

Securing the Medical Supply Chain: Setting the Stage

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“When a disaster hits, Americans rely on a fragmented healthcare system to miraculously mount a timely, cohesive, and effective recovery effort. Yet, the carefully orchestrated and sequenced medical responses to disasters lean on a disjointed health system.”

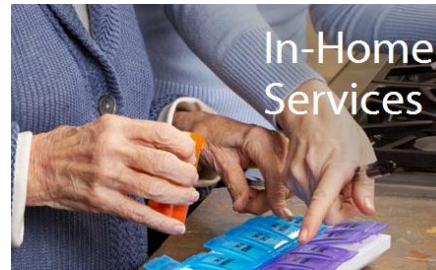
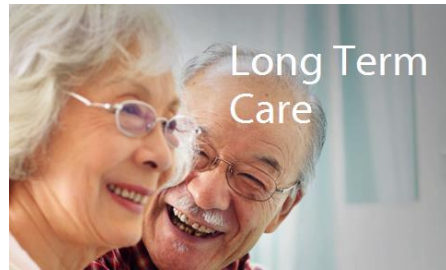
Closing the Seams: Developing an integrated approach to health system disaster preparedness,
Price Waterhouse Coopers - HRI, 2007



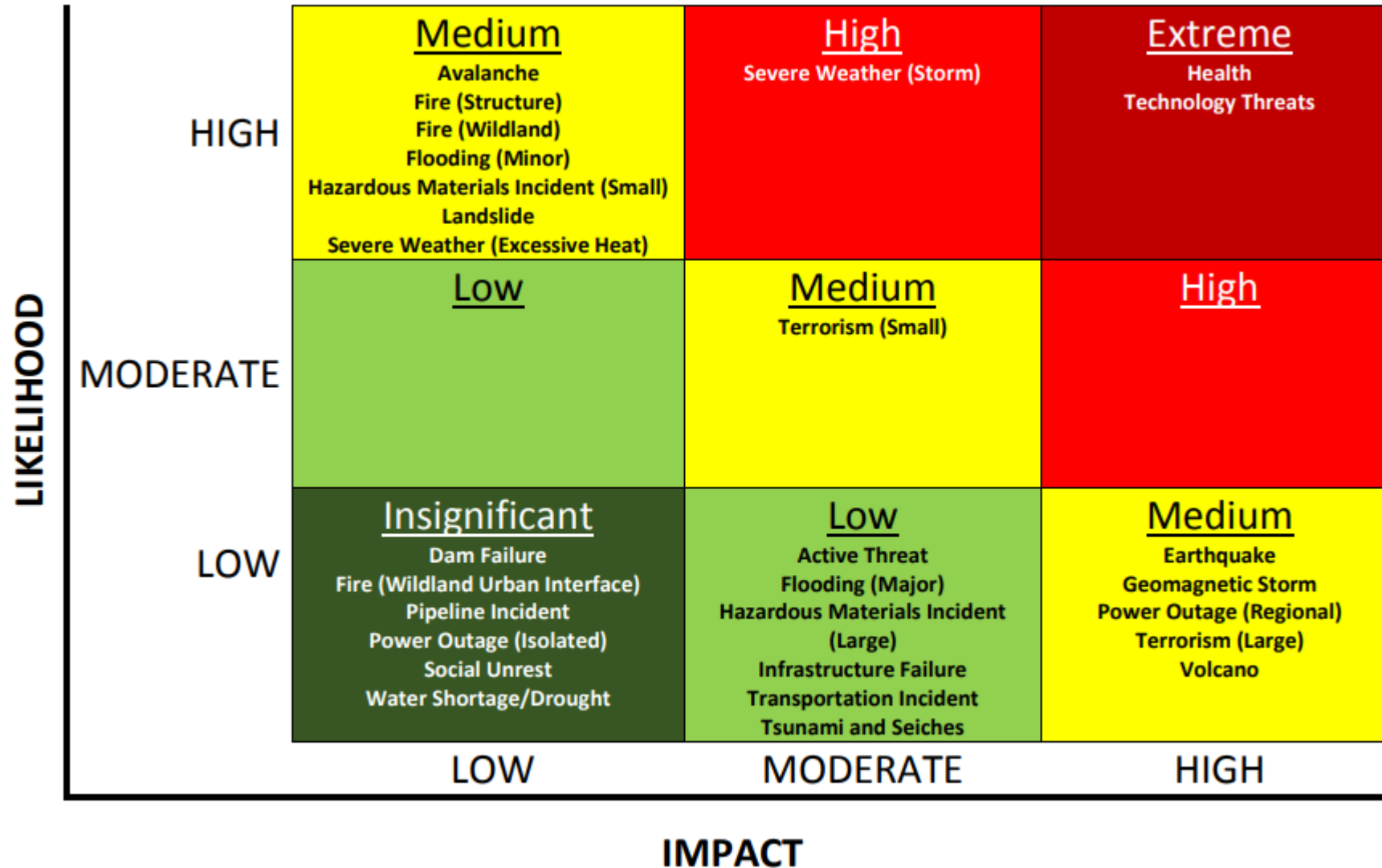
Healthcare Delivery System: Complex and Vital

In Washington...

