Communicate resumption of normal allocation/delivery/activities.	• Coordinate with distributors to resume normal delivery. • Coordinate, as appropriate, with partners on product availability if the event caused a shortage.

Coalitions and Manufacturing

Manufacturing occurs "upstream" in the supply chain. Given the Alliance and HCCs' key role in preparedness, response, and recovery coordination, which occurs further "downstream" in the supply chain, it is not common for HCCs to engage directly with manufacturers. HCCs can – and should – keep current and informed on significant impacts to manufacturing capabilities, such as drug or PPE shortages. The Alliance and HCCs should consider the need to share information and strategies for addressing the shortage between providers in their HCCs as well as potentially coordinate information exchange between distributors and providers.

Distributors

Distributors and logistics partners, including third-party logistics providers, acquire medical supplies from manufacturers and deliver them to providers and healthcare facilities. As part of this complex process, they may repackage, re-label, and ensure special handling for products, such as cold chain products requiring climate-controlled environments. A pharmaceutical distributor is more often referred to as a "wholesaler," whereas in the medical product supply chain, the term "distributor" is more often used. For purposes of this document, the term "distributor" is used throughout for consistency and clarity.

Strategic National Stockpile (SNS)

The SNS relies on partnerships with commercial distributors as these companies are already integrated into the market and can effectively move assets from the SNS to medical countermeasures (MCM) dispensing sites with established modes of transport, transportation routes, and accompanying security.

It is important to note that the primary pharmaceutical distributor for a healthcare facility will likely be different from the facility's primary medical product distributor. Additionally, many distributors have a primary healthcare provider market, which means the local hospital's primary distributor may not be the same as the one providing the same supplies for the nearby nursing home.

Providers have primary distributors for medical products and pharmaceuticals. However, they often have secondary distributors and specialty distributors that may focus on specific surgical procedures or equipment. It is important to understand those specialty products that are only available from a single source.

The pharmaceutical supply chain has three large national/multinational distribution companies that control 90% of the market. The companies, known as the "Big 3," are McKesson, AmerisourceBergen, and Cardinal Health[2]. Several regional companies may be significant partners, especially in smaller, more rural communities.

The medical product supply chain is more varied with large national companies and regional companies for healthcare facility types or service lines (e.g., homecare). These distributors often have over 5,000 types of products on hand, and depending on the product, they have approximately 20 to 30 days of inventory reflecting normal customer usage/consumption patterns[3]. Most urban healthcare centers are within 50 miles of a distribution center, and most distributors can deliver within 24 hours of an order.

Pharmaceutical and medical product supply chains may utilize the services of third-party logistic providers (3PLs) such as FedEx, UPS, and others, depending on their business and service model. 3PLs can minimize costs and allow for local distribution through local companies familiar with the community. 3PLs can also enable more frequent deliveries from regional or local distribution centers (some facilities receive up to 4 deliveries per day.)

Allocation

When there is a product shortage, distributors may institute allocation practices. Allocation is a contractual obligation between the supplier and distributor that ensures customers get some amount of product based on a percentage of their historical purchasing. It does not take into account surge needs during a public health event which may exacerbate existing product shortages. Distributors commonly place regular customers on allocation during shortages and decline orders from new customers during that time.

Third-party Logistics Providers (3PLs)

3PLs range from FedEx and other large postal service providers to smaller, regionally- or locally-based companies. 3PLs frequently use unlabeled or unmarked trucks for deliveries. 3PLs play a critical role in “last mile” delivery.

Supply Chain Vignette: Unconventional Delivery Methods

In preparation for Hurricanes Harvey and Irma in 2017, AmerisourceBergen staged healthcare supplies to support at-risk areas and used many unconventional methods to deliver them directly to patients and caregivers after the storms. For example, when many local couriers lost their vehicles due to flooding, AmerisourceBergen responded by sourcing rental trucks for them from other states to continue making their deliveries. The couriers communicated via two-way radios with AmerisourceBergen scout drivers to find the best routes to complete deliveries to hospitals, pharmacies, and clinics. AmerisourceBergen also used duck boats and helicopters to deliver supplies directly to clients.

— Healthcare Ready, Heroes of the Supply Chain: Manufactures and Distributors.

[2] Healthcare Distribution Alliance (2018). 89th Edition HDA Factbook: The Facts, Figures, and Trends in Healthcare. Retrieved from: https://www.hda.org/resources/

[3] Health Industry Distributors Association (2018). Health Systems Rely on Distribution. Retrieved from: https://www.hida.org/distribution/resources/infographics/Health-Systems-Rely-On-Distribution.aspx

Stage	Considerations	Mitigation and Response Strategies
Pre-event	• **Determine and communicate product shortages** – When caching is not an option, or when stockpiles are depleted, distributors work with suppliers and customers to communicate the availability of the product(s) and viable alternatives/substitutions. • **Communicating to customers** – Distributors often offer to provide inventory consultation to their customers, gauging their needs and allowing them to place advance orders to prepare for an event. •**Pre-positioning supplies** – Increasing product inventory in warehouses and onsite at customer facilities (par levels), when possible, is important pre-event activity distributors and facilities should work together to execute. These may be permanent increases (e.g., for mass casualty events) or temporary (e.g., in anticipation of a hurricane or blizzard). Distributors will often pre-position trucks with supplies along highways to get into the disaster zone promptly after an event (e.g., nearby exits or in rest stops to be able to make local deliveries once roads re-open). • **Anticipating common supply needs** – Similar to manufacturers, distributors work to anticipate common supply needs and stock warehouses and customers accordingly. A spike in customer orders can be due to actual demand, anticipated demand, or multiple orders being placed with multiple vendors by the same entity in the hopes that one will get filled. • **Access and Re-entry** – Facility access may be a challenge for third-party logistics providers transporting supplies in unmarked vehicles that may need to cross police lines. After a criminal event such as a terrorist attack, additional precautions would need to be taken to verify delivery vehicles' origin.	• Develop critical supply lists based on potential events. Work with the Alliance and HCCs and facilities to create distributor or facility-based caches or "push" lists to be delivered in case a disaster strikes and a request is received from the facility to activate their list. In some cases, distributors are included in healthcare facility disaster notifications and will automatically activate the distribution. • Agree to alternatives and substitutions ahead of time. Understand communications and establish alternate forms of communication if primary ordering systems are down. • Work with the Alliance and HCCs and providers to ensure understanding of specific delivery timeframes and vulnerabilities (e.g., if flooding closes a specific bridge, does this compromise delivery from a distributor, or does the distributor potentially need access to high clearance vehicles? • Work with all stakeholders to understand true demand during an event. Providers placing multiple excessive orders with multiple distributors only exacerbates shortages and places additional strain on the supply chain. • Coordinate through Business Emergency Operations Centers (BEOCs), when applicable and available. (In Florida, this is ESF-18 "Business, Industry and Economic Stabilization") • Develop priorities specific to community incidents that will result in common supply needs (e.g., earthquakes, hurricanes, pandemic, Ebola/VHF cases, mass violence incident based on geography and patient population) ▪ Annual influenza season is often used as a model to understand usage/consumption. • Collaborate with state and local authorities and private sector partners to develop a local program for pre-registration of supplier companies and personnel (including 3PLs, law enforcement, and other key stakeholders). ▪ Send delivery drivers letters of access on company letterhead or special "codes" or placards issued by law enforcement to expedite deliveries. ▪ Identify distributor as a key (known) vendor/partner.

		▪ Develop coalition member agreements for storage and distribution of critical supplies as required. ▪ May include Disaster Response Centers where a large facility serves as the hub for storage and distribution to smaller facilities within a region. • Ensure distributors have a means of communicating with the coalition and emergency management and understand how they receive assistance during a disaster that affects distributor operations.
Response	• **Alternative ordering** – During a response, customers, often place larger orders than usual. In these instances, distributors will confirm an order that is out of the "norm" before processing. • **Feasibility of Surge Deliveries** – Depending on the event, expedited deliveries may be requested, as well as more frequent deliveries. Considerations for these surge deliveries include those noted below in this section and staff and product availability. • **Alternative transportation and routes** – Identify navigable routes for delivery vehicles, and alternative delivery sites, as required. • **Securely transport deliveries** – Distributors may work closely with law enforcement to receive assistance (routes, escorts). This is especially important during events when road access is compromised.	• Create a streamlined communication process for efficient ordering, confirmation, and work to pre-populate orders, including an alternate communications plan. Ensure that the facility is not placing duplicate orders for the same items with multiple vendors (a common situation that leads to significant miscalculation of actual needs by distributors and manufacturers). • Provide customers with specific allocation limit amounts for operational planning at healthcare delivery sites. • Work with manufacturers and parent (corporate) healthcare systems to anticipate needs and move additional materials to the distribution centers ahead of the event or requests. • Be prepared to switch to alternative products when necessary and determine how deliveries will be prioritized if requests exceed inventory. Ensure providers understand how allocation and prioritization will work. • Climate-control technologies in delivery vehicles should be sufficient for prolonged delays in transport. This would include both conventional cold and super cold storage systems. • Source or create processes for obtaining specialty vehicles that may be needed (such as high-water vehicles and boats) and additional standard vehicles/drivers to meet increased delivery demands. • Establish relationships and contacts with local emergency management – these may help restore services and access to the distribution center, secure specialized vehicles, allow access to secure or restricted areas, and obtain current information on road status and hazards. Emergency management often does not have an awareness of the distributors in their area and the key role they play in disaster response.

Recovery	• Resume normal operations and communicate the resumption of normal allocation/delivery/activities. • Coordinate with manufacturers and providers as needed on product substitutions (which ideally should be identified and agreed to prior to an event) and transition back to primary product when available. • Distributors coordinate on substitutions of the same medical product (e.g., substituting the same generic medicine from a different manufacturer.) They are not involved in decisions regarding substitutions when there is a medical and patient care consideration.	• Coordinate with local authorities on primary delivery route restoration if the event caused the need for alternative routes. • Adjust delivery schedules as needed for facilities. • Communicate transition plan and timing back to primary products and normal supply and delivery process.

Coalitions and Distributors

The plans and activities of distributors, the Alliance and HCCs can – and often do – directly impact one another. Accordingly, robust information sharing, collaboration, and partnerships between distributors and HCCs contribute to a strong preparedness, response, and recovery posture for a region. Integrating distributors into ESF-8 and meeting face-to-face on a regular basis through coalition meetings, trainings and exercises, and the like will highlight the importance of these relationships and also identify key contacts that can be called upon during a response. Distributors should have a clear understanding of the role the local coalition plays during a disaster and how the coalition and distributor interface with the formal emergency management response structure in the jurisdiction so that information and resource requests can be managed according to local policy (including how to connect with local and state emergency management). During shortages, the Alliance and HCCs can play a key role integrating clinical options (from the provider level) and vendor options (from the distributor level) to define appropriate and consistent strategies.

Providers

Providers are a large and diverse group of facilities and professionals licensed to supply healthcare services and expertise, including disbursing and dispensing medicines and products to patients. Key activities they undertake within the supply chain include submitting orders to distributors and providing data and information on healthcare services and needs that help identify shortages and potential distribution challenges. The considerations and mitigation and response strategies differ among provider groups considerably. The following table captures high-level considerations generally consistent across provider types but is not intended to be exhaustive.

Supply Chain Vignette: Serving Affected Communities

During the devastating 2017 hurricane season, providers such as CVS Health and Walgreens found innovative ways to continue serving their communities. Both deployed “pop up” pharmacies to multiple shelter locations. CVS Pharmacy and CVS Caremark activated a process allowing pharmacists to conduct one-time emergency refills of a 10-day supply of prescription medicines for those in need. Within a few days after Hurricane Irma, Walgreens reopened 700 of their 930 stores in Florida.

— Healthcare Ready, Heroes of the Supply Chain: Dispensers and Providers.

