CWMD COUNTERING WEAPONS OF MASS DESTRUCTION

CReDO
Community Response to Drug Overdose

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With honor and integrity, we will safeguard the American people, our homeland, and our values.

DHS Mission

Disclaimer

I have no financial disclosures.

The opinions represented here are my own and may not represent the opinions of the Department of Homeland Security or the Federal Government.

Once Upon a Time…

- A 24 y/o man calls 911 after taking "1 norco tablet"
- "*I feel really high from my normal amount.*" and "*I feel like I am going to die.*"
- EMS arrives: the patient is not breathing, has low blood pressure & low heart rate, oxygen saturation measurement is too low to read
- 3 mg of naloxone given → minimal response (2 mg IN, 1 mg IM)
- CPR started

- Arrives in the emergency department, CPR is continued, has no pulse despite maximal support
- He is placed on heart-lung bypass
- This was a very sick patient, but…

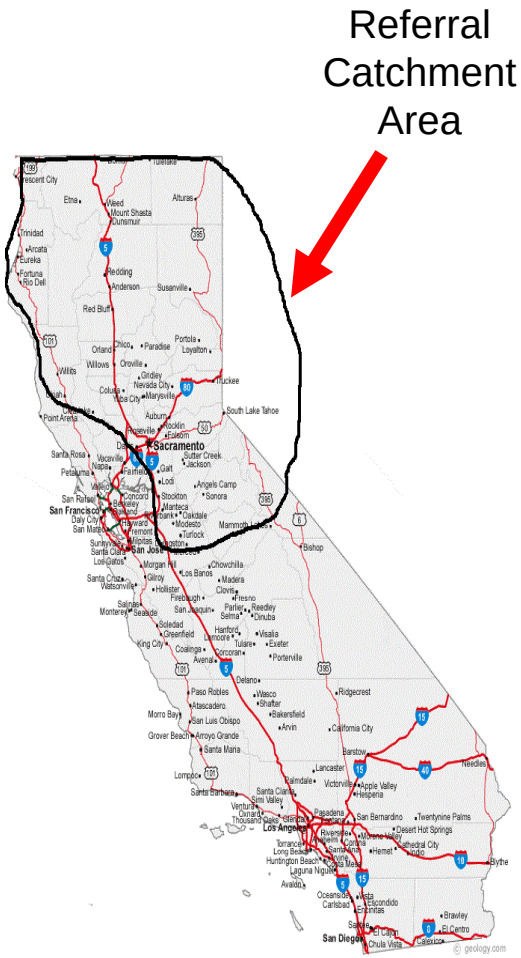
  Severity of toxicity ≠ what would be expected from his reported ingestion!
- More comprehensive toxicological testing is ordered

Day 1

- Between 8 am-1 pm
  - 6 additional patients present requiring a naloxone drip
- By 2 pm, the hospital only has enough naloxone to last one more hour
- Emergency agreements for naloxone are activated
  - Surrounding hospitals and pharmaceutical vendor
- At 5 pm, the first patient's comprehensive drug screen result is positive for fentanyl and its metabolites
- More patients keep arriving!

Day 2

- By midnight, additional patients arrive
  - The hospital's entire ICU is full
  - The emergency department is holding 5 overdose patients on naloxone infusions
  - Smaller hospitals are contacting us to transfer similar patients
- This hospital is the regional referral center
  - They have to deny transfers
  - They have to triage trauma patients to other hospitals
  - Major patient care and public health ramifications
- The community leadership meeting



Day 3

- Patients keep coming…
- Triage volume is significantly up over the next 5 days
- Need more emergency shipments of naloxone
- Emergency department is now holding 36 patients (16 ICU)
- Operating rooms essentially shut down because no place for patients to recover post-surgery

Pill Analysis and Serum Concentrations

Pill Source (Case Number)	Pill Mass (mg)	Fentanyl (µg)	Hydrocodone (mg)	APAP (mg)*	Promethazine (mg)
3	453.6	6900	0	137.0	4.27
8	488.9	6320	0	144.8	3.82
10	463.9	6690	0	415.1	4.07
11	420.2	5630	0	105.4	3.66
13	421.9	600	7.41	258.3	0.53
14	473.4	6870	0	102.8	4.61

APAP = acetaminophen.

