

DISASTER HEALTHCARE SUPPLY CHAIN

In the US, the healthcare supply chain is confronted with countless small to large emergencies every day. This fact sheet is intended to provide an overview of the emergency planning and response considerations for primary all-hazards, often of concern to healthcare supply chain owners and operators. It is not intended to be a comprehensive listing but aims to capture what changes during events compared to normal supply chain operations.

PUBLIC HEALTH EVENTS

Public health events impact the healthcare supply chain by creating both spikes and sustained demand for products. These events include disease outbreaks (of both commonly occurring diseases and emerging diseases) and biological attacks. The supply chain implications differ from those of a natural hazard in that public sector partners – via public health departments, Federal health authorities, and the Strategic National Stockpile – all play a larger role.

| PLANNING CONSIDERATIONS | RESPONSE CONSIDERATIONS |
|---|--|
| <p>Reconciling role of commercial supply chain vs. the Strategic National Stockpile (SNS):</p> <p>Healthcare facilities, commercial supply chain components, and regional SNS leads should be clear on triggers, thresholds, and administrative processes of engaging the SNS.</p> | <p>Nontraditional, sustained demand:</p> <p>During public health events, demand for medicines, medical products, and PPE can come from non-patient care facilities. This can result in over demand and unnecessary competition between healthcare facilities and non-patient care facilities.</p> |
| <p>Anticipating common supply needs:</p> <p>Due to a sustained response period, sustained demand for select products is common during disease outbreaks. During the H1N1 outbreak of 2009, demand for personal protective equipment (PPE) increased drastically.</p> | <p>Coordinating with public health:</p> <p>Public health authorities play a critical role in the response to a public health event, issuing decisions and guidance that can directly impact supply chain demands and operations.</p> |
| <p>Stockpiling non-medical products:</p> <p>Hazmat suits, not typically stocked in large quantities by medical suppliers, may need to be available for healthcare workers responding to a contagious disease outbreak. Contacts with these industries need to be established.</p> | <p>Customer behavior – over ordering:</p> <p>Customers may order 200-300% more than a typical order and/or place orders with multiple suppliers which can create untenable demand for product, inefficiencies in the supply chain, and delays in fulfillment.</p> |

MAN-MADE HAZARDS

Man-made hazards are a more nebulous category of disasters, including cyber-attacks, terrorism, and unintentional catastrophes like an oil spill, amongst others. As this category is less uniform, each event’s potential strain on the healthcare supply chain is even more unpredictable than previous categories and extends beyond the scope of this fact sheet.

| PLANNING CONSIDERATIONS | RESPONSE CONSIDERATIONS |
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| <p>Agility in responding to needs:</p> <p>At each point in the supply chain, planning must take an all-hazards approach that covers man-made hazards, to include maintaining relationships with public sector partners</p> | <p>Mitigating or adjusting to impacted staff:</p> <p>Staff absenteeism along the supply chain during a terrorist event may occur. This is primarily challenging for distributors requiring staff for deliveries.</p> |
| <p>Forecasting needs:</p> <p>As with natural hazards and public health events, supply chain components work during ‘blue skies’ to anticipate needs.</p> <p>For example, facilities that provide direct patient care may respond to an event by implementing altered standards of care (i.e. crisis standards of care) which can impact their supply needs. Supply chain components can work with healthcare facilities to understand supply needs for these situations, even without knowing the exact event that brings them on.</p> | <p>Securely transporting deliveries:</p> <p>Distributors may work closely with law enforcement to ensure secure deliveries, especially during an event in which medical countermeasures (MCMs) are being implemented and need to be delivered to facilities.</p> <p>Facility access may be a challenge for third-party logistics providers transporting supplies in unmarked vehicles. In the event of a heavily policed event such as a terrorist attack, additional precautions would be taken to verify the origin of delivery vehicles.</p> |
| | <p>Awareness of customer needs:</p> <p>Efficient lines of communication between distributors and their impacted customers are necessary, as the supply needs may be atypical. When MCMs are not available or necessary for the event, facilities must communicate their unique supply needs if triaging a surge in patients.</p> |

NATURAL HAZARDS

While they vary from region to region, natural hazards have the potential to impact the healthcare supply chain in every region of the US. Common hazards include hurricanes, snowstorms, tornadoes, and earthquakes. For both events with notice and those without, logistical experts along the healthcare supply chain are involved with various coordinating efforts for response and recovery.