Stage	Considerations	Mitigation and Response Strategies
Pre-event	• **Identify hazards, vulnerabilities, and threats –** Focus on events that could significantly disrupt supply delivery or compromise current supplies (e.g., by damage or consumption) and those that are most likely in specific regions. • **Define triggers or thresholds for activation of emergency plans** – Emergency plans should include policies and procedures for requesting supplies and managing disruptions in supply chains • **Identify alternative mechanisms for ordering, receiving, and tracking supplies.** • **Identify multiple delivery locations** – Depending on the situation, distributors may make deliveries to individual healthcare facilities/ alternate care facilities or a central warehouse where items will be later redistributed. • **Stockpile non-medical product(s)** – Not all supplies providers may need during an emergency is stocked in significant quantities by suppliers (e.g., hazmat suits). These should be present onsite in adequate quantities to address expected scenarios. • **Define triggers and thresholds for changes to standards of care** – While implementing crisis standards of care is a last resort, discussing and planning for a system and procedures for operating under these conditions is essential and can have implications on supply orders (e.g., implementing re-use of N95 masks). • **Work with key stakeholders to establish Memoranda of Understanding (MOUs) or Memoranda of Agreement (MOA)** – MOU/MOAs between Alliance members, providers, and other supply chain stakeholders can assist in managing expectations of additional support available during an emergency.	In coordination with County Emergency Management and Health Departments: • Develop emergency response and business continuity plans informed by HVAs and risk assessment tools. • Based on HVA and other tools, anticipate commonly needed medications and supplies and consider caching or increasing par levels of those supplies at the facility (space and shelf-life permitting). This may include non-medical supplies such as cots and food or water. • Consider "push" lists of commonly needed medications and supplies to replenish or augment facility stock that the distributor can have available and establish policies on when to request these. • Scenario-based exercises should allow providers to identify thresholds for instituting substitution and conservation procedures and document the process through which this occurs. Exercises should be used to document and determine how these strategies and situational information are communicated to key partners, including the coalition. • Implement pilot programs and training to integrate new products into electronic health records and educate providers on labeling changes. • The facility's steady-state drug shortage processes may have applicability for developing disaster shortage policies. • Maintain communications with distributors to understand shortages and delivery issues. Establish an alternate communications plan with major distributors in case primary means fail. • Establish an alternate distributor list for critical supplies and understand the location, transport time, and potential interruptions between the distributors and providers. • Identify alternate methods and routes for deliveries based on predicted hazards.

		• Determine the coalition's role in planning, information sharing, indexing, and managing resource requests/brokering with distributors during an incident.
Response	• **Forecasting needs** – The ability to provide care hinges on having needed supplies onsite and a replenishment plan. Anticipating supply needs and capacity for receiving and storing them are key activities for responses. • **Supply chain support activities** – Providers should alter their practices as appropriate (ideally without compromising the quality of care) to decrease demand and increase the safety of substituted supplies. Examples include revising downtime procedures and refrigeration prioritization. • **Coordinate with public sector responders** – Public health and medical sector (ESF-8) typically receives information about supply needs from a facility and mainly engages with distributors after healthcare facilities report an expected lag in the availability of a needed product. • **Partnerships across relevant supply chains** – Relationships with all healthcare supply chain components (e.g., linen and blood) and other sector supply chains (e.g., fuel and food) may be leveraged for ad hoc solutions. • **Mitigate or adjust to staff shortages** – Staff absenteeism during events may occur, especially for downstream components (distributors, last mile, and healthcare facilities). This can be a challenge to maintaining healthcare operations during events, especially for healthcare facilities – including ancillary care.	In coordination with County Emergency Management and Health Departments: • Use models, especially those based on past events (e.g., recent catastrophic hurricanes, severe flu seasons) to help determine likely supply needs and quantities and proactively try to obtain them prior to shortage (also understand the potential to return items to the distributor • Population health data for the surrounding area can inform forecasting efforts. • Work with the coalition to communicate and share strategies with other facilities, including developing guidance for adapting to crisis conditions when required. • Ensure a mechanism at the facility level to develop clinical recommendations for substitution, conservation, adaptation, re-use, and re-allocation of supplies to ensure consistency. • Contribute to supply chain efficiencies during crises by conserving and using substitute medical and non-medical supplies (e.g., pharmaceuticals, blood products, fuel, medical gases, refrigeration). • Maintain current ESF-8 contacts through training, exercises, and other methods. • Activate mutual aid agreements within your healthcare coalition or with facilities not impacted by the hazard. • Explore and look for options from parent or "sister" facilities for resources if usual methods are not available or do not provide sufficient resources. • Ensure disaster augmentation plans for pharmacy and supply personnel. Plan for workforce shortages, including information for other providers to fill supply/warehouse/ distribution roles and explore and engage with medical volunteer programs, including the Medical Reserve Corps (MRC) and Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP). • Ensure information sharing with patients regarding services provided, facility status, and any changes they should be aware of with pharmacy supplies and home delivery of

		medications and medical supplies (e.g., nutrition, oxygen).
Recovery	• Resume normal operations and communicate the resumption of normal allocation/delivery/ activities with distributors and coalition partners. • Communicate to patients and providers about the resumption of normal activities/processes. • Manage transition back to daily operations/usual products and practices.	In coordination with County Emergency Management and Health Departments: • Disseminate supply chain disruption situation reports to local, regional, and state health authorities as requested. • Coordinate with distributors and others as needed on product substitutions and transitions back to the primary product if the event caused a shortage. • Share information on sustained supply chain impacts. • Work with distributors to resume normal operations, distribution volumes, and schedule.

Coalitions, Providers and the Alliance

As both key members and stakeholders of the Alliance, HCCs and providers drive coalition activities. The Alliance and HCCs play an important role in developing and disseminating information between their stakeholders (including emergency management) and with distributors, monitoring impact, and coordinating response activities during emergencies as per local ESF-8 plans. Providers look to HCCs for information sharing and standardization of activities, including those related to the supply chain such as substitution and conservation guidance. The Alliance and HCCs may also play a role in resource management and requests depending on the region. HCCs help prevent multiple providers from engaging multiple distributors about the same issues during emergencies and thereby can serve as a single point of contact between distributors and providers and can also engage emergency management if formal resource requests or community assets are needed. HCCs can use their After-Action Reports (AARs) following exercises or events to highlight supply issues and encourage changes in policy and practice as part of corrective improvements.

Resources

- ASPR emPOWER
- ASPR TRACIE Pharmacy Disaster Calculator
- CDC Supply Chain Disaster Preparedness Manual
- Health Industry Distributors Association. Lessons Learned: Pandemics and Medical Supplies
- Health Industry Distributors Association. Role of Medical Products Distributors in Emergency Preparedness
- Healthcare Ready. Disaster Healthcare Supply Chain
- Healthcare Supply Chain & its Role in Disasters
- Healthcare Ready. Partnering with the Pharmaceutical Supply Chain
- Institute of Medicine. Crisis Standards of Care

Patients

Patients and their caregivers are the primary end-users in the supply chain and typically only engage with providers, although certain materials (e.g., nutrition, home dialysis supplies) are sometimes directly delivered to patients by distributors. The diverse needs of patients – from acute care needs to chronic conditions to unique demands from different demographic groups like pediatric patients – contribute to the complexity of this aspect of the supply chain.

Stage	Considerations	Mitigation and Response Strategies
Pre-event	• **Understand insurer limitations on filling prescriptions** – Generally, insurance plans prevent patients from obtaining a prescription refill before their current supply is depleted or close to it. During a declared disaster, a no refill order may be lifted. • **Identify and plan for critical healthcare equipment delivery and maintenance** – An important preparedness activity for patients is to ensure access to their homes for deliveries of critical supplies such as durable medical equipment (DME) and oxygen, and also to ensure proper refrigeration (if needed) of temperature-sensitive medical products.	• "Refill too soon" overrides may be allowed through an emergency declaration or at the discretion of insurance plans during emergencies. These overrides can allow patients to receive a 30-day supply of prescription medicines in advance of a forecasted event. As this is not always the case, it is important for patients to be educated on this issue and know their options. • Follow instructions on labels or patient instructions given by providers to help make sure medical supplies are properly administered and maintained by patients. • Plan with distributors to ensure continued access during a disaster for home-delivered products and plan how the patient can communicate their new location to a distributor if the patient is forced to relocate during a disaster. • Plan alternate source of refrigeration, if needed (e.g., portable cooler, locations that may have backup power near the patient).
Response	• **Disseminate information on open facilities and how to access them** – Evacuated patients may not be familiar with or know of nearby open facilities. • **Knowledge of waivers and sources of information (e.g., insurance hotlines)** – Coverage may change during an emergency due to waivers and other exemptions.	• Plan with healthcare providers in advance of an event to identify backup facilities, particularly ones within the insurance network. • Use locator services like Rx Open to identify open pharmacy facilities. • Follow training and awareness campaigns and seek patient resources during emergencies. • Consult with a medical provider in advance if possible if a medication shortage or difficulty accessing medication ensues. An alternate strategy or medication may be temporarily needed (e.g., going to a clinic to receive insulin versus storing it at home). • Understand how health insurance benefits and restrictions may change during a disaster (e.g., in-network coverage changes)

Recovery	• **Transition care and services to a new or temporary facility.**	• Develop continuity of care plans with care teams, including primary care providers, pharmacists, and insurance providers. • Understand timeline for restoration of services/deliveries. • Resume usual medications and schedules. • Plan for deliveries and supply chain needs if temporary healthcare facilities are used, or patients relocated.

The Alliance, Coalitions and Patients

Though the Alliance and HCCs do not connect directly with patients, they may help coordinate risk communication to the community and development of consistent information for patients that can be provided through an emergency management Joint Information System. Further, HCCs may have a role with coordinating medical support of shelter and relocation activities that can require provider and distributor solutions to problems of delivery and maintenance of products.

Resources

- CDC: Prepare Your Health
- Healthcare Ready
- Ready.gov
- RxOpen.org

Coalitions

The Florida Region 3 Healthcare Coalition Alliance consists of three unified healthcare coalitions, Northeast Florida HCC, North Central Florida HCC and the Coalition for Health and Medical Preparedness. The Alliance and Healthcare coalitions (HCCs) serve as a unifier of healthcare preparedness, response, and recovery activities across a community – working to link the disaster partners and plans to provide care and protect public health in their area. All HCCs should act as an information-sharing hub for distributors and providers, including product and delivery information and strategy sharing. For HCCs with a broader role in emergency response, activities may include tracking barriers to product delivery, resource request management and brokering, and monitoring healthcare facilities' operational status and needs within the HCC. HCCs also play a key role in creating a liaison between public sector response agencies, including emergency management agencies and public health departments, and private healthcare entities that serve as service points.

Stage	Considerations	Mitigation and Response Strategies
Pre-event	• **Reconcile and align private sector member business continuity plans and public sector member emergency response plans** – With diverse members, the Alliance and HCCs can help set emergency response priorities and translate resources, needs, and concerns across and between members. With healthcare owned and operated by the private sector but public sector agencies charged with responding, mediation and understanding before an event is essential. • **Foster and forge relationships with supply chain components** – the Alliance and HCCs play an important role in establishing key external relationships and fostering collaboration and partnerships during a steady state. • **Determine emergency protocols and procedures** – the Alliance and HCCs can play a lead role in developing and disseminating guidance within their membership to conserve, substitute, adapt, re-use, and reallocate supplies. • **Establish information-sharing protocols and reporting flow** – the Alliance and HCCs should determine how information about impacts healthcare services and supply alternatives will be shared throughout the coalition. (e.g., through Situation Reports, coordinating conference calls, and event dashboards). • **Include supply chain representatives, specifically distributors and potentially manufacturers, in coalition meetings and activities.**	In coordination with County Emergency Management and Health Departments: • Facilitate relationships through routine coalition interactions (e.g., inviting distributors to coalition meetings, training, and exercises). • Understand and document the major distributors in the area, including key product lines, location(s), points of contact, and means of delivery. This may include distribution points owned and operated by major healthcare systems. • Understand the process for resource requests – when do healthcare facilities rely on their distributors, alternate distributors, and/or other facilities (in their system or in the coalition) or emergency management? What is the process for resource requests to the coalition/emergency management? This could include requests that need to come from the SNS, for example. • Understand the coalition's role in drug and supply shortages when emergency management is not activated (e.g., during steady-state operations). • Review agreements, protocols, and procedures across the Alliance to identify components that may work for your coalition. • Codify essential elements of information (EEIs) relevant to the supply chain in emergency operations plans as well as roles and responsibilities for compiling and disseminating information through Situation Reports and other mechanisms.