Therapeutic Serum Fentanyl concentration	**0.63-2.0 ng/mL**
Previously Reported Fatal concentrations	**5-120 ng/mL**
Outbreak Serum concentrations (Alive)	**16.5-162 ng/mL**

Take Home Points

- "One pill can kill!" Experimentation no longer an option.
  - 12 confirmed deaths in Sacramento county
  - 20 suspected deaths (coroner protocols for fentanyl)
  - Regional numbers: 50 deaths confirmed
- This outbreak overwhelmed the resources of a city and region
- Antidote supplies were inadequate
- This referral hospital could not accept transfers from a large region of California
- Law enforcement was unaware and information was not shared in a timely manner

Lessons Learned

- Health Security
  - This fentanyl outbreak destabilized our health care system
    - Hospitals breach capacity due to volume of ICU care
    - Denied transfers to specialty care
    - Operating rooms unable to perform surgeries that required ICU beds after surgery
- We were extremely vulnerable to other potential incidents/threats
    - Day 2: Large Public Gathering- Attendance 17,213
    - Day 4: Large Public Gathering - Attendance 17,092
- No standard methodology existed for activating disaster/ emergency response for overdoses to bring in Federal Government support
- Significant communications gaps between Public Health/ Healthcare and Law Enforcement communities cost lives

CReDO—The Community Response to Drug Overdose (CReDO) Project

- Seeks to integrate medical, law enforcement, and drug prevention efforts to overdose clusters and spikes
- Seeks to improve the community response to the current drug overdose crisis and opioid public health emergency
- Seeks to align efforts across the Federal interagency and integrate with state, local, and private sector partners
- Promotes a System of Systems Architecture (SOSA) approach
- Seeks to identify and share best practices within communities
- It begins with establishing operational views, with multiple Lines of Effort (LOE) pursued in parallel.

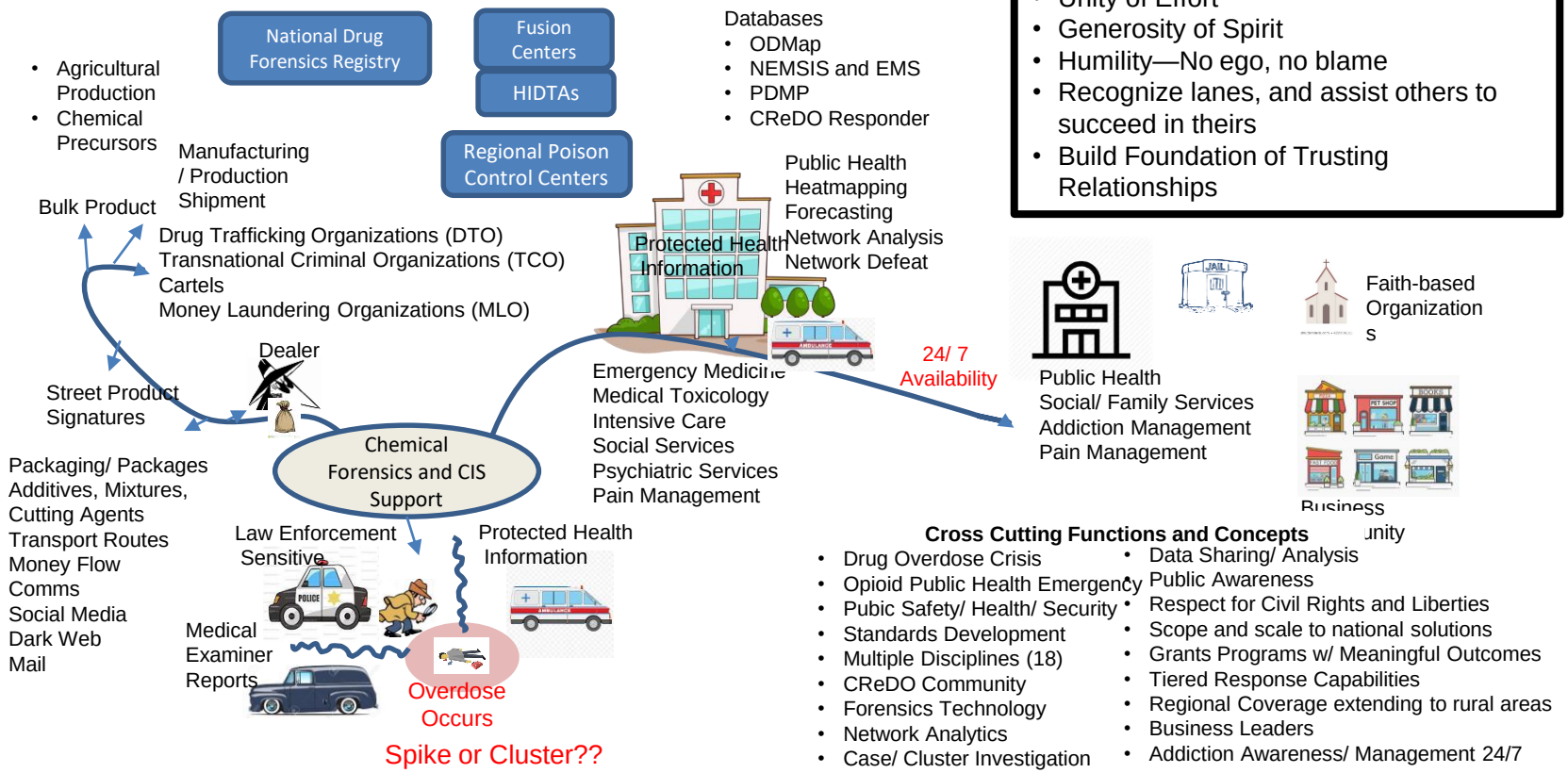
What's "Community"? What's "Response"? Why "Overdose"?

