Local Strategic Stockpile Advance Warehouse Planning

Will Rich, MPH

San Mateo County Health
Emergency Medical Services Agency

Disclaimers

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Objective

Upon completion, attendees will gain strategies to more effectively organize their LSS by utilizing local data and addressing specific needs, enabling them to better prepare for and respond to emergencies.

Topics of Consideration

Stockpile
- What is in your stockpile?
- What is your inclusion/exclusion criteria?
- What are your local facilities storing?

Maintain
- How frequently do you rotate expired stock?
- How do you perform maintenance on products which require routine maintenance?

Updates
- How frequently do you obtain new supplies for your warehouse?
- How do you coordinate with local healthcare facilities to identify gaps?

Requests
- What is the process for requesting resources?
- How long will it take to deploy from the time of request?

Local Strategic Stockpile Overview

Local Strategic Stockpile (LSS)

- Created and maintained by Local Health Jurisdictions.
- Collaboration and coordination with Healthcare Coalitions.
- LSS strengthens medical response capabilities.
- Designed to enhance, not replace, facility stockpiles.
- Focused on local community needs.

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Warehousing During and After COVID-19

Warehousing During COVID

Resource Allocation

- Requests for PPE, personnel, vaccines, therapeutics, etc.
- Nearly 5,000,000 PPE items deployed

ReddiNet

- Bed census and availability polling
- Mass casualty incident management
- Resource requesting

Warehouse Coordination

- Contacted warehouse has custom inventory management system and resource requesting portal

Challenges from COVID

Warehouse Location

- Lease ended, not renewed due to sale of warehouse (Mid-Late 2021).
- Finding new space mid-COVID a major challenge.

Resource Requesting

- Training coalition (170+ facilities) on ReddiNet to request resources.
- ReddiNet for Resource Requesting began March 6th, 2020.

Warehouse Response

- Pickup/Delivery Logistics.
- Office Stockpile.

Post-COVID LSS Review

Successes

- ReddiNet
- Equipment tracking and inventory management
- Coalition facility site visits
- Coalition buy-in / build-out

Challenges

- Warehouse relocation
- Physical audit accuracy and timelines
- Warehouse space prohibitively expensive
- Learning a new warehouse inventory management system
  - Systems and processes all needed updating

Post-COVID Review

Review current MOUs and revise to be more specific, to include policies for prioritization against competitors, after-hours requests, audits, and stockpile rotation as well as driver and equipment availability.

Inventory Management Systems (IMS)

Stockpile Notable Practices Report

Engage private sector and hospitals/healthcare to provide input on the local stockpile contents.

Update emergency plans to follow day-to-day warehouse operations for stock rotations, after-hours access, security etc. and conduct exercises with local warehousing vendors.

Pharmaceutical Stockpile Rotation

Consider investing in additional technology to streamline rapid documentation of new inventory, such as scanners.

Warehouse Operations

Strategic National Stockpile 12-hour Push Package Product Catalog

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LOCAL STRATEGIC STOCKPILE POLICIES

Training and Exercises

Plans and Processes

Supply Chain Threats

Consider investing in additional technology to streamline rapid documentation of new inventory, such as scanners.

Identify additional warehouse and transportation options throughout the jurisdiction as backups.

Pharmaceuticals

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SERVICES
LOCAL STRATEGIC STOCKPILE POLICIES

December 2022

San Mateo County Health Emergency Medical Services
Technical Assistance
Notable Practices Report

Stockpile Notable Practices Report

Overview

The Stockpile Notable Practice report compiles important practices and lessons learned related to stockpile and warehouse management at the jurisdictional level before, during, and after disasters. The information included will inform policy and procedure development for San Mateo County Health's Emergency Medical Services. These practices are not labeled as "best practices" due to the preliminary stages of evaluation following the pandemic and nuances related to jurisdictional application of the practices. A longer-term evaluation would be needed to identify best practices for a wide range of jurisdictions.