- More than 7000 healthcare delivery organizations
- Approximately 430,000 licensed healthcare providers



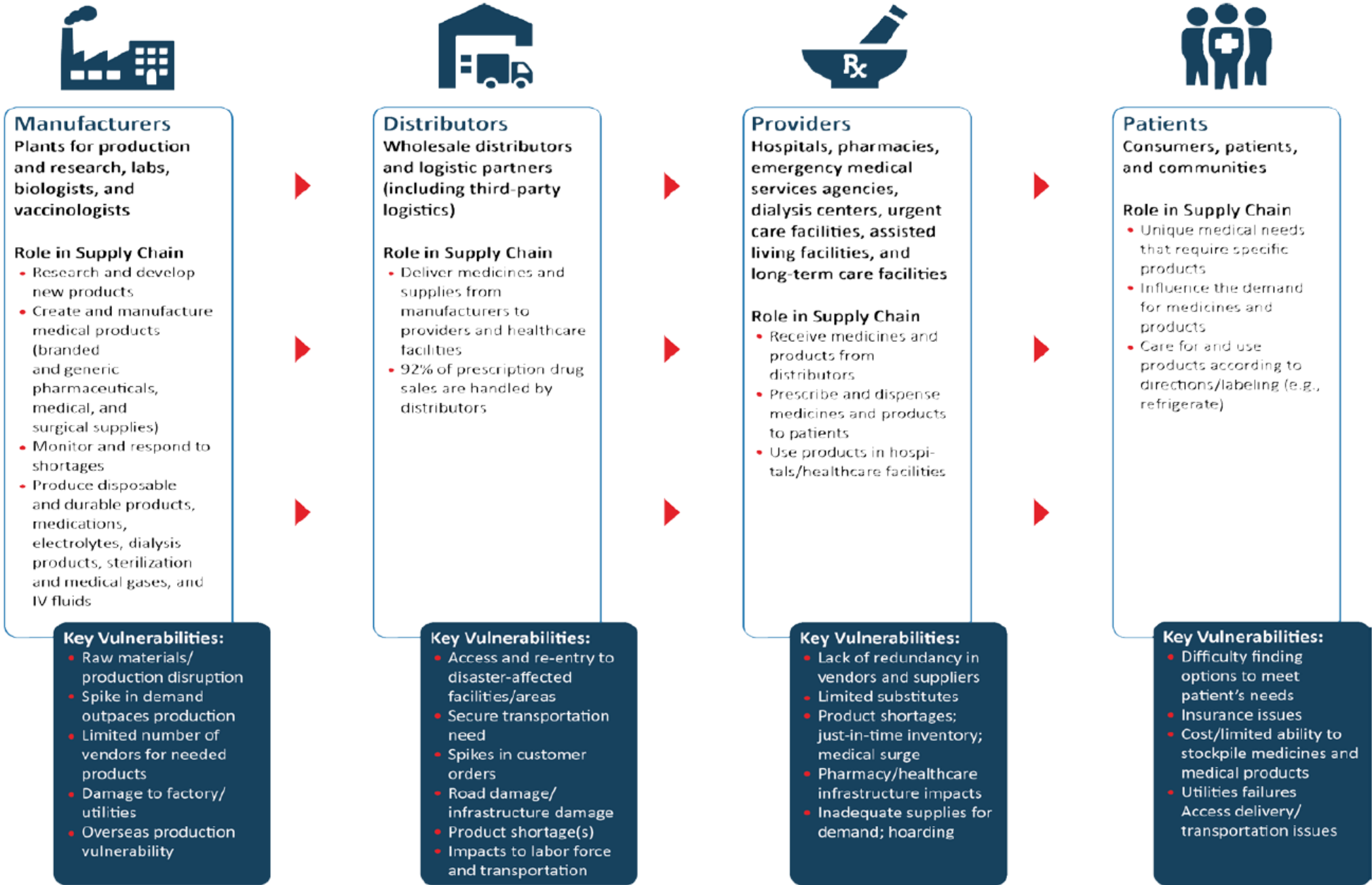
Hazards for Healthcare Delivery System



Source: Northwest
Healthcare
Response
Network
Healthcare HVA
2017



Healthcare Supply Chain Under Normal Operations



Courtesy: ASPR
TRACIE “Partnering
with Healthcare
Supply Chain 2019”