		• Ensure that both distributors and providers understand the coalition's role in response and that the mechanisms for obtaining emergency management assistance are understood. • Conduct training to build capacity and identify key coordination points across coalition members. • Include supply chain objectives in community-wide exercises to improve engagement and understanding of key issues and solutions.
Response	• **Coordinate response activities across members** – Including coordination calls, development, and dissemination of Situation Reports, dashboard updates (if applicable), liaising with ESF-8, and emergency management partners. • **Collect and aggregate EEIs** from members and provide this data to local, state, and federal partners. • **Create and share common strategies** for scarce resource management among members. • **Broker or allocate resource requests** (depending on the defined coalition role).	In coordination with County Emergency Management and Health Departments: • Establish coordination conference calls or use other information platforms to share information. • Establish communications with major distributors and share hazard/impact information relevant to supply deliveries and security concerns as well as anticipated needs. • Monitor and/or manage response requests, determine allocations and delivery, and other operations according to the jurisdiction's coalition role. • Coordinate guidance for local implementation of crisis recommendations during protracted events (in conjunction with state-level efforts and local subject matter experts). • Share identified EEIs with supply chain partners (e.g., distributors, 3PLs) to establish information-sharing expectations and requests.
Recovery	• **Communicate transition from response to recovery** – This might be signaled through emergency operation centers (EOCs) standing down and information sharing cadences slowing. • **Facilitate resumption of normal supply delivery and clinical use.** • **After-action reports and identify lessons learned** – Coordinate with stakeholders to identify opportunities for improvement. • **Incorporate lessons learned** – Integrating lessons learned and best practices into future supply chain integrity assessments as needed for HPP capability requirements.	• Ensure consistency of delivery/care across the region – moving from crisis to contingency and then conventional status for materials use. • Monitor situation and share information until conventional delivery and supply use is attained. • Share lessons learned with local, regional, and state health authorities.

Resources

- AHRMM. Medical-Surgical Supply Formulary by Disaster Scenario
- Arizona Alliance for Community Health Centers. Disaster Preparedness Inventory List: Systems, Equipment, and Supplies
- ASPR. 2017-2022 Health Care Preparedness and Response Capabilities
- ASPR TRACIE Healthcare Coalition Recovery Plan Template
- ASPR TRACIE Healthcare Coalition Resources
- ASPR TRACIE Hospital Pharmacy Disaster Calculator
- CDC. Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal, and Territorial Public Health (updated 2019)
- FEMA. Supply Chain Resilience Guide
- ASPR TRACIE Partnering with the Healthcare Supply Chain to Improve Disaster Response. Appendix B: Disaster Supplies for Consideration

Florida Region 3 Healthcare Coalition Alliance

Appendix A: Supply Chain Integrity Self-Assessment

Introduction

Individual recipients must provide documentation that this assessment was conducted, along with corresponding mitigation strategies to HHS Assistant Secretary of Preparedness and Response (ASPR).

Our healthcare coalitions (HCC) and the Alliance will work in partnership and examine our supply chain vulnerabilities by teaming up with manufacturers and distributors to determine access to critical supplies, amounts available in regional systems, and potential alternate delivery options in the case that access, or infrastructure is compromised. Our HCC should then collect and use this information to coordinate effectively within the Alliance in collaboration with the County Health Department (ESF-8 lead agency). Our Alliance should further collaborate with healthcare organization members and other stakeholders to develop joint understanding and strategies to address supply chain vulnerabilities." [4]

Common supply and pharmacy needs (e.g., PPE, sterile supplies, commonly needed medications) have been provided in Appendix B for facility planning as well as discussion with distributors and within our HCC about the need for local caches as well as strategies to increase facility par levels. These general strategies and conclusions should be documented along with local distributor capacity to meet facility needs. Documentation of any specific supply quantities or analysis is not required to fulfill the requirement. The goals that should be achieved and documented are:

- Promote engagement and relationships between supply chain and coalition partners.
- Understand the supply chain's strengths and vulnerabilities across the Alliance and in the coalitions (and, by extension, the recipient) area.
- Analyze, at the facility and coalition level, the general types of supplies that will be required in disasters likely to affect the area, the local distributors providing them, and strategies to assure those supplies are readily available for patients in need.
- Determine mitigation and potential response strategies for supply chain interruptions (e.g., caching materials, alternative delivery vehicles, pre-event delivery of supplies).

[4] The 2017-2022 Healthcare Preparedness and Response Capabilities (Capability 3, Objective 3, Activity 1- Assess Supply Chain Integrity), Page 62.

The following checklist is informed by the mitigation and response strategies noted within this document. The strategies are intended to provide a starting point. Our HCC will need to determine the priority risks for our communities and the key private sector healthcare supply chain partners to collaborate. Facilitating these discussions in our HCC will likely lead to other mitigation strategies specific to our communities and population. Not all items in the assessment are applicable to all coalitions, and some will be much more important than others depending upon geography, the number and type of distributors and healthcare facilities in the area, and local hazards. Finally, our HCC (and members) must work with each jurisdiction's legislatively and legally defined ESF-8 structure to determine local expectations for medical supply request and fulfillment processes during disasters (e.g., in some cases, the medical sector is required to work with their vendors and other facilities until all possibilities are exhausted before involving emergency management).

Process

The checklist supports the previously listed goals and contains a variety of activities for the coalition to complete, divided into three sections:

1. Risk and Vulnerability Assessment
2. Coalition or Alliance Supply Chain Partner Engagement
3. Coalition or Alliance Planning

This is a SELF ASSESSMENT. HCC leaders can use this tool as a basis for discussion between and among coalition members and regional supply chain partners. This assessment is designed to produce a general impression of the gaps to be addressed in order to bolster supply chain preparedness. It can be a collaborative process within the HCC or facilitated by a logistics planner.

For each function, the activity should be assessed on a 0-5 scale[5], based on the estimated level of effort required to attain adequate operational function:

[5] This scale is consistent with scales used in other self-assessment Resources such as HCC Influenza Pandemic Checklist, HCC Resource and Gap Analysis Tool, and Logistics Capability Assessment and Emergency Management Gap Analysis log_lcat.pdf (fema.gov)

- 5 – No plan or asset currently exists
- 4 – Inadequate plan or assets exist
- 3 – Potentially adequate plans or assets exist but have not been evaluated or tested and/or are incomplete
- 2 – Adequate plans or assets exist but require minor modifications based on exercises, events, or other evaluation
- 1 – No work remaining – plans or assets have been tested in exercises and/or real-world events and currently require no further modification
- 0 – Not applicable – activity outside the scope of coalition responsibilities or capabilities.

This assessment may help coalitions set their strategic plan in order to determine priorities for supply chain contingency planning. Each activity identifies the primary supply chain components involved in executing or meeting the activity goal and should be developed into the HCC Strategic Plan to improve capacity and capabilities.

The Alliance (Northeast Florida HCC/North Central Florida HCC/Coalition for Health and Medical Preparedness (CHAMP))	Date:	

1. Risk and Vulnerability Assessment

This set of activities is designed to help Alliance HCCs identify the sites and members within their coalition most vulnerable to supply chain disruptions. It also presents activities that can help increase awareness and understanding of supply chain operations and dependencies within the HCC as well as identify critical medication and supply gaps to address with distributors. Risk assessments are critical to complete a GAP Analysis.

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
1.1 Identify or categorize impact and hazards using a hazard vulnerability assessment (HVA), jurisdictional risk assessment (JRA), and/or other tools. ▪ Consult the ***Healthcare and Public Health Risk Identification and Site Criticality (RISC) Toolkit*** and other comparable resources to determine healthcare facility criticality and vulnerability. ▪ Document specific risks to the healthcare facilities/service providers that may result in their isolation / make access difficult. How long could these conditions last? (HCC members can provide this input for their respective facilities to the HCC for aggregation). ▪ Document key community injury/illness scenarios that should be addressed in planning (e.g., penetrating trauma event with 25 casualties, 100-person chlorine exposure, or pandemic – also access **Activity 1.6**).		Alliance/Coalitions	

1.2 Share existing and developed risk assessment, vulnerability information, agreements, and contingency plans with neighboring coalitions, key stakeholders, and recipients.		Distributors; Providers; Coalitions; Recipient	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
▪ Consider reaching out to neighboring coalitions to initiate discussions with regional and state supply chain partners jointly			
1.3 Determine categories of critical medical product considerations for hospitals and other care sites, such as: ▪ Likely, surge demands and needs are relative to par levels. (healthcare facilities may need to look more specifically at the supplies in Partnering with the Healthcare Supply Chain to Improve Disaster Response, Appendix B (Disaster Supply Considerations), and determine for their role in the response what is appropriate to stock) ▪ Priority medical products (e.g., blood, pharmaceuticals, sterile/surgical, linen). ▪ Available on-site supply, warehousing, or health system local/regional warehouses, facility, or coalition-based caches of materials.		Distributors; Providers	
1.4 Identify distributors (including potential secondary distributors/suppliers) in relevant domains by creating a matrix, list, or map of supply chain "footprints" within the coalition's jurisdiction. Can also include less commonly used local or regional vendors on the list. These may include: ▪ Blood banks ▪ Medical gas suppliers ▪ Fuel suppliers		Manufacturers; Distributors; Coalitions; Providers; Recipient	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
▪ Water suppliers ▪ Emergency power suppliers ▪ Telecommunications suppliers ▪ Transportation (e.g., buses, vans, tractor-trailers) ▪ Nutritional suppliers and food vendors ▪ Pharmaceutical wholesalers ▪ Leasing entities for DME and biomedical equipment ▪ Vendors for disposable medical supplies ▪ Personal protective equipment (PPE) distributors and (potentially) manufacturers ▪ Hazardous waste removal services ▪ Linen services			
1.5 Discuss critical pharmaceutical supplies and their availability during emergencies in your region. Suggested sub-tasks to complete this activity are below: ▪ Assess patient population needs and list critical medications (e.g., acute needs such as analgesia and sedation medications, or for chronic conditions such as diabetes, etc., that require medication – refer to Partnering with the Healthcare Supply Chain to Improve Disaster Response, Appendix B). ▪ Assess public health impact of an event on both general and vulnerable populations and pharmaceuticals that may be needed (e.g., bioterrorism, pandemic), including through SNS or private sources.		Providers; Coalitions	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
▪ Discuss potential demand increases with the supply chain and options to meet the need for various scenarios.			
1.6 Discuss critical medical supplies and equipment and their availability during emergencies in your region to minimally include mass trauma, HAZMAT, pandemic, Ebola Virus Disease, and other particular pathogens (based on region), and events that may isolate the facilities from distributors (e.g., hurricane, blizzard). Refer to Partnering with the Healthcare Supply Chain to Improve Disaster Response; Appendix B. Suggested sub-tasks to complete this activity include: ▪ Assess patient population needs and identify any critical daily medical products (e.g., acute needs such as airway, ventilators, beds; chronic condition needs). ▪ Assess the impact of public health events on general and vulnerable populations and medical supplies that may be needed. ▪ Assess competing demands of public health efforts (e.g., mass vaccination) on local distributors.		Distributors; Providers; Coalitions	
1.7 Identify specialty supply considerations (e.g., decontamination, personal protective equipment, orthopedic hardware, pediatric, vulnerable populations). ▪ Should align with the events identified after conducting the risk assessment in **Activity 1.1** (e.g., weather-related, pandemic influenza, cyber, wildfires, utility outages, burn events).		Distributors; Providers; Coalitions	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
▪ Communicate what events are a priority and the corresponding list of likely impacted pharmaceutical and medical product supplies as well as their associated mitigation/response strategies with supply chain partners.			

Resources

- *ASPR. RISC Toolkit*
- *ASPR TRACIE Topic Collection: Hazard Vulnerability/Risk Assessment*
- *ASPR TRACIE Topic Collection: Incident Management*
- *CDC. Supply Chain Disaster Preparedness Manual*
- *Kaiser Permanente. Hazard Vulnerability Assessment Tool*
- *Northern Utah Healthcare Coalition. Resource Management and Sharing Template*

2. Supply Chain Partner Engagement

This set of activities are designed to assist coalitions in assessing the current state of supply chain relationships (including ensuring valid contact information) and vulnerabilities (including understanding normal versus emergency response contacts and operating procedures) in concert with distributors (and manufacturers as appropriate).