Methodology

Notable practices and lessons learned were identified via publicly available literature from the federal, state, local, and private sectors. Four Subject Matter Experts (SMEs) were also interviewed to discuss their practices and experiences with stockpiles and warehouse operations. Lastly, identified practices and lessons learned were included from the Bay Area Urban Areas Security Initiative COVID-19 After-Action Report's small group interview about warehousing and supply chain.

Summary of Findings

The identified practices were organized into five categories: Plans and Processes, Warehouse Operations, Inventory Management System (IMS), Training and Exercises, and Pharmaceuticals. Plans and Processes highlighted alternative options for the main elements of stockpile operations – including multiple warehouse options. Warehouse access might be cut off or supplies might be destroyed in a disaster. A notable lesson learned that described by multiple SMEs was that plans often focus on the last emergency and will need to be adapted or new plans will need to be created entirely during emergencies.

The literature review and interviews indicated that there were characteristics within a warehouse which will allow for more efficient operations, such as additional space for receiving, reorganizing, and distributing inventory as it is received. This is because inventory may need to be distributed almost as soon as it is received instead of storing it within the warehouse. A key lesson learned during COVID-19 was the volume of requests and inventory received exceeded previous planning assumptions.

The IMS and Training and Exercises categories had a similar lesson learned that emphasized the need for regular training and practice for successful operations during an emergency. Because IMS software can be complicated and updated regularly, training a staff member on one of these systems often requires retraining or frequent use.

Lastly, pharmaceuticals focused on having a stock rotation plan in place to prevent expiration and medical waste. COVID-19 demonstrated the need for additional considerations for medical countermeasures such as cold chain logistics and climate-controlled warehouses.

Current Warehouse and Cache

Contracted Warehouse

- 10,000sqft contracted warehouse space.
- Mobile Medical Shelters, generators, HVACs, PPE, medical equipment, pharmaceuticals, etc.
- We have priority over all others in times of emergency

Mass Casualty Incident Trailers

- Three trailers stationed centrally within the bayside of the county.
- Deployable across the county and contains key response medical equipment and pharmaceuticals.

Medical Reserve Corps Response Trailer

- Stationed on the Coastside of SMC.
- MRC volunteers, when deployed, can use this cache to support response operations.