- Community in CReDO
  - Not just the geographical location
  - Community of disciplines, tribes, guilds
- Overdose in CReDO
  - Involves more than opioids and includes mixtures of drugs
  - Includes fatal and non-fatal cases
  - And must address addiction, abuse, experimental use, and overdose
- Response in CReDO
  - Need to be available 24/ 7
  - Holistic, multi-disciplinary

CReDO Disciplines (Communities)

- Public Health
- Law Enforcement
  - Civic/ governmental Leaders
  - Law Enforcement
  - Criminal Investigations Techs
  - Chemical Forensics Techs
- Medical/ Healthcare
  - EMS
  - Emergency Medicine
  - Primary Care Physicians
  - Intensive Care
  - Mental health professionals
  - Pain Management
  - Medical Toxicology
  - Poison Control Centers
  - Healthcare Insurance
- HIDTAs/ Fusion Centers/ Task Forces/ Coalitions
- Medical Examiners
- Legal proceedings:
  - Judges,
  - Attorneys--prosecution/ defense
- Addiction Management
- Social Services/ Family Services
- Detention Facility
- Faith-based Organizations (FBO)
- Knowledge/ Database Management
- Local Business Groups
- Addicted Community

Community Response to Drug Overdose (CReDO)



Guiding Principles

- Unity of Effort
- Generosity of Spirit
- Humility—No ego, no blame
- Recognize lanes, and assist others to succeed in theirs
- Build Foundation of Trusting Relationships

Cross Cutting Functions and Concepts

- Drug Overdose Crisis
- Opioid Public Health Emergency
- Pubic Safety/ Health/ Security
- Standards Development
- Multiple Disciplines (18)
- CReDO Community
- Forensics Technology
- Network Analytics
- Case/ Cluster Investigation
- Data Sharing/ Analysis
- Public Awareness
- Respect for Civil Rights and Liberties
- Scope and scale to national solutions
- Grants Programs w/ Meaningful Outcomes
- Tiered Response Capabilities
- Regional Coverage extending to rural areas
- Business Leaders
- Addiction Awareness/ Management 24/7

CReDO Lines of Effort

- Consensus-based, voluntary standards for Community Response to Drug Overdoses (CReDO)
- CReDO Community
- Chemical Forensics Technology, Competencies, and Laboratory Network
- Pilot Projects to develop, evaluate, and validate best practices
- Data, Information Analysis, and Knowledge Management
- Legislation changes needed in codes, statutes, directives, regulations
- Cluster Outbreak Response Evaluation Local Assessment Team (CORELAT)
- Technology Development, Testing, and Transfer Requirements
- Grants Programs links and harmonization
- Legal review for Privacy, Civil Rights/ Civil Liberties Protections
- Public Awareness Campaign Coordination
- Overdose, Abuse, Addiction Management--24/7 Availability (includes jails, prisons)

Consensus based, ANSI-accredited Standards Process

- Consultation with National Institute of Standards and Technology (NIST, Commerce)
- Recommended approaching National Fire Protection Association (NFPA)
  - Pursue process used for NFPA-3000 Active Shooter High-threat Environment Response (ASHER) Standard
  - Respected brand name and experience for American National Standards Institute (ANSI) accredited standards development organizations
  - Demonstrated success for complex, multi-disciplinary standards development
  - https://www.nfpa.org/credo (suspense for input Dec 31!!)