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
2.1 Gather and record contact information for account managers and emergency response points of contact (POCs) along the supply chain for those distributors and vendors identified in **Activity 1.4**, including information for a back-up contact, the location of the facility, potential vulnerabilities for delivery, and potential assistance needed. Private-public coordinators at emergency management agencies should also be listed. This can be done by the facility and coalition, depending on the coalition's role. ▪ Update contact information prior to the known hazard (e.g., forecasted hurricane), hazard season, or annually. ▪ Is the POC for planning/administration the same one as for emergencies or 24-hour contact? ▪ Relationships are important. Consider creating an educational document on the goals of the partnership and the role of each stakeholder.		Distributors; Manufacturers; Providers; Coalitions	
2.2 Collect and share ESF-8 contact information at the state and local level (including state emergency management agency) with coalition members and relevant distributors.		Coalitions	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
2.3 The Alliance and Coalitions should discuss and update supply plans and policies in consultation with healthcare facilities and emergency management to ensure current understanding of resources and potential issues/needs, at least annually *(e.g., coalitions may work with facilities to provide an update to the coalition annually about any changes to vendors, on-site supplies, or other factors that might affect their vulnerability).*		Coalition	
2.4 Provide training or guidance to distributors on submitting requests to ESF-8 at the jurisdictional (local and state level) and the potential resources that may be needed/available to them. ▪ Define when a facility should work independently to acquire needed items versus working with coalition/ESF-8 not to duplicate efforts or compete for resources. ▪ Discuss triggers for when the coalition would become the conduit for requests and/or allocation decisions – this may also help ensure there are not disproportionate assets in the community due to parent healthcare systems having different levels of access to materials.		Coalition	

2.5 Provide training or guidance on the coalition's responsibilities in brokering and deconflicting resource requests between distributors and healthcare. (Note: some of these situations may not involve an EOC activation – for example, shortages of lumbar puncture kits during the 2012 fungal contamination of injectable steroid incident.) These policies should be defined and agreed to prior to an incident.		Coalition	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
2.6 Engage supply chain partners in coalition exercise. ▪ Options to consider for exercises include virtual exercises, tabletop exercises, full-scale exercise participation (e.g., movement of products/simulated products, testing access to disaster areas for deliveries, or testing" pulls" of disaster list materials. ▪ Conduct an after-action review and identify opportunities to improve and test in future exercises.		Distributors; Coalitions; Providers	
2.7 Provide training or guidance to distributors on submitting requests to ESF-8 at the jurisdictional (local and state level) and the potential resources that may be needed/available to them. ▪ Define when a facility should work independently to acquire needed items versus working with coalition/ESF-8 not to duplicate efforts or compete for resources. ▪ Discuss triggers for when the coalition would become the conduit for requests and/or allocation decisions – this may also help ensure there are not disproportionate assets in the community due to parent healthcare systems having different levels of access to materials.		Coalition	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
2.8 Invite manufacturers, wholesalers/distributors in the region to coalition meetings, as appropriate. ▪ Consider scenario-based discussions between distributors and providers to help providers understand how the distributors (and the coalition) will manage a situation in which there are inadequate resources to meet the requests (e.g., how will allocation be handled if implemented, likely duration if a local event).		Manufacturers; Distributors; Providers; Coalitions	
2.9 Ensure a process for sharing emergency information that may impact logistics and delivery operations with distributors. ▪ Identify "triggers" in these public communications, such as road closures and curfews that will affect delivery. ▪ Consider standard communication channels to notify supply chain partners and providers in the community about specific impacts and the need to shift to alternative delivery schedules. ▪ Communicate to relevant state and local authorities that alternative schedules and routes are being implemented. ▪ Engage emergency management to request assistance with delivery when available resources are insufficient. Delivery should be based on the acuity of need.		Distributors; Providers	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
2.10 Plan with facilities and law enforcement to ensure relevant supply chain partners (including third-party logistic providers) are identified as key (known) vendors (partners). Ideally, they have credentials to access facilities within a law enforcement perimeter during a disaster. ▪ Some states include the supply chain in the governor's emergency declaration as critical entities. ▪ Consider engaging, relevant state and local law enforcement on various requirements. (e.g., certificates, badging). ▪ Communicate the plan to supply chain partners and HCC members.		Distributors; Providers; Recipient	
2.11 Establish a process to share distributor/logistics provider capabilities for delivery should road transport be limited (e.g., use of rotor-wing or boat delivery). ▪ If applicable to HCC location and topography, determine if and where high-water vehicles or boats are available to supply chain *partners (e.g., during Hurricane Harvey, responders used duck boats)* and how those assets are coordinated. ▪ If applicable to the geography of HCC, determine options to deliver limited supplies via helicopter if roads are not accessible (e.g., due to earthquake or flooding).		Distributors; Providers; Coalitions	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
▪ If applicable, determine alternate vehicles' availability if roads are compromised by snow or ice *(e.g., snowmobile, four-wheel drive, all-terrain vehicle).*			
2.12 Understand distributor storage and warehousing capacity in the region and adjacent regions to gauge regional capacity and delivery timelines. ▪ This may help the facilities and coalition determine priorities for stocking and potentially regional caches in **Section 3**.		Providers; Distributors; Coalitions; Recipient	

Resources

- *ASPR. Coalition Emergency Management Program*
- *ASPR. The Healthcare Coalition in Emergency Response and Recovery*
- *ASPR TRACIE Healthcare Coalition Resource and Gap Analysis Tool*
- *ASPR TRACIE Topic Collection: Coalition Models and Functions*
- *ASPR TRACIE Topic Collection: Healthcare Coalition Development and Organization*
- *ASPR TRACIE Topic Collection: Information Sharing*
- *Crisis Event Response and Recovery Access (CERRA) Framework*
- *FEMA. Supply Chain Resilience Guide*
- *Health Industry Distributors Association (HIDA)*
- *Healthcare Distribution Alliance (HAD)*
- *Healthcare Ready. Access Denied: Delivery of Critical Healthcare Products and Personnel to Disaster Sites*

3. Planning

This set of activities are designed to assist coalitions in assessing available contingency guidance and plans, gaps in needed guidance, and standardizing guidance across members to harmonize response operations. This section also addresses formalizing relationships through joint plans, policies, procedures, memoranda of understanding (MOUs), and contracts.

Activities	Alliance/Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
3.1 Determine alternate delivery processes should an event limit road transport ▪ Consider developing and sharing key planning questions that coalition members can share with distributors on this topic as well as potential solutions (e.g., alternate delivery methods or routes for specific at-risk healthcare facilities).		Distributors; Providers	
3.2 Consider changes to the frequency of deliveries and resupply. ▪ Facilities that are resupplied by distributors less frequently or have the ability to store more inventory have different needs than facilities dependent on more frequent deliveries.		Distributors; Providers	
3.3 Advise coalition members to have contingency plans should regular ordering processes be unavailable. ▪ Examples include paper-based ordering plans, protocols for submitting orders via phone, etc. ▪ Discuss how to utilize coalition members' corporate support structures where applicable.		Distributors; Providers; Coalitions	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
3.4 Establish a coalition-wide process for developing and implementing guidance for Crisis Standards of Care (in collaboration with state efforts and in consultation with supply chain partners) to include triggers and plan(s) for conservation, substitution, adaptation, reuse, prioritization, and reallocation of scarce supplies and consultation with clinical experts.		Providers; Coalitions	
3.5 Determine if an increase in par levels or caching of certain medications and supplies is warranted at the provider, state, and/or coalition levels. ▪ Regional caches should prioritize critical supplies with long shelf lives to minimize rotation. Distributor-managed caches may be an option. Policy on request, allocation, distribution, use, and a replacement must be in place for any regional assets.		Providers; Coalition	
3.6 Transportation of medical material: If the movement of coalition cache materials is required, HCCs and recipients should determine how transportation of medical materials will occur, put necessary agreements in place and gain pre-approvals as necessary. ▪ HPP grant funds can (with prior approval) be used to lease vehicles for the movement of materials, supplies, and equipment by HCC members. ▪ HPP grant funds can (with prior approval) be used for HCCs to make transportation agreements with commercial carriers for movement of HCC materials,		Coalitions; Recipient	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
supplies and equipment. Establish a written process for initiating transportation agreements (e.g., contracts, memoranda of understanding, formal written agreements, and/or other letters of agreement). Transportation agreements should include, at a minimum, the following elements (per ASPR HPP 2019 Funding Opportunity Announcement): ▪ Type of vendor ▪ Number and type of vehicles, including vehicle load capacity and configuration ▪ Number and type of drivers, including certification of drivers ▪ Number and type of support personnel ▪ Vendor's response time ▪ Vendor's ability to maintain a cold chain, if necessary, to the incident This relationship may be demonstrated by a signed transportation agreement or documentation of transportation planning meetings with the designated vendor. All documentation should be available to the FPO for review if requested.			
3.7 Facilities may wish to work with distributors to establish a "push list" of critical medications or supplies likely to need		Distributors; Providers; Coalition	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
replenishing early in a disaster or in anticipation of a specific incident, and a process to request these supplies. ▪ Common elements may be standardized across multiple facilities within a coalition for simplicity.			
3.8 Work with distributors to ensure understanding of restocking/return/rotating options.		Distributors; Providers; Coalition	
3.9 Understand the distributors' redundancies and potential needs during a disaster as well as any resilience issues they are trying to address or have addressed through business continuity planning (e.g., whether they are located in a flood plain, with limited access to their facilities, and whether they have a contingency/continuity plan that is regularly reviewed and tested).		Manufacturers; Distributors; Providers; Coalitions	
3.10 Request members share established distributor memoranda of understanding (MOU) related to emergency operations to understand the region's status of agreements better. ▪ This identifies instances where multiple coalition members and possibly distributors have identified the same resource solution and that vendor capacity would potentially not be sufficient to meet the needs of all fully.		Distributors; Providers; Coalitions	

Activities	Alliance/ Coalition Assessment (0-5)	Relevant Supply Chain Component	Alliance/Coalition Work to Date & Remaining Work Needed
3.11 Consider and plan for patients' diverse needs related to the supply chain– from acute care needs to chronic conditions to unique demands from different demographics like pediatrics. Examples include: ▪ Limitations on filling prescriptions by insurers ▪ Identify and plan for critical healthcare equipment delivery and maintenance ▪ Information on and access to open facilities (e.g., Rx Open) ▪ Knowledge of waivers and sources of information (e.g., insurance hotlines) ▪ Transitioning care and services to a new or temporary facility ▪ Partnerships with regional or national organizations to collect and disseminate patient-level guidance, which can be used and amplified by the HCCs		Providers; Coalitions; Patients	
3.12 Determine alternate delivery processes should an event limit road transport. ▪ Consider developing and sharing key planning questions that coalition members can share with distributors on this topic as well as potential solutions (e.g., alternate delivery methods or routes for specific at-risk healthcare facilities).		Distributors; Providers	

Resources

- *ASPR. 2017-2022 Health Care Preparedness and Response Capabilities*
- *ASPR HPP 2019 Funding Opportunity Announcement*
- *ASPR TRACIE Coalition Emergency Operations Plan*
- *ASPR TRACIE Health Care Coalition Response Plan*
- *ASPR TRACIE Topic Collection: Coalition Response Operations (Including Mutual Aid)*
- *ASPR TRACIE Topic Collection: Continuity of Operations (COOP) / Failure Plan*
- *ASPR TRACIE Topic Collection: Information Sharing*
- *CDC. Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal, and Territorial Public Health (updated 2019)*
- *FEMA. Business Continuity Plan*
- *FEMA. Developing and Maintaining Emergency Operations Plans*
- *Rx Open*

Florida Region 3 Healthcare Coalition Alliance
Appendix B: Disaster Supplies for Consideration

The lists provided in this appendix are intended to serve as a reference point only. Healthcare Coalitions are not expected to develop or maintain lists to this degree of specificity. Similar lists are available from partners in the field.

Pharmacies

Consider the use of the ASPR TRACIE Hospital Pharmacy Disaster Calculator for facility-level predictions. Note that this list does NOT include medications such as anti-hypertensive agents that may be needed to support patients with chronic conditions during a prolonged event or one that damages infrastructure.