Office Storage Rooms

- PPE closet in main EMS office – stores a small stock of all PPE

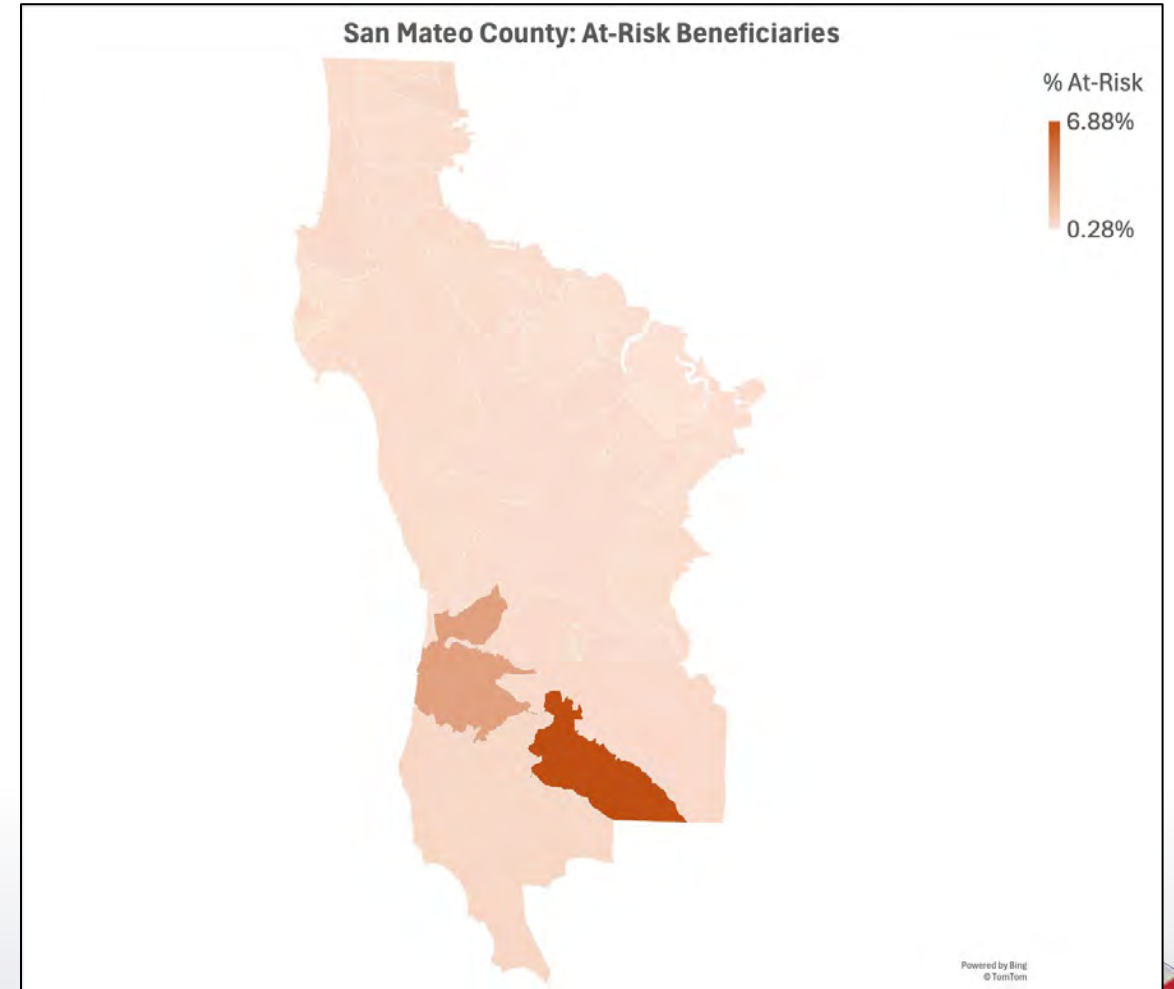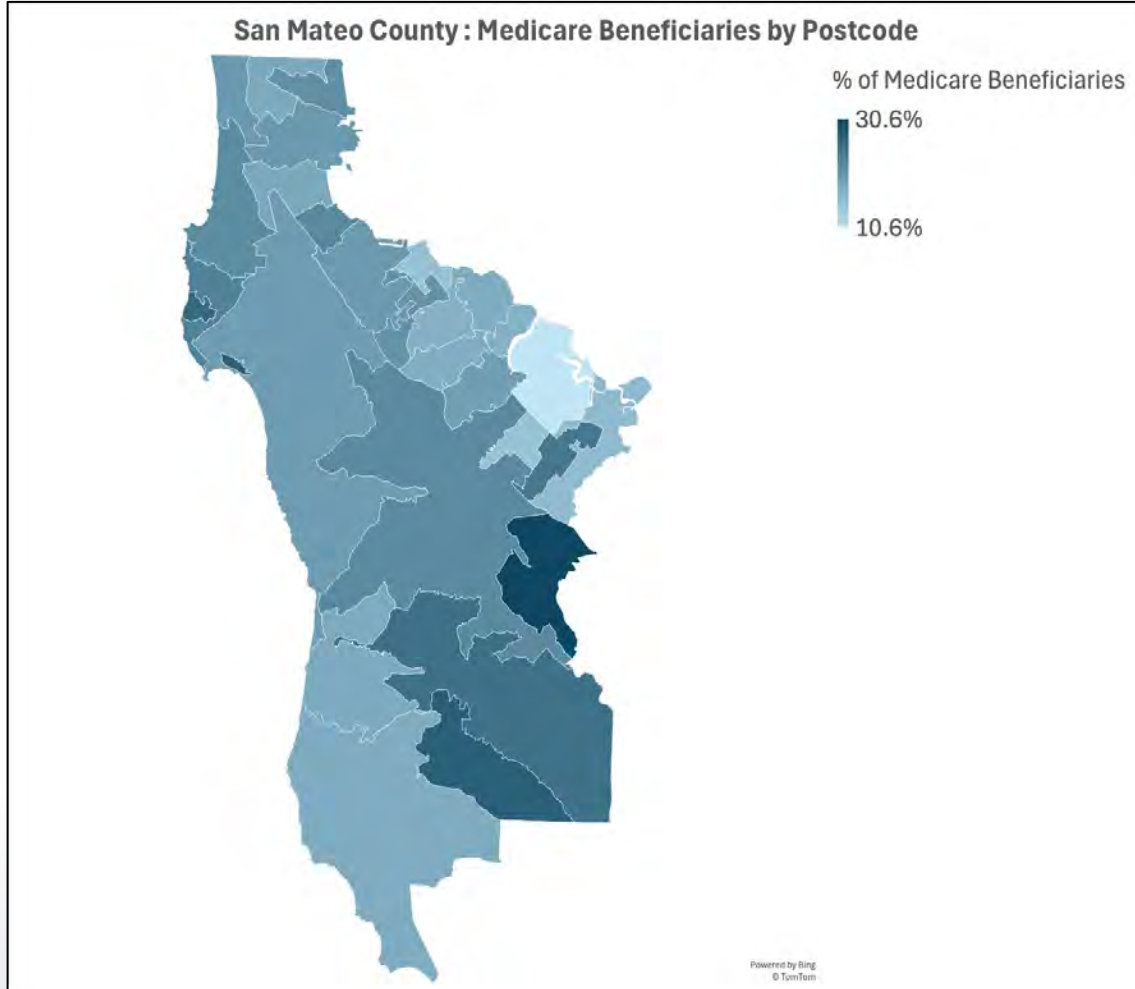Demographic Analysis for Warehousing and Caching

