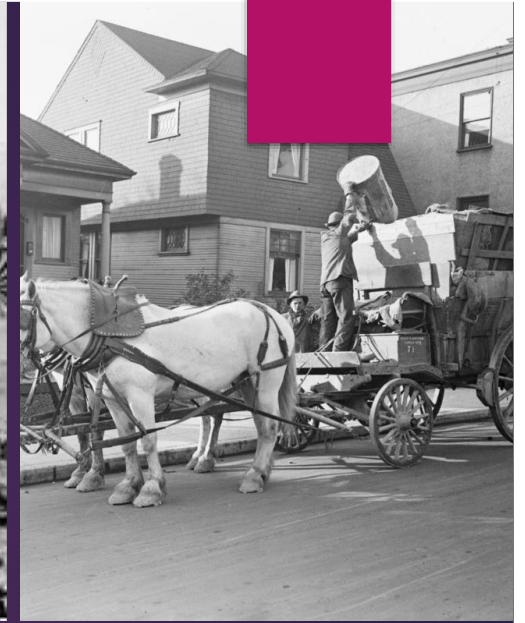


Securing the Medical Supply Chain

CURRY MAYER
EMERGENCY MANAGEMENT
BELLEVUE

What does Emergency Management have to do with it?

- ▶ What?
- ▶ Why does this matter to you?
- ▶ Disruption!
- ▶ How do we approach solutions?
- ▶ Cross Sector Engagement



Earthquake, Tsunami, Power Outage! Oh My!

- ▶ May happen all together
- ▶ Cascading effects
- ▶ Long term recovery
- ▶ Major critical infrastructure damage
- ▶ And there was a really big snowstorm...



9.5 Earthquake – Chile vs. Cascadia



- ▶ Cascadia fault is 620 miles vs. Valdivia quake in Chile 621 miles
- ▶ 1960 Valdivia quake left 2 million people homeless
 - ▶ 3000 injured, 1,655 killed
 - ▶ Adjusted for inflation more than \$2 billion in damages
 - ▶ Accompanied by tsunami that reached New Zealand, Japan, Philippines, & Hawaii – (Hilo, HI 61 people died)
- ▶ Cascadia fault will produce a tsunami – coastal rescue or delivery of resources will be delayed or impossible
- ▶ Population today more dense than 1960
- ▶ How long until we are able to move resources?

Long Term Widespread Power Outage

- ▶ Triple threat; solar storm, electro-magnetic pulse (EMP), cyber attack
- ▶ A month or more – Western grid=western states or all 50 states
- ▶ Virtually every type of infrastructure will be impacted
- ▶ Many circuits will be damaged and not simply able to “turn back on”

Water supply and wastewater treatment, Telecommunications and the internet, Food production and delivery, Fuel extraction, refining and distribution, Financial systems, Transportation and traffic controls (land and air traffic), Government (including fire, police, emergency medical services and public works), Hospitals and healthcare, Supply chains



Tsunami

- ▶ 12/26/2004, one of the deadliest tsunamis in recorded history- off the west coast of Sumatra, Indonesia.
- ▶ Followed 9.1 earthquake – second largest in recorded history!
- ▶ Coasts of 11 countries
- ▶ 275,00 deaths from direct effects
- ▶ Afterward, people affected by disease, lack of shelter & no clean water



Pre and Post Earthquake Buildings...



Christ Church

Post Earthquake Road Damage



Alaska, 2011

Critical Infrastructure Sectors

- ▶ Critical infrastructure Sectors are the systems which make up the Nation's security, public health and safety, and economic vitality every day.



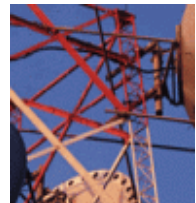
Chemical sector



Manufacturing



Energy



Communications
IT



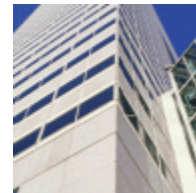
Defense
industrial
base



Agriculture



Healthcare
Public Health



Commercial
Facilities



Financial
Services



Govt Facilities



Nuclear



Dams



Emergency
Services



Transportation



Water

Four Critical Infrastructure Lifelines

Water, Energy, Transportation, Communication

- ▶ Essential systems - without which public health, safety, and economic security cannot exist...
- ▶ Four main factors that define lifelines:
 - ▶ Necessary Services
 - ▶ Disruption life-threatening□
 - ▶ Interconnected within & across multiple sectors
 - ▶ Disruption may effect others with cascading effects
- ▶ **Do Disasters Impact these lifelines?**
- ▶ **How are lifelines related to the medical supply chain?**

We Are All Connected...

