

Access the recorded webinar here:

<https://attendee.gotowebinar.com/recording/4376906584254284291>

Facilitated discussion and follow-up questions:

<https://asprtracie.hhs.gov/documents/aspr-tracie-medication-shortage-webinar-discussion-questions.pdf>



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# Clinicians and Coalitions: A Conversation about Finding Solutions for Medication Shortages

June 8, 2017



# Disclaimer

This webinar is a discussion among healthcare system preparedness personnel and clinicians for informational purposes only and does not represent federal or organizational guidelines, policies, or positions.

# Welcome and Webinar Purpose

- Moderator: **John Hick, MD**
- Speakers:
  - **CAPT Valerie Jensen, R.Ph.**, Associate Director of the Drug Shortage Staff, Center for Drug Evaluation and Research, US Food and Drug Administration (FDA)
  - **Jim Blumenstock**, Chief Program Officer, Health Security, Association of State and Territorial Health Officials
  - **Dan Hanfling, MD**, Contributing Scholar, Johns Hopkins Bloomberg School of Public Health Center for Health Security, Clinical Professor of Emergency Medicine, George Washington University, & HHS ASPR
  - **Judy Seaberg**, Healthcare Preparedness Program Manager, Minnesota Department of Health
  - **Jeffrey Dichter, MD**, Critical Care (Intensivists) Specialist, Unity Hospital (MN)



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## **CAPT Valerie Jensen, R.Ph.**

Associate Director of the Drug Shortage Staff, Center for  
Drug Evaluation and Research,  
US Food and Drug Administration





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**Jim Blumenstock, Chief Program Officer,  
Health Security**  
Association of State and Territorial Health Officials



# ASTHO Resources

- Coping with and Mitigating the Effects of Shortages of Emergency Medications:

[https://www.ems.gov/pdf/ASTHO Shortages of Emergency Meds.pdf](https://www.ems.gov/pdf/ASTHO_Shortages_of_Emergency_Meds.pdf)



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## Dan Hanfling, MD

Contributing Scholar, Johns Hopkins Bloomberg School of Public Health Center for Health Security, Clinical Professor of Emergency Medicine, George Washington University, & HHS ASPR





# Applying a Systems Approach: Crisis Standards of Care Planning for Scarce Resources



<http://www.nationalacademies.org/hmd/reports/2012/crisis-standards-of-care-a-systems-framework-for-catastrophic-disaster-response.aspx>