San Mateo County

At a Glance:

- **Geography:** 448 mi^2 land, 293 mi^2 water, Santa Cruz Mountains run north/south through entire county
- **Population** (2020): 764,442
- Over 400,000 people pass through San Mateo daily for work
- San Francisco International Airport (SFO)
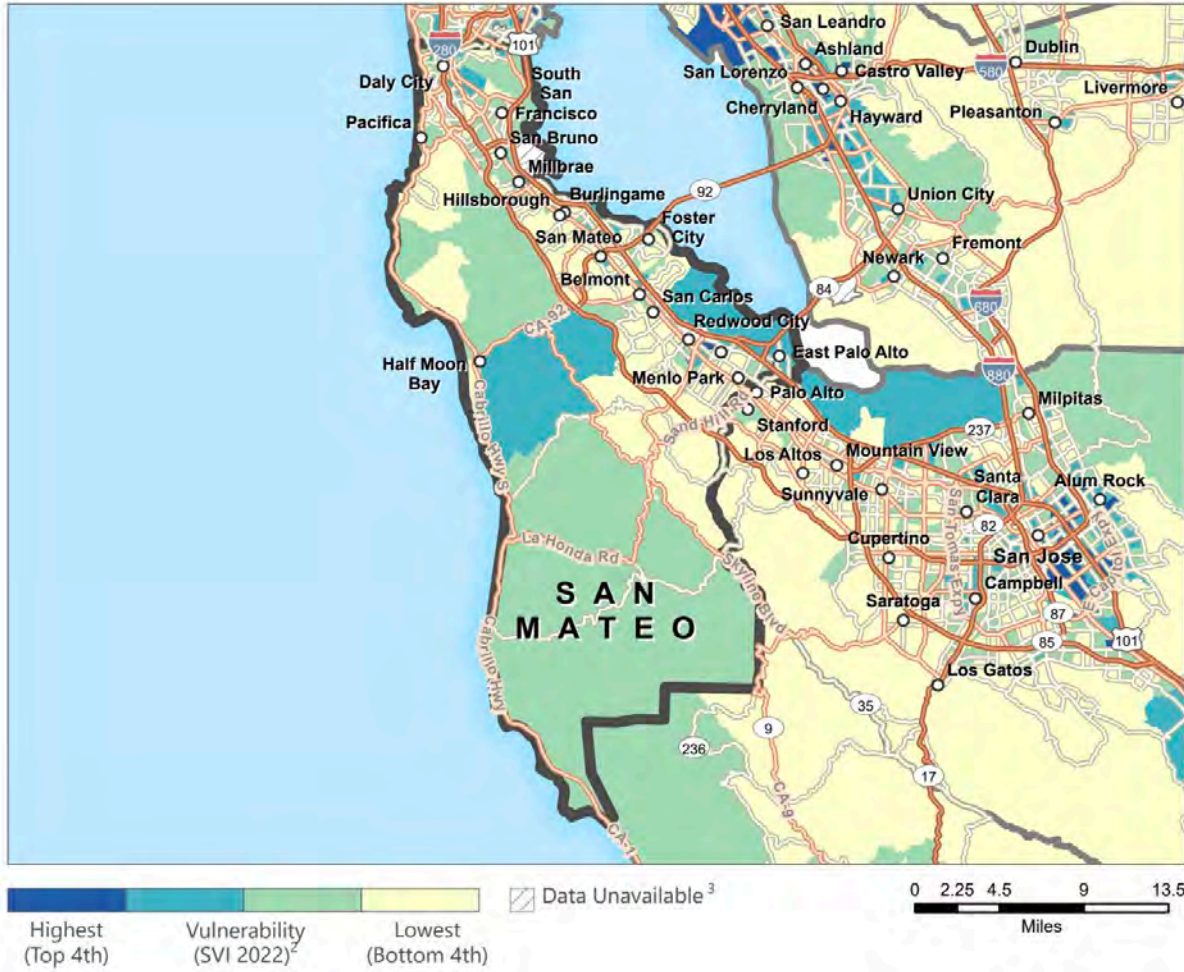- **Healthcare System:** 6 Hospitals, 0 trauma centers