Analgesia

- ☐ Narcotic- IV (e.g., Morphine)
- ☐ Narcotic- Oral (e.g., Oxycodone)
- ☐ Non-narcotic- Oral (e.g., Ibuprofen, Acetaminophen)

Anesthetic

- ☐ Local- Inject (e.g., Lidocaine, Bupivivaine)
- ☐ Local- Ocular (e.g., Proparacaine)
- ☐ General- IV (e.g., Propofol)

Antibiotic

- ☐ Narrow spectrum- IV (e.g., Cefazolin, Vancomycin)
- ☐ Broad spectrum- IV (e.g., Expanded Spectrum Penicillin, Carbapenem)
- ☐ Narrow spectrum- Oral (e.g., Cephalexin)
- ☐ Broad spectrum- Oral (e.g., Expanded Spectrum Penicillin, Quinolone)
- ☐ Broad spectrum- Topical (e.g., Bacitracin- particularly for burn patients)
- ☐ Broad spectrum- Ocular (e.g., Polymixin/Trimethoprim)

Antiemetic

- ☐ IV (e.g., Ondansetron)
- ☐ Oral (e.g., Ondansetron)

Antiepileptic

- ☐ IV (e.g., Ondansetron)
- ☐ Oral (e.g., Ondansetron)

Antipsychotic

- ☐ IV (e.g., Olanzapine, Haloperidol)
- ☐ Oral (e.g., Olanzapine, Haloperidol)

Anti-viral

- ☐ Oral (e.g., Oseltamivir)

Atropine

- ☐ IV/IM (e.g., Consider USP grade crystalline, autoinjectors in Chempack)

Bronchodilator

- ☐ Beta-agonist- Inhaled (e.g., Albuterol)

Buffer

- ☐ IV (e.g., Sodium Bicarbonate)

Calcium

- ☐ IV (e.g., Calcium Chloride, Calcium Gluconate)

Dextrose

- ☐ IV (e.g., D50)

Insulin

- ☐ Regular- IV/SQ (e.g., Aspart)
- ☐ Long-acting- SQ (e.g., Glargine)

IV Fluids

- ☐ Hypertonic- IV (e.g., 3%, 5%)
- ☐ Normal Saline- IV (e.g., 100mL, 1000mL)
- ☐ Lactated Ringers- IV (e.g., 1000mL)
- ☐ D5 ½ NS- IV (e.g., 1000mL)

Paralytic

- ☐ IV (e.g., Rocuronium, Atracurium)

Pressor

- ☐ IV (e.g., Epinephrine, Norepinephrine, Vasopressin)

Sedative

- ☐ IV (e.g., Lorazepam, Midazolam, Ketamine)
- ☐ Oral (e.g., Lorazepam)

SSKI

- ☐ Oral

Steriod

- ☐ IV (e.g., Methylprednisolone, Dexamethasone)
- ☐ Oral (e.g., Prednisone, Dexamethasone)

Tetanus Vaccine

- ☐ IM (e.g., Tdap)

Tranexamic Acid

- ☐ IV

Medical Supplies

This list was assembled from a variety of sources (e.g., Subject Matter Experts, Association for Health Care Resource & Materials Management (AHRMM), Health Industry Group Purchasing Association (HIGPA), and the U.S. Department of Commerce). It is specific to critical equipment only and is not comprehensive, but provides a starting point. It is critical to also plan for pediatric patients (those eight years of age and younger will require dedicated sizes of equipment) in relation to community resources / hospital role in the community.

Medication and Fluid Administration

- ☐ IV start kits
- ☐ IV catheters – 24, 22, 20, 18, 16
- ☐ Intraosseous needles / connector sets / drill
- ☐ Needles – draw 18/21gauge
- ☐ Needle – blunt
- ☐ Needle – injection – 23/25/27gauge
- ☐ Syringe – saline 10mL preloaded
- ☐ Syringe – 1, 3, 10, 35, 60mL
- ☐ Insulin syringe with needle
- ☐ Piggyback IV set
- ☐ IV tubing microdrip
- ☐ IV tubing standard drip
- ☐ Blood tubing
- ☐ IV Pump sets
- ☐ Pressure bags
- ☐ Central line kits
- ☐ Buretol / syringe pumps (if used)
- ☐ Arm boards - pediatric

Airway / Breathing

- ☐ Nasal airways (assorted)
- ☐ Oral airways (assorted – pediatric to adult)
- ☐ Laryngoscope / blades (ideally video with direct back up and multiple blades)
- ☐ Supraglottic airway (e.g. King, LMA) – pediatric to adult
- ☐ Surgical airway tray / supplies
- ☐ BVM – pediatric and adult sets
- ☐ Endotracheal tubes
- ☐ Tube holders / twill
- ☐ NG/OG tubes – pediatric to adult
- ☐ Nasal cannula
- ☐ Oxygen supply tubing
- ☐ Non-rebreather mask
- ☐ Nebulizer set / nebulizer masks
- ☐ Chest decompression needle (e.g. Cook, SPEAR)
- ☐ Suction tubing
- ☐ Flexible suction catheters
- ☐ Yankauer / large bore rigid suction tip
- ☐ Syringe cath tip 60mL
- ☐ Ventilators

Diagnostics

- ☐ BP cuffs (pediatric to adult)
- ☐ Oximetry probes (re-usable, disposable, pediatric)
- ☐ Arterial line kits and monitoring sets
- ☐ Electrodes (ECG leads)
- ☐ End-tidal capnography circuits

Laboratory

- ☐ Venous sample tubes (Vacutainer)
- ☐ Butterfly needles 21/23/25
- ☐ Luer to Vacutainer adapter

Urology / Gyn

- ☐ Foley catheters – pediatric and adult
- ☐ Collection bags

General patient care

- ☐ Pillowcases, sheets, blankets
- ☐ Gowns
- ☐ Towels, washcloths
- ☐ Soap
- ☐ Emesis bags
- ☐ Urinal
- ☐ Bedpans
- ☐ Facial tissues
- ☐ Disinfectant wipes
- ☐ Belongings bags
- ☐ Garbage bags – construction grade, opaque (for garbage, contaminated clothing, or temporary redress)

- ☐ Diapers
- ☐ Formula / nipples
- ☐ Oral hydration solution / packets

Surgical care

- ☐ Tourniquets – e.g. CAT
- ☐ Chest tube tray
- ☐ Chest tubes – 8-28 sizes
- ☐ Suture – per surgical preference
- ☐ Scalpels – particularly 11 and 25 blades
- ☐ Major procedure (laparotomy) tray (as applicable to facility)
- ☐ Vascular tray / bleeder tray (as applicable to facility)
- ☐ Trauma packs (prep, drape, cautery, other disposables to accompany trauma case) (as applicable to facility)
- ☐ Chest drainage set

Wound care

- ☐ Bandage scissor
- ☐ Sterile towels
- ☐ Roller gauze (e.g. Kerlix)
- ☐ Trauma shears
- ☐ Chlorhexidine prep
- ☐ Suture trays
- ☐ Suture – nylon (5-0 to 0)
- ☐ Suture – absorbable (5-0, 3-0)
- ☐ Irrigation fluid (may substitute clean tap water)
- ☐ 2x2 gauze
- ☐ 4x4 gauze
- ☐ Non-adherent dressing (e.g. Tegaderm, petrolatum gauze)

Orthopedic care

- ☐ Cervical collars (pediatric and universal)
- ☐ Slings
- ☐ Pre-formed splints
- ☐ Knee immobilizers
- ☐ Crutches
- ☐ Canes
- ☐ Walkers
- ☐ Walking boot (e.g. Cam walker)
- ☐ Fiberglass splinting rolls – various sizes
- ☐ Plaster splints – various sizes (but especially 5x30 inch and 4x15 inch)
- ☐ Plaster rolls – various sizes (but especially 4 inch)
- ☐ Webril / cotton batting – various sizes (but especially 4 inch)
- ☐ Elastic bandages – various sizes (but especially 4 inch)
- ☐ Coban – 3 inch

Burn care

- ☐ Petrolatum gauze 5x9
- ☐ Sterile sheets
- ☐ Silver-impregnated dressings

(Note – large amounts of IV fluids and analgesia will be needed per patient – e.g. roughly 250mg equivalents of morphine/24h in addition to at minimum stretchable roller gauze (e.g. Kerlix) and petrolatum / Bacitracin- dressings)

Miscellaneous

- ☐ Tape – adhesive, foam, surgical, paper
- ☐ Restraints – foam and leather (or equivalent)
- ☐ Stuffed animals
- ☐ Small dry erase boards and markers
- ☐ Large permanent markers
- ☐ Pediatric dosing guide (e.g. Handtevy, Broselow)
- ☐ Alcohol-based hand cleanser
- ☐ Liquid soap

Provider PPE

- ☐ Simple mask (fabric, flexible)
- ☐ N95 respirator
- ☐ PAPR (may be specific for infection control or combined HAZMAT/infection control)
- ☐ Waterproof suits for HAZMAT (may be used for EVD/VHF patient assessment/care)
- ☐ Isolation gowns (water resistant)
- ☐ Waterproof boots/booties
- ☐ Butyl gloves (overgloves for decontamination)
- ☐ Nitrile gloves (S-XL) for patient care
- ☐ Faceshields
- ☐ Headcovers (for EVD/VHF care as appropriate)

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Scenarios to Consider (for facility and coalition supply planning)

Determine how many casualties is reasonable to plan for given the facility (and its role in the community – e.g., is it a pediatric center or trauma center), surrounding community hazards, and other healthcare resources available in the area:

1. Mass casualty incident – penetrating trauma/blast
   - Primary supply challenges – airway supplies, surgical supplies, blood products, medications (analgesia, sedation, intubation)
2. Mass casualty incident – pediatric
   - Primary supply challenges – age-appropriate intravenous supplies, airway supplies, medications may vary from adults
3. Mass burn incident
   - Primary supply challenges – analgesia, intravenous fluids, dressings, possibly airway supplies
4. HAZMAT – chlorine
   - Primary supply challenges – provider PPE, redress/gowns, possibly airway equipment
5. HAZMAT – organophosphate
   - Primary supply challenges – provider PPE, antidotes - atropine/pralidoxime, airway equipment, pharmaceuticals (e.g. benzodiazepines)
6. Pandemic
   - Primary supply challenges – provider PPE, critical care supplies and medications, antivirals, antibiotics, sedation/analgesia, airway supplies, general patient care supplies
7. Ebola Virus disease/VHF suspect case
   - Primary supply challenges – specialty provider PPE, waste containment

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Appendix C: Key Federal and State of Florida Programs and Agencies

Federal Resources:

Although the healthcare supply chain is primarily owned and operated by the private sector, several federal offices and agencies have a role in supporting the continuity of supply chain operations during emergencies and events that could impact healthcare operations and have established partnerships with key components of the supply chain to accomplish this. Below is a brief overview (not-exhaustive) of some of the critical federal partners involved in healthcare supply chain issues.

- **The U.S. Department of Health and Human Services (HHS**), Office of the Assistant Secretary for Preparedness and Response (ASPR), Division of Strategic National Stockpile (SNS) partners with industry, particularly distributors, to ensure timely delivery of select medicines and medical products in the event of a large-scale public health emergency. The SNS works to quickly distribute and deliver assets in the stockpile by leveraging commercial supply chain operations in place through contracts and memoranda of understanding (MOUs). The SNS also works with manufacturers and distributors to understand the additional capacity in the system and how that might be used during a disaster and anticipate and help mitigate barriers to rapid delivery that benefit all supply chain participants. For examples of SNS response activities, click here.
- **ASPR's Division of Critical Infrastructure Protection (CIP)** engages national-level public and private sector partners to identify supply chain threats and collaborate on solutions. CIP facilitates the Healthcare and Public Health Sector on behalf of HHS as the lead agency responsible for protecting our Nation's health critical infrastructure. This includes convening forums to advance the sector's understanding of emergency-response supply chain concerns and how to mitigate these issues proactively. CIP works with an advisory group of federal and private sector representatives to advance bidirectional communication and problem-solving in steady-state and response situations. CIP also works to identify potential and current threats to the supply chain to gather relevant information and determine approaches to reduce or eliminate the disaster's impact.
    - ASPR CIP also leads a public-private partnership, the Healthcare and Public Health Sector Critical Infrastructure Security and Resilience Partnership. This partnership supports information sharing and coordination during emergency events and comprises the Government Coordinating Council (GCC) and Sector Coordinating Council (SCC.) The GCC represents government interests and perspectives and includes ASPR, U.S. Department of Homeland Security, and the U.S. Food and Drug Administration in its membership. The SCC represents private sector interests and perspectives and includes supply chain trade associations and companies' membership.

- This blog by ASPR CIP describes how gas manufactures, healthcare facilities, and the federal and territorial government closely coordinated to help patients and manufacturers of critical medical devices receive the gas they needed after Hurricane Maria. They note four critical partners for facilities to be: local HCC, the healthcare, and public health partnership, ASPR TRACIE, and the FEMA National Business Emergency Operations Center (NBEOC). During an incident, the NBEOC shares updates on interdependent lifeline sectors such as transportation, communication, water, and power outages and restoration.