Notice Events: Events with notice, like hurricanes and snowstorms, allow for anywhere between a few hours to a few days to plan for inventory needs. Distributors and last mile logistics providers are typically the most impacted by these kinds of events

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| <p>Ability to meet surge in demand for multi-day delivery:</p> <p>Healthcare facilities will increase order quantities for anticipated events and supply chain components.</p> | <p>Access and re-entry:</p> <p>Security perimeters established by law enforcement and damage to routes and facilities can impact drivers' ability to make deliveries, a problem for distributors. Closures and evacuation zones can prevent unauthorized personnel from entering disaster sites. Critical personnel at all levels (including delivery drivers and healthcare facility staff) need proper identification and registration.</p> |
| <p>Communicating to customers:</p> <p>Distributors often offer to provide inventory consultation to their customers, gauging their needs and allowing them to place advance orders to prepare for the event.</p> | <p>Alternative ordering:</p> <p>For catastrophic events, customers often place larger orders than usual and/or may need to use alternative methods for submitting orders, such as through a paper-based system if telecommunications are down.</p> |

Natural Hazards, continued

| PLANNING CONSIDERATIONS | RESPONSE CONSIDERATIONS |
|---|--|
| <p>Coordinating with public sector:</p> <p>It is important that supply chain components have relationships and share information with emergency management and law enforcement before an event, that they “know who to call.” They must also liaise with these contacts to establish a rapport before an event happens.</p> <p>Facilities need to be familiar with established public sector protocols for submitting support requests to ESF-8.</p> | <p>Alternative transportation and routes:</p> <p>Identifying navigable routes for delivery vehicles, and even potentially alternative delivery sites, is a common need for distributors during emergencies. Special consideration is also given to the type of vehicle needed, such as high-water vehicles.</p> |
| <p>Pre-positioning supplies:</p> <p>Supply chain components, distributors in particular, will often increase product inventory in warehouses and onsite at customer facilities, when possible.</p> <p>Distributors will often pre-position trucks with supplies along highways in order to get into the disaster zone promptly after an event.</p> | <p>Collaborating with manufacturers:</p> <p>Products may need to be redirected, or surges in demand may exceed expectations. For many reasons, distributors will be in close communication with manufacturers.</p> |
| | <p>Coordinating with public sector:</p> <p>Public health (ESF-8) typically receives information about supply needs from a facility, and mainly engages with distributors after healthcare facilities report an expected lag in availability of a needed product.</p> |

Natural Hazards, continued

No-Notice Events: Natural disasters with little to no notice, such as earthquakes and tornadoes, leave less room for the supply chain to prepare. They require an agile industry that can work quickly to respond to potential impacts.

N.B: Information in this section applies to natural disasters without notice. For other no-notice events, such as chemical, biological, radiological, and nuclear (CBRN) events, refer to the “Public Health Events” and “Man-made Hazards” sections.

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|---|--|
| <p>Anticipating spike in demand of select products:</p> <p>For some predictable, but limited notice events, supply chain components can forecast needs (e.g. wound and acute care supplies for tornadoes.)</p> | <p>Feasibility of surge production or deliveries:</p> <p>Depending on the event, rapid surges in production may be needed and challenging. There is a similar need and challenge for expedited deliveries.</p> |
| <p>Contacts pre-established:</p> <p>Contacts with between distributors and facilities and the public sector (e.g. emergency management, law enforcement, public health) are critical for planning the response to both predictable and unpredictable events with limited notice.</p> | <p>Existing supply is what is available:</p> <p>In areas that are hard to reach, facilities will have to make do with what they have. This may influence the crisis standards of care or rationing of supplies.</p> |
| | <p>Partnerships across relevant supply chains:</p> <p>Relationships with all components of the healthcare supply chain (e.g. linen, blood, etc.) as well as other sector supply chains (e.g. fuel, food, etc.) may be leveraged for ad hoc solutions.</p> |