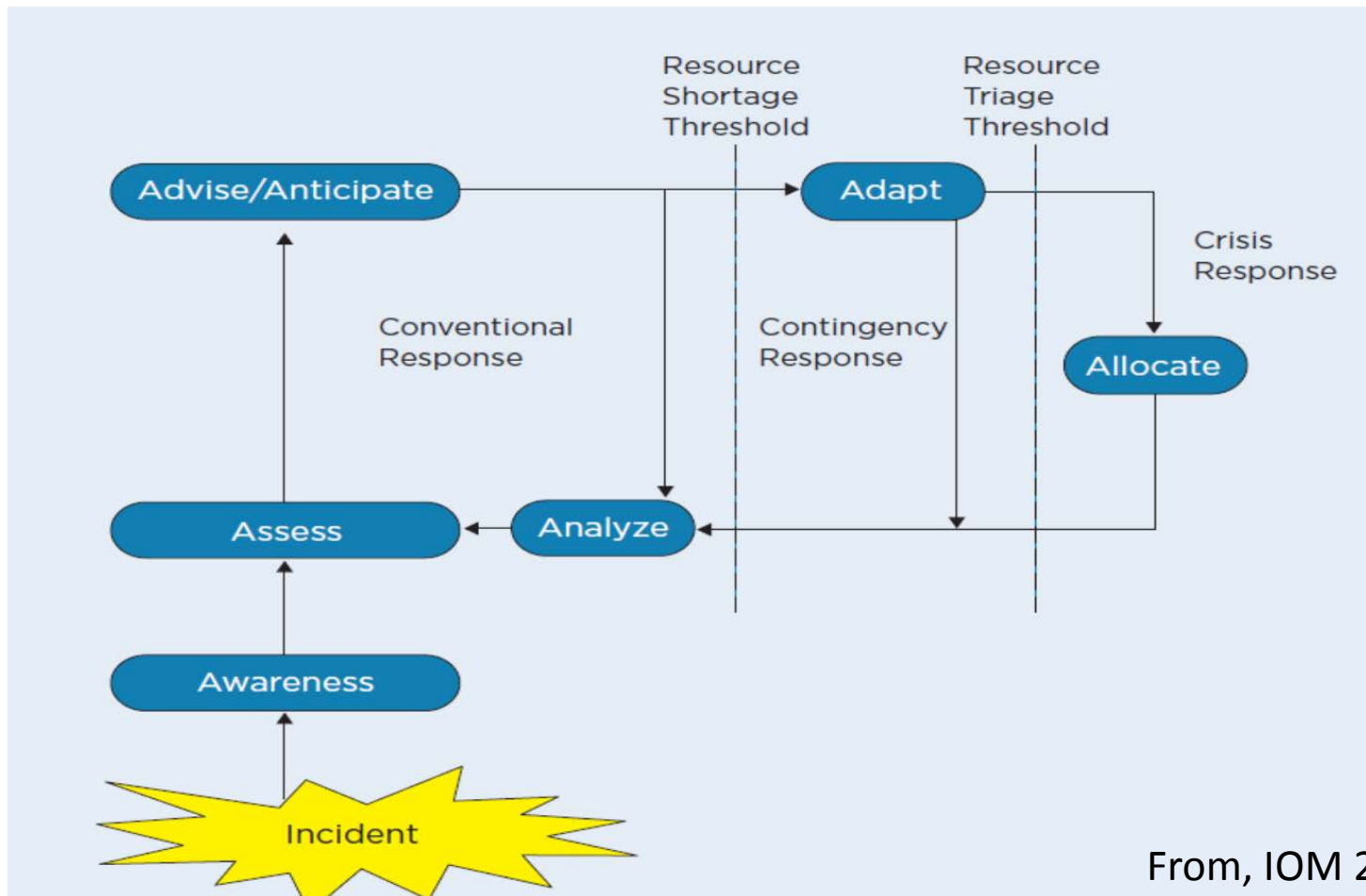
# Systems Approach

- Incident management – the role of the Healthcare Coalition
- Planning – including participation of subject matter experts in helping to develop scarce resource allocation plans
  - Ethical Principles
- Development of Operational Strategies/Tactics