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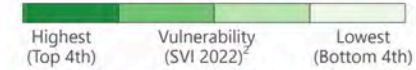EmPOWER Demographics Analysis by Population

San Mateo County : Medicare Beneficiaries by Postcode

% of Medicare Beneficiaries
30.6%
10.6%

San Mateo County: At-Risk Beneficiaries

% At-Risk
6.88%
0.28%

CDC/ASTDR Social Vulnerability Indicators
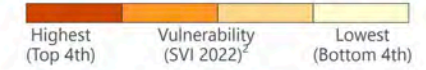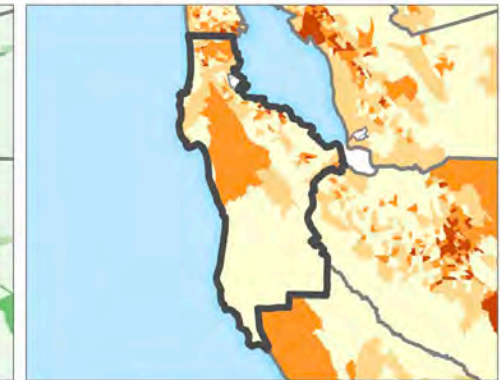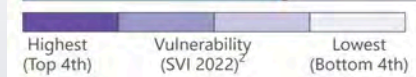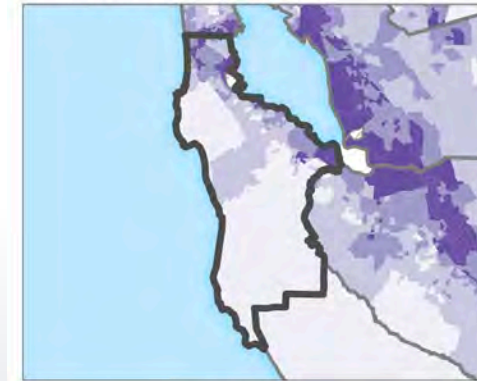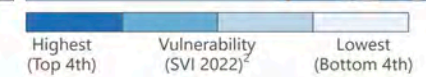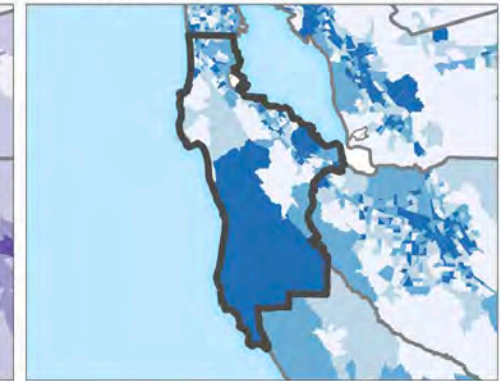
Travel Time Estimations