NFPA CReDO Page www.nfpa.org/CReDO

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CODES & STANDARDS

- Codes & Standards
- All codes & standards
- Standards development
- How the process works
  - Step 1: Input Stage
  - Step 2: Comment Stage
  - Step 3: Technical Meeting
  - Step 4: Council Appeals and Issuance of Standards
- First Draft Reports & Second Draft Reports
- New projects and draft documents
  - **Community-based response to drug overdoses**

Codes & Standards / Standards development / How the process works / New projects and draft documents / Community-based response to drug overdoses

Community-based response to drug overdoses (CReDO)

Coordination Across Communities

National Drug Forensics Registry

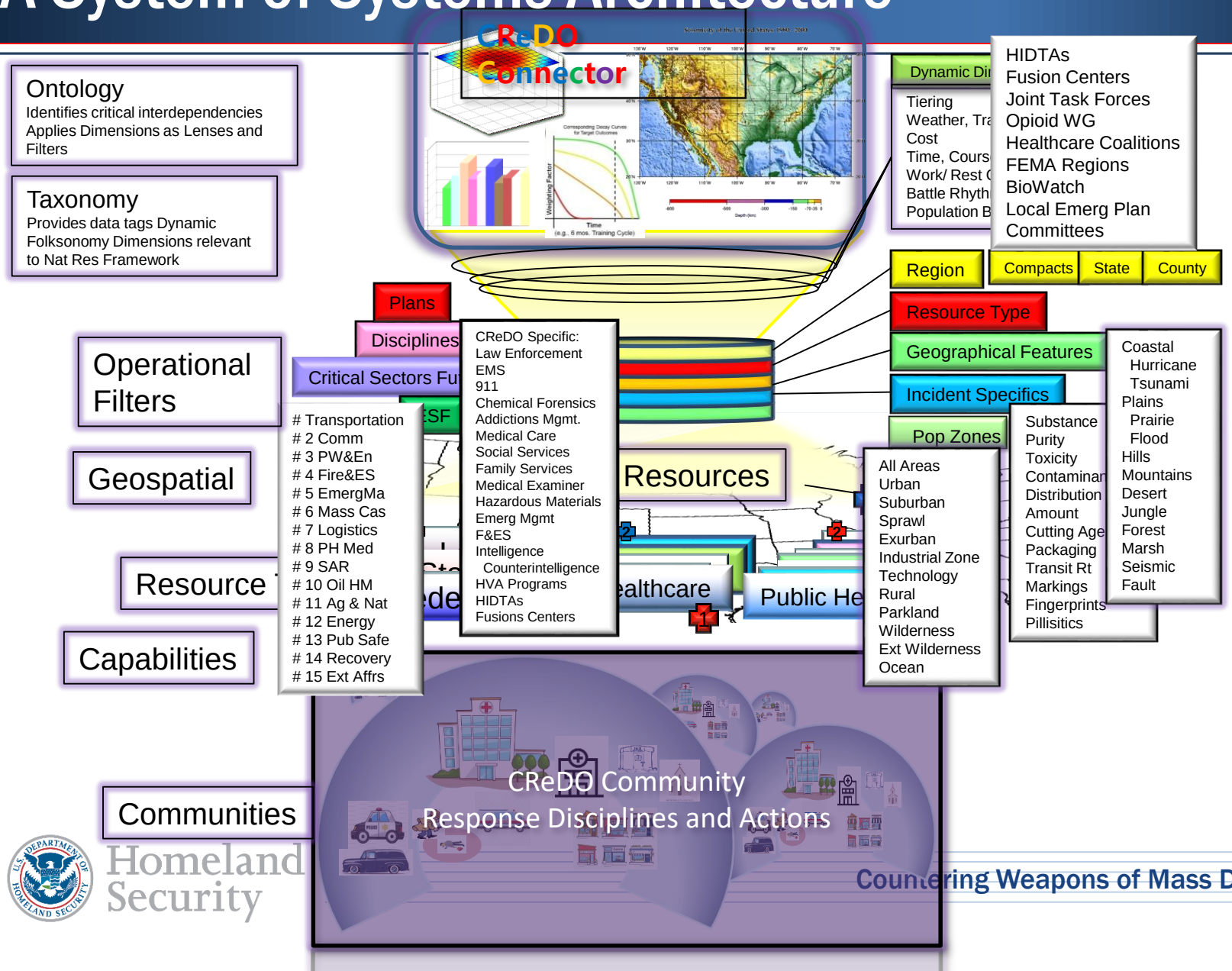
HIDTAs

Fusion Centers

InfraGard

Regional Poison Control Centers

Dashboard View of CReDO Collaboration: A System of Systems Architecture



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