- Sector-based **Information Sharing and Analysis Centers (ISACs)** collaborate and share information within and across the DHS-designated 16 critical infrastructure sectors. ISACs are trusted entities established by critical infrastructure owners and operators to foster information sharing and best practices about physical and cyber threats and mitigation. They provide incident response coordination and share information during emergency events. The Healthcare and Public Health Sector designated two organizations as the Sector's ISACs: Healthcare Ready and the Health ISAC, or H-ISAC.

- **ASPR's Hospital Preparedness Program** set forth the 2017-2022 Health Care Preparedness and Response Capabilities which outlines high-level objectives that the Nation's health care delivery system, including HCC's and healthcare organizations, should undertake to prepare for, respond to, and recover from emergencies. Within the continuity of health service delivery capability objectives, healthcare organizations (with support from their local HCC's) are encouraged to identify essential functions for health care delivery, including supply chain management, and assess its supply chain vulnerabilities.

- The **Centers for Disease Control and Prevention (CDC)** outlines the Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal, and Territorial Public Health (2018) which outlines the capability for (and associated functions) for medical material management and distribution. CDC's Public Health Emergency Preparedness (PHEP) cooperative agreement program is administered by the Division of State and Local Readiness and provides eligible recipients guidance and funding to help build and operationalize public health response capability and consideration strategies. CDC also develops guidance and policies related to personal protective equipment (PPE) and outlines fundamental principles to help healthcare supply chain managers prepare for disasters by highlighting the advantages and ways to achieve a whole-community, coordinated effort.

- The **Food and Drug Administration (FDA)** is responsible for protecting public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, and medical devices. FDA also plays a significant role in the Nation's counterterrorism capability. The FDA fulfills this responsibility by ensuring the food supply's security and fostering medical products' development to respond to deliberate and naturally emerging public health threats.

State of Florida Resources:

- **Florida Department of Health:** The Florida Department of Health (FDOH) was established by the Florida Legislature in 1996; however, public health has its roots in Florida dating back to 1888 with the creation of the Florida State Board of Health. In 2007, the first-ever State Surgeon General was established to spearhead the efforts of FDOH, thereby designating a health officer to oversee all matters of public health. The Surgeon General's role is to be the state's leading advocate for wellness and disease prevention.
  http://www.floridahealth.gov/about/index.html
  850-245-4444
  health@flhealth.gov

  Mailing Address
  Florida Department of Health
  4052 Bald Cypress Way
  Tallahassee, FL 32399

- **Florida Department of Health: Immunization Section:** The Immunization Section is a part of the Florida Department of Health, Division of Disease Control and Health Protection, Bureau of Epidemiology. The Immunization Section focuses on increasing immunization levels in Florida and decreasing vaccine-preventable diseases.

  http://www.floridahealth.gov/programs-and-services/immunization/about-immunization.html

- **Florida Department of Health: Healthcare System Preparedness:** Healthcare system preparedness ensures that there is capacity and capability to provide critical public health and medical services to reduce the potential for adverse health outcomes during an event.

  http://www.floridahealth.gov/programs-and-services/emergency-preparedness-and-response/healthcare-system-preparedness/index.html

- **Florida Department of Health: Disaster Behavioral Health** - All people involved in a disaster are affected in some way, from emergency response workers to disaster survivors (including family members and friends) and the public at large. Persons affected by disaster events may experience varying levels of stress and anxiety. They may also display other physical and psychological symptoms that could adversely affect their ability to respond and function. Outreach, early psychological first aid, and referrals can help disaster survivors meet new challenges and offer support in their recovery process to return them to pre-disaster performance and functioning levels. http://www.floridahealth.gov/programs-and-services/emergency-preparedness-and-response/healthcare-system-preparedness/disaster-behavioral-health/index.html

- **Florida Department of Health: Florida's Strategic National Stockpile** Program - The Strategic National Stockpile (SNS) is a federal program developed to provide large quantities of essential medical supplies to states and communities who have exhausted local or regional supplies during an emergency. Florida's SNS Program prepares (through planning, implementation, training, exercise, and evaluation) to receive and distribute medical countermeasures and provide technical assistance to the counties in their preparations for mass dispensing campaigns. The SNS program's goal is to minimize the loss of lives during a catastrophic public health emergency by providing needed medicines and medical supplies to 100% of the population within 48 hours.

  http://www.floridahealth.gov/programs-and-services/emergency-preparedness-and-response/disaster-response-resources/strategic-national-stockpile/index.html For technical assistance and questions, please email BPRCHDPreparedness@flhealth.gov

- **Florida Department of Health: FLHealthSystems** - When a public health incident or emergency threatens Florida's residents and visitors, the ability to collect precise, detailed situational awareness, share data, and receive and deliver fast, accurate and consistent communications can save lives.

  http://www.floridahealth.gov/programs-and-services/emergency-preparedness-and-response/disaster-response-resources/fl-health-systems/index.html This page provides links to and information on the Department's online data systems used to maximize health situational awareness and support crucial preparedness, response, and recovery activities. For more information on these key systems, contact the Help Center at FLHealthSystems@flhealth.gov

- **Florida Public Health Risk Assessment Tool (FPHRAT) -** The FPHRAT captures information in a residual risk matrix that produces a risk, capability and resources gap analysis for each hazard by county. Access is managed to allow county planner(s) to rank capability functions, resources, and hazards. This tool requires a login password to protect the integrity of the data.
  fphrat-user-guide-2014.pdf (floridahealth.gov)

- **Agency for Health Care Administration:** Their mission is "Better Health Care for All Floridians." As champions of that mission, they are responsible for administering the Florida Medicaid program, licensure and regulation of Florida's health facilities, and providing information to Floridians about the quality of care they receive. This Agency was statutorily created by Chapter 20, Florida Statutes as the state's chief health policy and planning entity. They are primarily responsible for the state's estimated $25.2 billion Medicaid program that will serve a projected 4.27 million Floridians in SFY 2016-17, the licensure of the state's 48,500 health care facilities, and the sharing of health care data through the Florida Center for Health Information and Policy Analysis.

  https://ahca.myflorida.com/

- **Florida Hospital Association:** Founded in 1927, the Florida Hospital Association (FHA) is Florida's hospital community's voice. Through representation and advocacy, education, and informational services, we support members' missions to provide the highest quality of care to the patients we serve. http://www.fha.org/about-fha.aspx

- **Florida Health Care Association**: Florida Health Care Association (FHCA) has a strong history of leadership and advocacy that dates back to 1954. The founding members were passionate about improving care for elder Floridians and recognized that their ability to shape public policy would be greatly enhanced by creating a statewide organization that brought together like-minded individuals. Today, FHCA is a federation representing over 82% of the state's 690 nursing centers. Membership includes more than 1,000 individuals and nearly 600 long-term care centers that provide skilled nursing, post-acute and sub-acute care, short-term rehabilitation, assisted living, and other services to the frail elderly and individuals with disabilities in Florida. FHCA also has more than 400 associate members/companies that provide valuable products and services to long-term care providers.

  https://www.fhca.org/facility_operations/emergency_preparedness

- **Florida Agency For Persons with Disabilities:** The Agency Supports Persons with Developmental Disabilities in Living, Learning, and Working in their Communities. APD serves Floridians with developmental disabilities as defined in Florida Statutes, Chapter 393. This includes individuals with: Autism, Cerebral palsy, Spina bifida, Intellectual disabilities, Down syndrome, Prader-Willi syndrome, Phelan McDermid syndrome and Children aged 3-5 who are at a high risk of a developmental disability. APD works with local communities and private providers to support people who have developmental disabilities and their families in living, learning, and working in their communities; provides assistance in identifying the service needs of people with developmental disabilities; and educates the public on disability issues while focusing attention on employment for people with disabilities.

  State Office
  Agency for Persons with Disabilities
  4030 Esplanade Way, Suite 380
  Tallahassee, FL 32399-0950

  Phone: (850) 488-4257
  Toll-Free: 1-866-APD-CARES (1-866-273-2273)
  8 a.m. - 5 p.m. ET
  Fax: (850) 922-6456
  Email: APD.info@apdcares.org

CDC+ Program Toll-Free Customer Service:
1-866-761-7043
CDC+ Program Toll-Free Fax: 1-888-329-2731

Florida Relay Service:
Individuals who make calls using the Florida Relay Service should dial 7-1-1 or use the appropriate toll-free numbers:

- 1-800-955-8771 (TTY)
- 1-800-955-8770 (Voice)
- 1-800-955-1339 (ASCII)
- 1-877-955-8260 (VCO-Direct)
- 1-877-955-5334 (STS)
- 1-877-955-8773 (Spanish)
- 1-877-955-8707 (French Cr)

- APD Resource Directory: **Florida APD Resource Directory - Index of Resources for People with Developmental and Intellectual Disabilities (myflorida.com)**

- **Florida Division of Emergency Management:** The Division of Emergency Management plans for and responds to natural, man-made and technological disasters. These range from floods and hurricanes to incidents involving hazardous materials or nuclear power. The division prepares and implements a statewide Comprehensive Emergency Management Plan and routinely conducts extensive exercises to test state and county emergency response capabilities.
    - The division is the state's liaison with federal and local agencies on emergencies of all kinds. Division staff members provide technical assistance to local governments as they prepare emergency plans and procedures. They also conduct emergency operations training for state and local governmental agencies.
    - After a disaster, the division conducts damage assessment surveys and advises the Governor on whether to declare an emergency and seek federal relief funds. The division maintains a primary Emergency Operations Center (EOC) in Tallahassee. The EOC serves as the communications and command center for reporting emergencies and coordinating state response activities. The division also operates the State Warning Point, a state emergency communications center staffed 24 hours each day. The center maintains statewide communications with county emergency officials.

https://www.floridadisaster.org/

2555 Shumard Oak Blvd. Tallahassee, Florida 32399-2100

Phone: 850-815-4000

For Florida Relay Service:
Dial 711 (TDD/TTY)

Florida Region 3 Healthcare Coalition Alliance
Appendix D: Supply Chain Risks and Recommendations

The modern supply chain faces a variety of risks, including:

- **Supplier failure:** When a vendor goes out of business, clients must find a suitable replacement in a short amount of time. Depending on the complexity of the product being sourced, this may be extremely difficult.
- **Supply chain interruption:** Natural disasters, political strife, and other outside forces can bring supply chains to a halt. Note that your supplier may rely upon other vendors for raw materials, and their businesses' interruptions can have a cascading effect.
- **Compliance and regulatory violations:** There are many laws and agreements governing supply chain practices. These include anti-corruption statutes, labor regulations, and prohibitions on human trafficking. Vendors who run afoul of these norms can face stiff penalties and/or prosecution.
- **Reputational Damage:** Bad behavior by vendors throughout your supply chain could come back to haunt you. No business wants to find out that a supplier has been using child labor, putting staff at risk with unsafe working conditions, or violating other important laws.

It's important to re-emphasize that the risks posed by your vendors' suppliers can affect your business. The failure of an upstream vendor may put pressure on your own supplier. Likewise, political unrest in a far-flung locale can quickly become relevant to your company's day-to-day operations. In short, you may have unwittingly built a global supply chain, exposing the company to a number of risks.

Transforming Supply Chains

Businesses and organizations should move away from having rigid, linear supply chains to operating within agile, networked ecosystems by focusing on five key areas:

1. ***Assessment and strategy.*** Conduct an end-to-end supply chain risk assessment to stress test the supply chain, identify critical risk scenarios and define potential responses.
2. ***Capability build-out.*** Invest in key supply chain capabilities, including visibility and monitoring, alternative business operating models, alternative supplier sourcing strategies, network flexibility, and agile planning.
3. ***Intelligence monitoring.*** Implement risk monitoring and reporting tools and an early warning system that enables a rapid early response to risks or disruptions. Undertake new product risk assessments and look for changes in demand and supply. Conduct ongoing risk and controls assessments, including systems and facility risk and cyber reviews.
4. ***Operating procedures***. Put in place a Plan B for disruptive events, covering operating procedures and responses to predefined supply disruption triggers, such as a natural disaster or terrorist attack. Work to ensure there is clear delegation of authority and decision-making and that external and internal communication protocols are in place.

5. ***Major crisis management.*** Put in place a crisis management framework for major events where predefined responses will be inadequate. This should be accompanied by governance procedures, a desired operating model, and standard ways of working.