- ▶ Interdependencies - Lifelines do not operate in a silo; they are highly interconnected and dependent on one another
- ▶ At the Federal level
 - ▶ Cross-sector risk analysis
 - ▶ Planning, and strategic interagency and industry partnership efforts
 - ▶ Effort to both defend critical infrastructure and ensure its resilience
- ▶ National Infrastructure Protection Plan
- ▶ National Cyber Strategy
- ▶ National Priorities for Infrastructure Security & Resilience

Now What? What Can You Do?

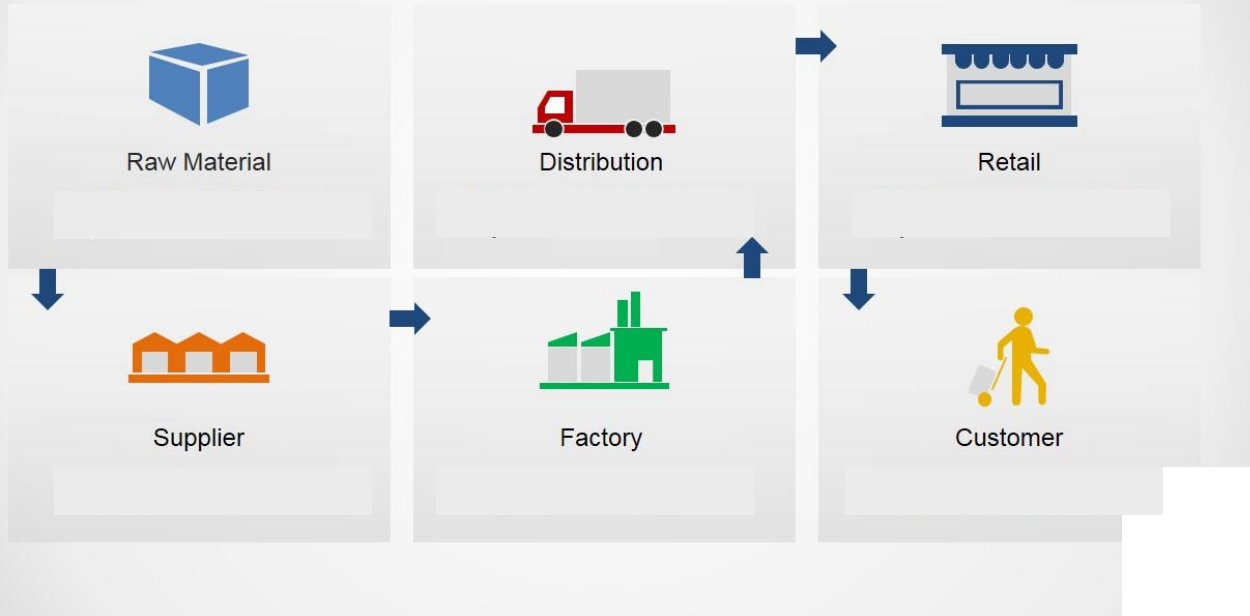
▶ **Supply chain mapping!**

- ▶ Documents the source of materials, storage, transportation and distribution of products.
- ▶ Enables transparency throughout the supply chain
- ▶ Provides insights into vulnerabilities, potential risks
- ▶ Allows for development and implementation of proactive mitigation strategies.

▶ Collaborate across sector lines

- ▶ Combine preparedness & mitigation efforts

Flat Supply Chain Diagram



Simple or Complex...



Disruption of the Status Quo!

- ▶ Should you be concerned about the resilience of the Medical Supply Chain?
- ▶ Uncomfortableness can drive action!
- ▶ Shared understanding, shared responsibility, shared actions
 - ▶ You are only as strong as your partners are
 - ▶ You must be flexible & look for ways to adapt
 - ▶ What we do in emergency management!



Securing the Supply Chain...

Questions?

Curry Mayer
Bellevue Emergency Management
425) 452-2816
cmayer@bellevuewa.gov