# Ethical Principles in Scarce Resource Allocation

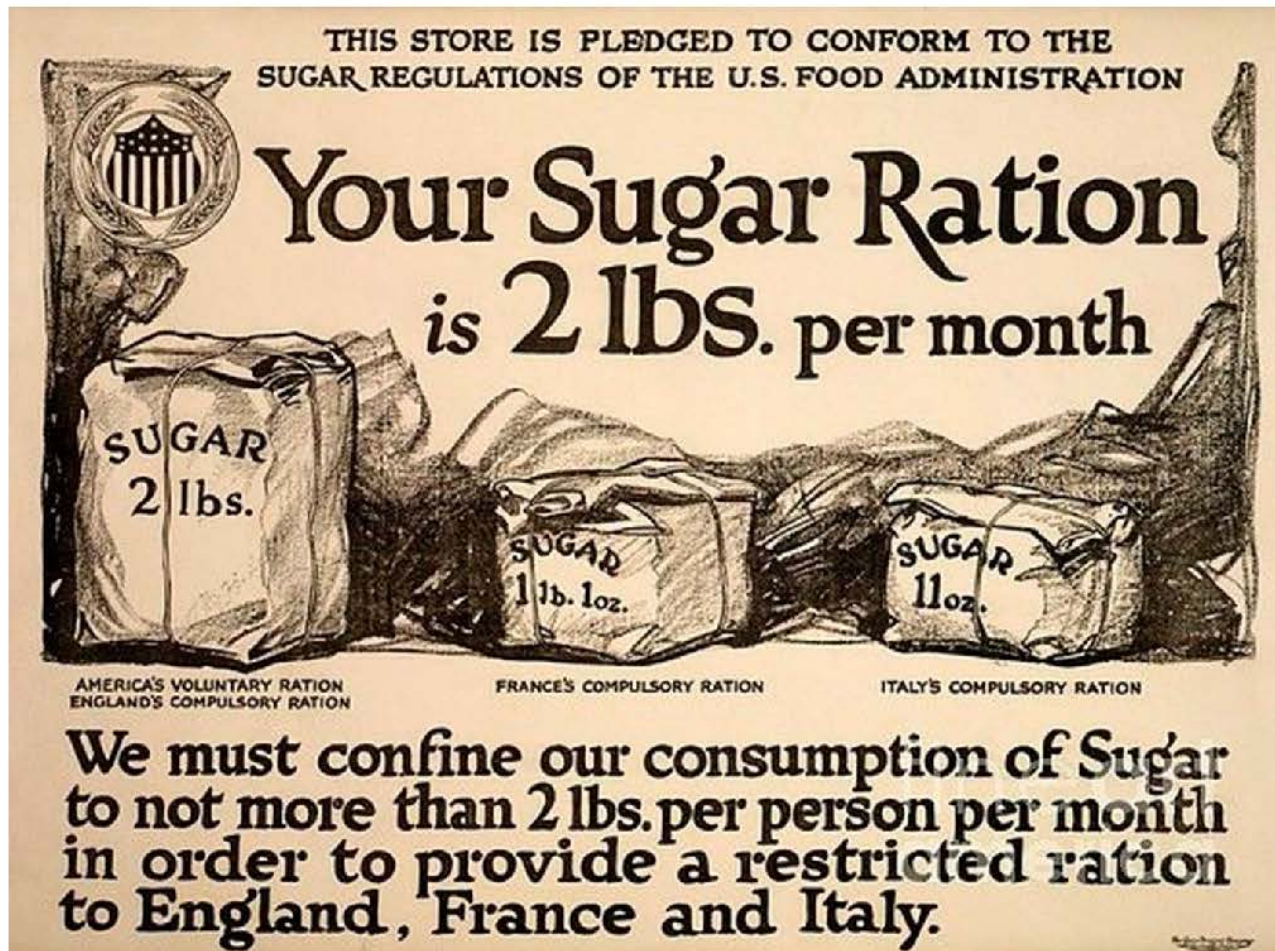
- “Duty to Care” – predicated upon the “Duty to Plan”
- Key ethical principles (“distributive justice”
  - Transparency; Fairness; Proportionality
  - “Accountability for reasonableness” (Rosoff, et al)
  - Appeals process; Enforcement

# Systems Framework: Continuum of Care



From, IOM 2012

# Strategies to Manage Scarce Resources





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**Judy Seaberg, Healthcare Preparedness  
Program Manager**  
Minnesota Department of Health



# Pharmaceutical Shortages in MN

- The Minnesota Department of Health Science Advisory Team/Crisis Standards of Care (MDH SAT/CSC) has been developing a standardized framework to assist health care facilities with resource management during scarce resource situations for over 10 years

# Pharmaceutical Shortages in MN

- Shortages are becoming increasingly common for healthcare providers
- In 2015, the MDH SAT/CSC recognized that shortages may prompt strategies similar to Crisis Standards of Care processes, providing an opportunity to apply a structured response to coping with those shortages, as well as ethical guidance for allocation decisions



# Pharmaceutical Shortages in MN

- In 2015, the MDH SAT/CSC developed a FAQ for hospitals to assist them in implementing a structured process to address shortages
- <http://www.health.state.mn.us/oep/healthcare/crisis/pharmfaq.pdf>

# Pharmaceutical Shortages in MN

- In addition, the conservation and substitution strategies outlined in the MDH Scarce Resources Cardset developed by the MDH SAT/CSC provides additional response options
- <http://www.health.state.mn.us/oep/healthcare/crisis/standards.pdf>