No one can predict the entire social and economic impact of the COVID-19 outbreak – or, indeed, of any event with global impact. Nevertheless, it has served as a reminder to businesses that the risk of an unexpected disruptive event is ever-present, and if they want to continue to serve their customers and communities during a period of disruption, they need to be proactive in their planning.

These are steps companies can take now to help ensure their supply chains are transformed in ways that help them function effectively, even when stressed and stretched by unexpected global events. It's not simply about protecting profits. The resilience of supply chains is critical to securing people's health and well-being all over the world.

Recommendations Moving Forward

1. To successfully improve a supply chain, healthcare executives should also use effective technologies, which also need to be supported by strong analytics. Implementing data analytics and automation tools can help make supply chain management a less difficult process.
2. Establish an N95/APR/PAPR fit test protocol and PPE donning and doffing training for all staff. Personal protective equipment (PPE) is critical for frontline healthcare workers to effectively treat and prevent the coronavirus. All stakeholders must work to help appropriately anticipate needs and preserve PPE and other critical products for healthcare providers to help avoid disruption. Group purchasing organizations (GPOs) are working alongside hospitals and other providers to provide critical support and equip them to prepare for surge needs in response efforts.
3. Improve order accuracy and order cycle times to lower costs. Healthcare providers sometimes struggle with a large error rate associated with ordering processes. When the wrong products are ordered, revenue is lost, and sometimes facilities don't have the products they need to deliver services. Ordering errors can also lead to medication errors. This can lead to poor health outcomes.
4. Develop effective inventory management. The lack of a sound capital equipment management system can add significant costs—causing underutilization of existing equipment or over-ordering.
    a. Determine normal "burn rates," as well as forecast emergency "burn rates" for resources.
    b. Establish "par levels" for both routine and critical resources as well as trigger points for reordering.
    c. Maintain an emergency cache of PPE packaged in kits, on-site for emergency outbreaks
5. Manage contracts carefully. For many providers, it's easy to let supply chain contracts fall through the cracks once they hand the contracting processes over to group purchasing organizations (GPO)[i]. Most hospitals use GPOs to take care of contracts.
    a. Organizations need to have pre-awarded contingency contracts for all types of resources to support normal and emergency operations.
    b. Always maintain primary, secondary and tertiary vendors in each resource category.
    c. Vendor-managed inventories are desirable but difficult always to negotiate or have vendors agree to terms. Most vendors will request a "retainer."

6. If organizations do not have ON-SITE, full power emergency generators, they need to award a contingency contract for a 12-hour or less response time.
7. Organizations need to have pre-negotiated MOU's or contract for staff augmentation during emergencies

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[i]Group purchasing organizations (GPOs) are playing an important role to support our nation's healthcare providers by leveraging our unique line of sight over the supply chain. This includes helping healthcare providers, hospitals, skilled nursing homes and clinics with the use of: υ Data tracking to help pinpoint key areas of need including surge capacity. υ Supply coordination efforts – across all distribution channels – to help medical teams obtain much needed personal protective equipment (PPE), ventilators, life-saving medications and other critical inpatient and outpatient supplies. υ Safeguards to prevent cybersecurity attacks, price gouging and counterfeit product. υ Public / private partnerships including but not limited to Department of Health and Human Services (HHS); U.S. Food and Drug Administration (FDA); Drug Enforcement Administration (DEA); Assistant Secretary for Preparedness and Response (ASPR); and Federal Emergency Management Agency (FEMA). υ Upstream transparency initiatives to help support all functions of the healthcare delivery system in response to COVID-19. υ Thought leadership to help stakeholders mitigate unintended drug shortages.

Summary

Traditional supply chain structures are optimized for cost and are not equipped to cope with an increasing number of unplanned disruptions effectively. To build resilient supply chains, enterprises should focus on building capabilities to prepare, sense, and respond to future disruptive events.

Florida Region 3 Healthcare Coalition Alliance
Appendix E: Supply Chain and Logistics Project
SOURCE REFERENCE DOCUMENTS

The majority of this project's data came from personal knowledge and experience, industry standards, and algorithms, references and training were developed by 5PL Disaster Consulting LLC in partnership with Critical Integrated Solutions.

- "Logistics Operations Management" Training Course Author: Charles F. Hagan
  Training course developed in 2001 for the State of Florida, adopted nationally, in 2006
- "Logistics Capability Assessment Tool" Facilitated Sessions. Author: Charles F. Hagan
  Concept recommended to FEMA in 2006 following the hurricanes of 2004 and 2005, including Katrina. Brought on as project advisor consulting for the Federal Emergency Management Agency in 2007 and released in 2008 *Logistics Capability Assessment Tool (LCAT) User Guide ...*
- "Resource Gap Analysis" A Facilitation training tool. A process conducted over 30 times across Florida for counties and state agencies.
  Gap Matrix developer and Course Author: Charles F. Hagan
  Developed in 2001 for the State of Florida in preparation for Emergency Management Accreditation Program (EMAP) www.emap.org; NIMS Compliance Assistance Support Tool (NIMSCAST); and federal Target Capabilities List (TCL)

For purposes of upholding continuity with industry and local, state, and federal guidelines, additional open-source reference documents came from

- U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (n.d.). CDC Pandemic Tools. *(Multiple source documents)*
  - CDC. Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal, and Territorial Public Health (updated 2019)
  - CDC. Supply Chain Disaster Preparedness Manual
- FEMA. Business Continuity Plan
- FEMA. Developing and Maintaining Emergency Operations Plans
- FEMA. Supply Chain Resilience Guide
- State of Florida, Department of Health - Strategic National Stockpile (SNS). Charles F Hagan, Committee Member and Logistics Consultant
- The Association for State and Local Health Officials (ASTHO)
- The 2017-2022 Healthcare Preparedness and Response Capabilities *(Capability 3, Objective 3, Activity 1- Assess Supply Chain Integrity), Page 62.*
- Multiple documents and templates were provided for our use by the Northeast Florida Regional Council.
  Office of the Assistant Secretary for Preparedness and Response (ASPR)
  Technical Resources, Assistance Center, and Information Exchange (TRACIE)
  - ASPR TRACIE Coalition Gap and Resource Analysis Tool
  - ASPR TRACIE Hospital Pharmacy Disaster Calculator
  - ASPR. RISC Toolkit
  - ASPR TRACIE Topic Collection: Hazard Vulnerability/Risk Assessment

  - ASPR TRACIE Topic Collection: Incident Management
  - ASPR. Coalition Emergency Management Program
  - ASPR. The Healthcare Coalition in Emergency Response and Recovery
  - ASPR TRACIE Healthcare Coalition Resource and Gap Analysis Tool
  - ASPR TRACIE Topic Collection: Coalition Models and Functions
  - ASPR TRACIE Topic Collection: Healthcare Coalition Development and Organization
  - ASPR TRACIE Topic Collection: Information Sharing
- U.S. Department of Health and Human Services. (2017). Pandemic Influenza Plan: 2017 Update.
- B2B eCommerce Vendor Managed Inventory program
- Global Supply Chain Disruption and Future Strategies 29 September 2020 Blog
  Authors: Ann Marie Uetz James R. Kalyvas Vanessa L. Miller Kathleen E. Wegrzyn
  Published To: Dashboard Insights Health Care Law Today Manufacturing Industry Advisor Renewable Energy Outlook Coronavirus Resource Center
- Kaiser Permanente. Hazard Vulnerability Assessment Tool
- Northern Utah Healthcare Coalition. Resource Management and Sharing Template
- Crisis Event Response and Recovery Access (CERRA) Framework
- Health Industry Distributors Association (HIDA)
- Healthcare Distribution Alliance (HAD)
- Healthcare Ready. Access Denied: Delivery of Critical Healthcare Products and Personnel to Disaster Sites

Region 3 Healthcare Coalition Alliance

2019 Supply Chain Integrity Assessment Report

Overview

Supply chain integrity is a vital part of any effective response. Lessons learned from previous events have exposed gaps in the healthcare supply chain. Across the nation, healthcare coalitions have been charged with leading an effort, in collaboration with healthcare organizations, manufacturers and distributors, to assess their community's supply chain strengths and vulnerabilities, including access to critical supplies, the amounts available within our healthcare system, and alternate delivery options. This survey is the first step in that process.

In Phase I of this project, we are asking for feedback from in-patient facilities, such as hospitals, skilled nursing, nursing and long-term care facilities. In future phases, we will collect the data from other healthcare partners and from manufacturers and distributors. The data will be aggregated and used to identify gaps and vulnerabilities, and to develop mitigation strategies. All information specific to your organization will be kept confidential and will be aggregated prior to being shared.

Survey Implementation

All inpatient facility members were asked to complete the survey using the Survey Monkey tool. Members were provided with the survey in Microsoft Word and pdf, for planning purposes, but only one person from a facility entered the data into Survey Monkey. Facilities with multiple locations were asked to complete the survey for each location that had independent supply ordering processes.

Results

Responses were received from 52 facilities; 15 hospitals, 29 long-term care; 1 behavioral health, 1 home health, 1 primary care, and 5 listed as other.

Results were compiled for each supply chain area. These results were provided to the Board of each HCC for discussion and approval.

This data will be used to identify areas where the Alliance might mitigate future supply chain issues.

Healthcare Coalition Alliance
Region 3

Supply Chain Assessment Preliminary Results

Most Commonly Used Vendors for In-Patient Facilities

Transportation

Century Ambulance	13
Liberty Ambulance	9
Leopard Transport	6
MedTrust	4
Annett	4

Fuel

Gate Fuel Services	7
Paul Murray Oil Company	6
Lewis Oil Company	4
Telco Gas & Apache Oil	3
Sawyer Gas	3
Defords Fuel and Oil	3