Peak Travel Time from SMC Event Center
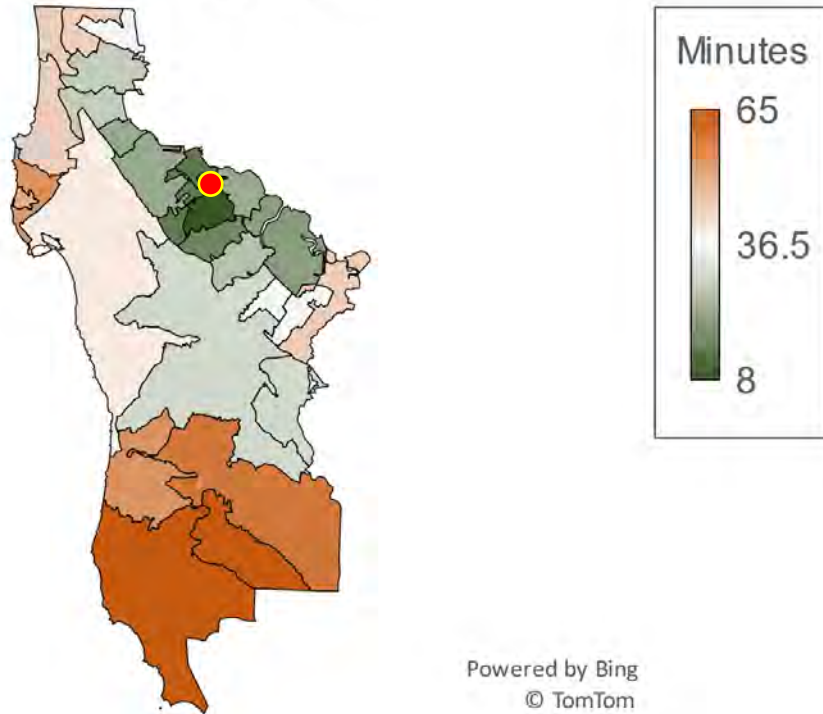
Peak Travel Time from Half Moon Bay

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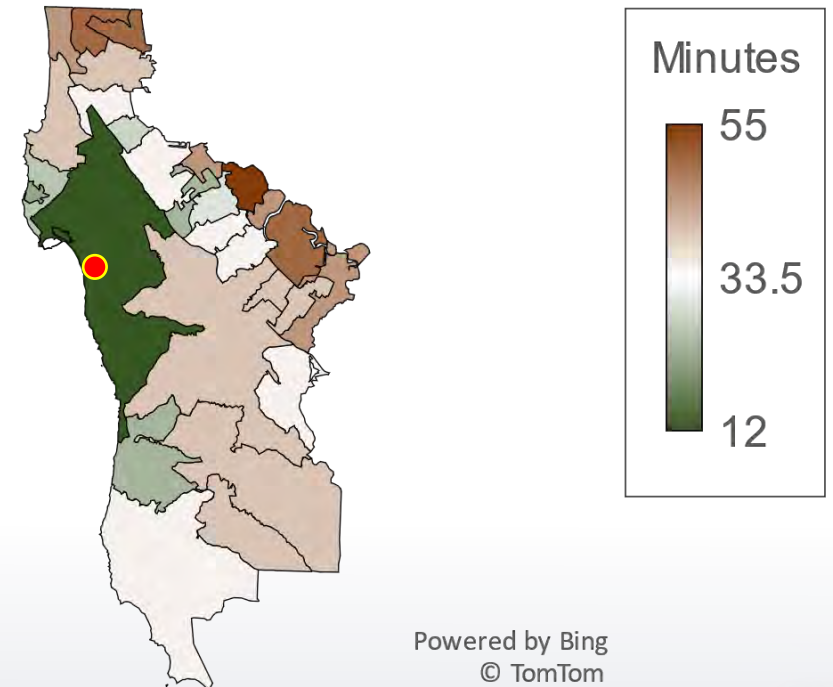
Cache Considerations