Day to Day Supply Chain Challenges

- **Industrial:** e.g. work stoppages, fluctuating transportation costs, fuel supply issues, geopolitical events, market forces, technological failures, etc. These are especially impactful to production and manufacturing
- **Operational:** production or supply problems such as lack of raw materials, or machine parts, regulatory actions (incl product recall), manufacturing timeframes, product liability challenges, just in time ordering processes, disparate product cycles, data silos between suppliers and providers
- **Just in time or low unit of measure programs:** Frequently relied on by healthcare from their distributors; help reduce costs but lead to fragile supply-demand relationships
- **Consumer or provider brand (or product) preferences for medications, equipment; consumer distrust in novel medications/vaccines**



Supply Chain Hazards, Threats, Vulnerabilities

Healthcare Supply Chain relies on many variables: raw material availability, machinery, parts, workforce, standards compliance, regulatory requirements, contracts, critical infrastructure (power, water, telecommunications, multi-modal transportation, etc)

Many hazards can create or exacerbate these vulnerabilities globally and locally:

Natural Disasters: hurricanes, snowstorms, wildfires, floods, earthquakes

Human Caused Disasters: e.g. cyber attacks, acts of terrorism, oil-spills, transportation incidents, etc

Public Health Threats: e.g. biological threats naturally occurring and intentional attacks

Adapted from ASPR TRACIE "Partnering with Healthcare Supply Chain 2019"





Distributors

Wholesale distributors and logistic partners (including third-party logistics)

Role in Supply Chain

- Deliver medicines and supplies from manufacturers to providers and healthcare facilities
- 92% of prescription drug sales are handled by distributors

Key Vulnerabilities:

- Access and re-entry to disaster-affected facilities/areas
- Secure transportation need
- Spikes in customer orders
- Road damage/ infrastructure damage
- Product shortage(s)
- Impacts to labor force and transportation



Manufacturers

Plants for production and research, labs, biologists, and vaccinologists

Role in Supply Chain

- Research and develop new products
- Create and manufacture medical products (branded and generic pharmaceuticals, medical, and surgical supplies)
- Monitor and respond to shortages
- Produce disposable and durable products, medications, electrolytes, dialysis products, sterilization and medical gases, and IV fluids

Key Vulnerabilities:

- Raw materials/production disruption
- Spike in demand outpaces production
- Limited number of vendors for needed products
- Damage to factory/utilities
- Overseas production vulnerability



Providers

Hospitals, pharmacies, emergency medical services agencies, dialysis centers, urgent care facilities, assisted living facilities, and long-term care facilities

Role in Supply Chain

- Receive medicines and products from distributors
- Prescribe and dispense medicines and products to patients
- Use products in hospitals/healthcare facilities

Key Vulnerabilities:

- Lack of redundancy in vendors and suppliers
- Limited substitutes
- Product shortages; just-in-time inventory; medical surge
- Pharmacy/healthcare infrastructure impacts
- Inadequate supplies for demand; hoarding



Patients

**Consumers, patients,
and communities**

Role in Supply Chain

- Unique medical needs that require specific products
- Influence the demand for medicines and products
- Care for and use products according to directions/labeling (e.g., refrigerate)

Key Vulnerabilities:

- Difficulty finding options to meet patient's needs
- Insurance issues
- Cost/limited ability to stockpile medicines and medical products
- Utilities failures
Access delivery/
transportation issues

Many efforts to support supply chain resilience

- Office of the Assistant Secretary for Preparedness and Response (ASPR)
 - National Healthcare System Preparedness Program
 - Strategic National Stockpile
 - Critical Infrastructure Protection Program
 - Biomedical Advanced Research and Development Authority
 - ASPR TRACIE
- Federal Emergency Management Agency
- Centers for Disease Control
- Food and Drug Administration
- Numerous private sector efforts among manufacturers, distributors, etc
- Local healthcare coalitions!

Northwest Healthcare Response Network

We lead regional healthcare collaboration to effectively respond to and recover from emergencies and disasters.

So that...

Our patients and communities get the care they need during and after emergencies and disasters.



Building resilience locally

- Statewide healthcare supply chain workgroup
- Information sharing and situational awareness
- Strategies for resource conservation, adaptation, substitution, etc for key supplies
- Disaster formularies
- Statewide and locally planning for logistics, critical infrastructure recovery, transportation access, credentialing, etc post disaster

Thank you!

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