Medical Gas

AirGas	10
Praxaire-Nexaire	6
North Florida Medical Sales	3

Blood and Blood Products

One Blood	6
Life South	5
Blood South	2
American Health Associates	2

Hazardous Waste

Stericycle	27
Secure Waste	3
Trilogy Medical Waste	2

Biomedical Equipment

McKesson	5
Agility Health	4
Medilogix	3
Stericycle	3
US Med	3

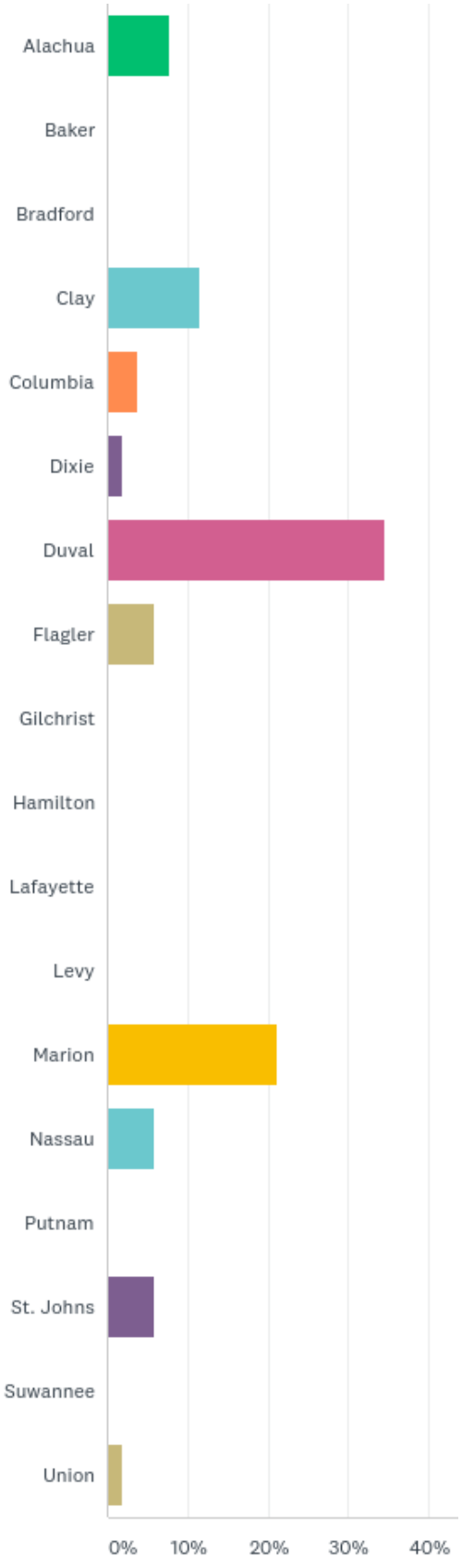
Disposable Supplies

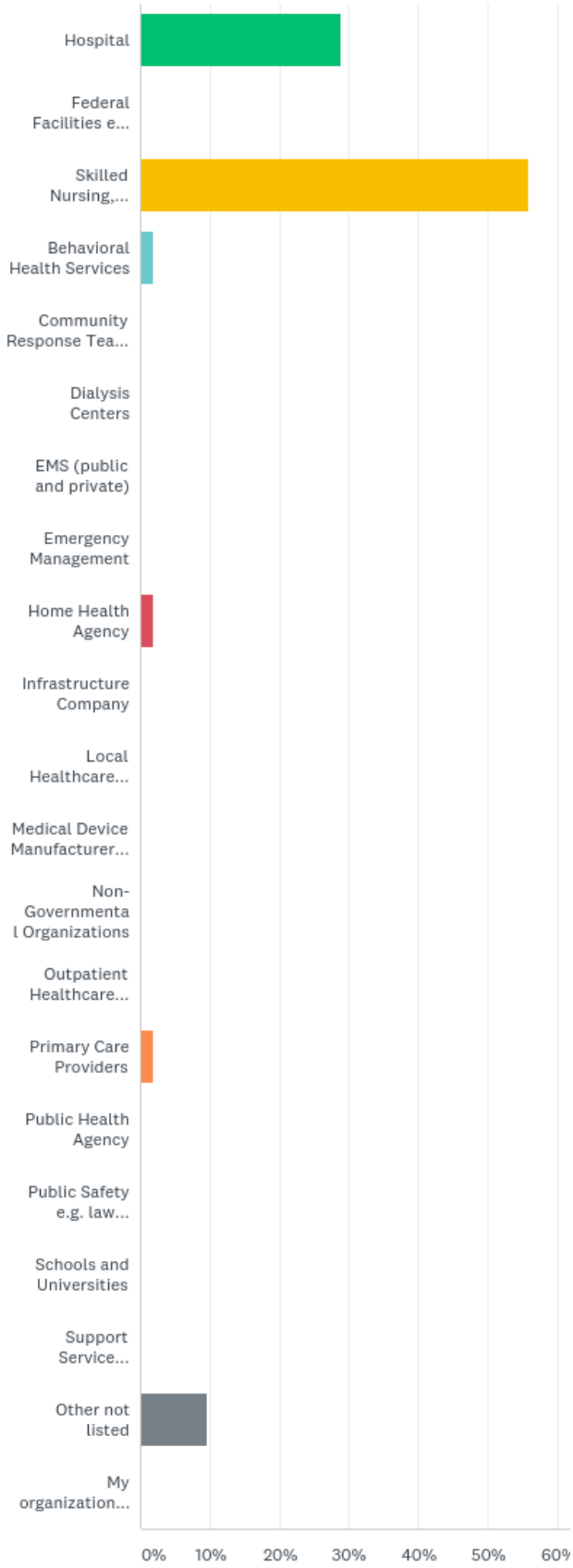
Medline	12
Direct Supply	8
Owens & Minor	7
McKesson	6

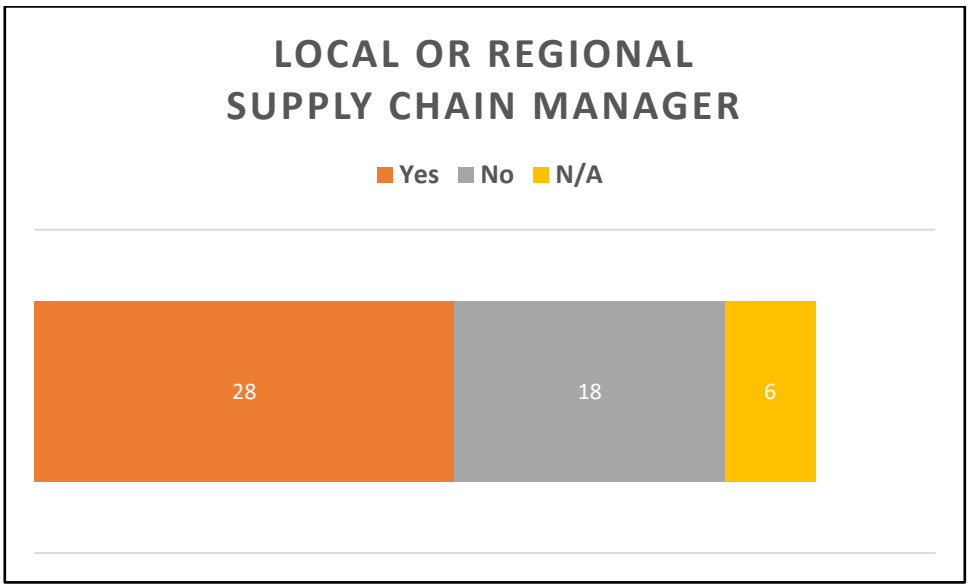
PPE

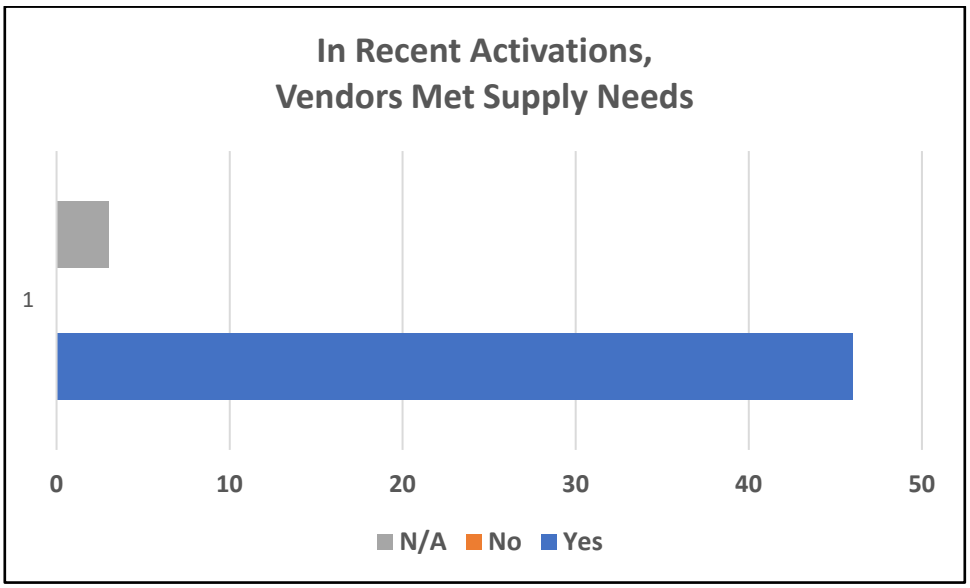
Medline	18
McKesson	10
Owens & Minor	7
Direct Supply	6

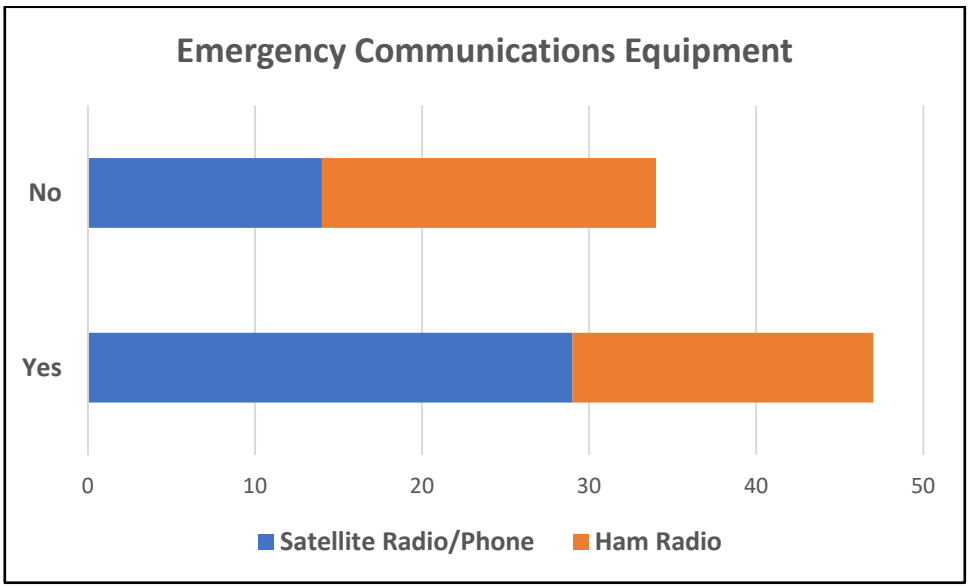
Facility Types Responding to Survey






LOCAL OR REGIONAL
SUPPLY CHAIN MANAGER
Yes
No
N/A
28
18
6


In Recent Activations,
Vendors Met Supply Needs
1
0
10
20
30
40
50
N/A
No
Yes


Emergency Communications Equipment
No
Yes
0
10
20
30
40
50
Satellite Radio/Phone
Ham Radio

Supply Chain Integrity Assessment

Region 3 Healthcare Coalition Alliance

Supply chain integrity is a vital part of any effective response. Lessons learned from previous events have exposed gaps in the healthcare supply chain. Across the nation, healthcare coalitions have been charged with leading an effort, in collaboration with healthcare organizations, manufacturers and distributors, to assess their community's supply chain strengths and vulnerabilities, including access to critical supplies, the amounts available within our healthcare system, and alternate delivery options. This survey is the first step in that process.

In Phase I of this project, we are asking for feedback from in-patient facilities, such as hospitals, skilled nursing, nursing and long-term care facilities. In future phases, we will collect the data from other healthcare partners and from manufacturers and distributors. The data will be aggregated and used to identify gaps and vulnerabilities, and to develop mitigation strategies. All information specific to your organization will be kept confidential and will be aggregated prior to being shared.

Region 3 Survey Monkey Link: https://www.surveymonkey.com/r/BGDBWQ6

Instructions: Please answer all questions. If the category does not apply to your organization, use N/A. The assessment is also provided in a Word document for review and preparation prior to completing the online survey. Only complete one survey per facility or agency.

1. **Member Type:** Select the appropriate type

Hospital	Local Healthcare Professional Organization
Federal Facilities e.g. VA Hospital	Medical Device Manufacturers and Distributors
Skilled Nursing, Nursing, or Long-Term Care	Non-Governmental Organizations
Behavioral Health Services	Outpatient Healthcare Delivery Centers
Community Response Teams: CERT or MRC	Primary Care Providers
Dialysis Centers	Public Health Agency
EMS (public and Private)	Public Safety e.g. law enforcement & fire
Emergency Management	Schools and Universities
Home Health Agency	Support Service Providers
Infrastructure Company	Other not listed

2. Facility Name:

3. Your Name:

4. Email Address:

5. Does your organization have a local supply chain manager?

6. Does your organization have a regional/corporate supply chain manager?

Considering activations in recent years (hurricanes, tropical storms, facility-based emergency):

7. Did your vendors meet your supply needs?

8. Were your needs met in a timely manner?

9. What were your main supply challenges?

10. Based on your experience, where do you see the next supply challenge?

11. Communications: Does your facility use the following for emergency communications?

a. Satellite radio/phone

b. Ham Radio

c. Other (please list)

12. Transportation Services Contracts/Agreements. Please list your transportation evacuation companies:

a. .

b. .

c. .

13. Medical Gas Supplier Contract/Agreements. Please list your medical gas suppliers:

a. .

b. .

c. .

14. Fuel Supplier Contract/Agreements. Please list your fuel suppliers:

a. .

b. .

c. .

15. Biomedical Equipment (e,g, monitors, ventilators) Contracts/Agreements. Please list your biomedical equipment suppliers:

a. .

b. .

c. .

16. Disposable Supply Distributors or Manufactures Contracts/Agreements. Please list your disposable supplies distributors:
    a. .
    b. .
    c. .
17. PPE Distributors or Manufactures Contracts/Agreements. Please list your PPE distributors and manufacturers:
    a. .
    b. .
    c. .
18. Blood and Blood Products Contracts/Agreements. Please list your blood and blood product suppliers:
    a. .
    b. .
    c. .
19. Hazardous Waste Removal Services Contracts/Agreements. Please list your hazardous waste removal vendors:
    a. .
    b. .
    c. .

Thank you for completing the Supply Chain Assessment Survey.
Responses will be analyzed and aggregated. Only aggregated data will be shared with the Coalition. No individual facility information will be shared.