Local Caches
- Strategically located based on population density, vulnerability, and unique needs.

Facilities of Interest
- Hospitals
- SNFs
- Gathering/Public Spaces (Event centers, Fire Departments, schools, churches, etc.)

Push Packages
- Rapid Response
- Versatile

SKU Lists

What's Included

- Anything deemed necessary or which may be rapidly needed in an urgent response situation.
- "Must, Should, Could" items from pharmaceutical and medical equipment desk review.

Rapid-Deployment

- Created based on 50-person incidents, easily scalable.
- By having pre-selected lists, it creates less strain on EMS and frees up resources.
- Warehouse can work efficiently to pull what is needed in an organized and logical manner.

Incident-Specific

- General sheltering needs
- Fire
- CBRNE etc.

Pharmaceutical and Medical Supply List

Pharmaceutical Cache Kitting for Small <50 Person Event

MUSTS		SHOULDS		COULDS	
Product Name	**Product Details**	**Product Name**	**Product Details**	**Product Name**	**Product Details**
Acetaminophen	various formulations - infant, pediatric, adult	Acyclovir	30 each: 200mg "2 tablets TID" // 50 each: 800mg 1 tablet 5 times a day	Acetaminophen (Tylenol, Caffeine & Diphen-PH)	3 each: various types
Albuterol sulfate / Ipratropium	0.83 (for neb) DuoNeb	Adenosine, SDV	3 each: SDV 3MG/ML 2ML 10/CT	Acetaminophen Chewable - Children's	1 bottle
Amlodipine	10 mg 1 tab daily	Advil Chewables	1 bottle	Acetaminophen - Infant's	1 box
Amoxicillin	500mg Capsule "1 capsule TID" 30	Albuterol	3 each	Acetaminophen Supposit - Children's	1 bottle
Aspirin	325 & 81 mgs	Albuterol Sulfate	6 each: VL NEB 0.083 2.5MG/3ML UD 25/BX	Amlodipine	30 each: 5mg 1 tab daily
Azithromycin	250mg-z-pack, 500mg, 1 gm packet/powder.	Aleve	1 bottle	Aripiprazole (abilify)	60 each: 10mg (no sig)
Bacitracin // Bacitracin Zinc	Bacitracin Ointment	Alka-Seltzer	1 bag	Beverage, Glu Tol Org	1 each: 50GM PLAS 24/CS
Ceftriaxone	500mg & 1g Inj.	Ambu-Adult	1 each	Bismuth Subsalicylate (Pepto Bismol) tabs	24 each
Cephalexin	500mg Capsules "1 capsule TID"	Amitriptyline Hydrochloride	1BT: 25mg 100TAB	Calcium Chloride, SYR 10	1 each: 100MG/ML 10ML 10/CT 9IMDSY
Cetrizine	10mg tabs. 1 tab PO daily for itching	Atenolol	30 each: 50mg Tablets 1 tab daily	Ivermectin	10 each: 3mg tabs (2 doses)

Medical Equipment and Supplies Cache Kitting for Small <50 Person Event

MUSTS		SHOULDS		COULDS	
Product Name	**Product Details**	**Product Name**	**Product Details**	**Product Name**	**Product Details**
Adhesive Skin Liquiband	1 Pack: 10ct; 0.8g Dome 10ct	AED with extra pads	2 Each (adult & pediatric)	AFN Cots	3 Each
Adhesive Tape (Cloth, Waterproof, Transparent, Surgical types)	1 Case: 12/case	Adult Medication Card	1 Each	Ammonia Inhalants	1 Pack
Airway Kit - Surgical	5 Each	Airway, Guedel (Multiple Sizes)	1 Each	Apron Polyethylene White	1 Pack: 100ct
Alcohol Prep Pads	2 Boxes: HAZMAT	Airway, Nasal Pharyn ID Naso Clear	1 Each	Automizer MAD 300	1 Each
Ambubags (adult & youth)	3 Boxes Each	Airway, Nasopharyn	1 Each	Cutter/Splitter Pill Hand-Operated Blue	2 Each
Applicator Cotton Tip 6" Sterile	2 Packs: 100ct	Airway Nasopharyngeal Clear	1 Each	Electrodes, EKG Monitor	1 Each
Bags - trash & ziplock	20 Each	Airway, Robertazzi Nasopharyl	1 Each	Flu Kit	5 Kits
Bandages	1 Box (100/box) Various sizes and types	Arrow EZ-IO	1 Each	Noro Collection Kit	5 Kits
Biohazard Bags	1 Box	Arrow EZ-IO Vascular Access Power Driver	1 Each	Stapler Wound Sterile SingleUse McKesson	1 Each
Blankets, Emergency	5 Each	Backboard and Straps	30 Each	System Purification WaterBag 2.5gal DEV	1 Each

SKU Lists

Cache Kitting for Small <50 Person Event				Based on 1:10 medical worker-patient ratio
Product Name	**Product Details**	**Quantity**		**Product Information**
Airway Kit	See AIR - Airway Kit	1		
Bandage-Burn Kit	See BURN - Bandage-Burn Kit	1		
PPE - Medical Staff Kit	See PPE - Medical Staff PPE Kit	1		
Pharma General Kit	See PHARM - Pharma General Kit	1		
Bags - Plastic		1 bag	Y	58-97 | POLY BAG W/ZIP LOCK CLOSURE, 100 PER BAG, NA
Caution Tape		1 roll	Y	71-1001 | CAUTION TAPE, NA, NA ; CT3YE1/300N | CAUTION TAPE, 3 IN, NA, NA ;
Decontamination System		1 each	Y	SYS-IND-10-13-1/WSB250G | GRAINGER, INDIVIDUAL DECON SYSTEM, 1 EACH PALLET, NA
Goggles		100 each	Y	1902153 | SAFETY GOGGLE, 100 PER CARTON, NA ; IDCF/GAF-100 | CLEAR PLASTIC GOGGLES W/ELASTIC STRAP 4630002/4630000, 100 GOGGLES PER CARTON, NA ; LABGOGGLE | GOGGLE, NA, NA ; Y30GOOGLE-G | SAPPHIRE SAFETY SPECTICLE, NA, NA
Gloves	See PPE - Medical Staff Kit			
Hazmat Spill Cleanup Kit		2 each	Y	17121 | SAFETEC, EZ-CLEANS PLUS SPILL CLEAN-UP KIT, 24 KITS PER CARTON, 20 PER CARTON
Safety Glasses		10 each	Y	3130B-400 WEXFORD

Future Warehouse and Cache Goals

Robust warehousing options

- Alignment with CDC City Readiness Initiative (CRI) recommendation of multiple warehouse options to encourage greater mitigation.
- Enhance emergency response capabilities of warehouse staff and management.

More abundant and better caches

- Using demographics and travel time information to determine best locations for additional medical caches.
- Internal study used to ensure the most critical items to store in cache are included.

Regional and local pharmaceutical rotation

- Prepositioned critical pharmaceuticals in warehouses and caches.
- Agreement with pharmacies/pharmaceutical companies to rotate expiring stock.

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Questions?

Contact US:
ems@smcgov.org

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