# Pharmaceutical Shortages in MN

## PATIENT CARE STRATEGIES FOR SCARCE RESOURCE SITUATIONS

## MINNESOTA HEALTHCARE SYSTEM PREPAREDNESS PROGRAM

### Table of Contents

Core Clinical Strategies for Scarce Resource Situations Core clinical categories are practices and resources that form the basis for medical and critical care.			Resource Reference and Triage Cards Resource cards address the unique system response issues required by specific patient groups during a major incident. Some of this information is specific to the State of Minnesota's resources and processes.		
Summary Card		Page ii	Renal Replacement Therapy Resource Cards	Section 8	Pages 1-4
Oxygen	Section 1	Pages 1-2	Burn Therapy Resource Cards	Section 9	Pages 1-6
Staffing	Section 2	Pages 1-2	Burn Therapy Triage Card	Section 9	Pages 7-8
Nutritional Support	Section 3	Pages 1-2	Pediatrics Resource Cards	Section 10	Pages 1-4
Medication Administration	Section 4	Pages 1-2	Pediatrics Triage Card	Section 10	Pages 5-6
Hemodynamic Support and IV Fluids	Section 5	Pages 1-2	Palliative Resource Cards	Section 11	Pages 1-10
Mechanical Ventilation / External Oxygenation	Section 6	Pages 1-2			
Blood Products	Section 7	Pages 1-2			

# Health Care Coalition Strategies

- Minnesota has 8 robust Health Care Coalitions augmenting health care response capability for both metropolitan and rural areas

# Health Care Coalition Strategies



# Health Care Coalition Strategies

- During shortages, HCCs serve as a force multiplier by performing the core HCC response functions of situational awareness, information sharing, and resource coordination
- They also provide a systematic way for MDH to assess the pulse of how shortages are affecting the health care system in Minnesota

# Health Care Coalition Strategies

- Recent Example: Sodium Bicarbonate shortage
  - HCCs assessed the impact of the shortage on their member facilities, and provided strategies to address shortages
  - Facilitated interfacility communication regarding strategies
  - Communicated those assessments to the State, providing a statewide picture





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**Jeffrey Dichter, MD**

Critical Care (Intensivists) Specialist, Unity Hospital (MN)

**Victorine Wongbi, PharmD Student**

University of Minnesota



# What is in short supply?

- Amphastar- increased demand
  - Syringes 50 mL
- Pfizer- shortage of glass syringe, components
  - Syringes- 50 and 10 mls
  - Vials- 50 mls

# Common Uses

- Urinary Alkalinization- Prevention of contrast-induced nephropathy, Enhance Drug Elimination
  - Especially toxic ingestions, e.g. TCA's, others
- Code Carts for ACLS
- Severe metabolic acidosis
- Others- hyperkalemia, hemodialysis, Cardiac surgery

# Strategies

- Conserve
  - Use of IV NS in preventing renal injury (IV contrast) or to enhance drug elimination
    - Use of bicarbonate only in specific situations
  - Use of vials (rather than pre-filled syringes) to minimize waste
    - Safety concerns
  - Purchasing premade Continuous Renal Replacement Therapy (CRRT) solutions with higher sodium bicarbonate concentrations.

# Strategies

- Substitute
  - Oral bicarbonate (when appropriate)
  - Use other agents (e.g. hyperkalemia and use of insulin, albuterol)
  - Sodium Acetate
    - Largely unstudied
- Prioritize (“reallocate”)

# Strategies

- What are the highest priorities for the use of Sodium Bicarbonate?

# Bibliography

1. Sodium bicarbonate Injection. <https://www.ashp.org/drug-shortages/current-shortages/Drug-Shortage-Detail.aspx?id=788>
2. Valette, X., et al. "Sodium Bicarbonate Versus Sodium Chloride for Preventing Contrast-Associated Acute Kidney Injury in Critically Ill Patients: A Randomized Controlled Trial." Critical Care Medicine. U.S. National Library of Medicine. Apr. 2017. Accessed June 04, 2017. <https://www.ncbi.nlm.nih.gov/pubmed/28181941/>.
3. Velissaris et al. "Use of sodium bicarbonate in Cardiac Arrest: Current Guidelines and Literature Review." Journal of Clinical Medicine Research. Elmer Press, Apr. 2016. Accessed June 4, 2017. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4780490/>.
4. SCCM drug shortage alert, Sodium Bicarbonate September 2016: <http://www.learnicu.org/Lists/Web%20Contents/Attachments/14258/Drug-Shortages-Alert-9-16.pdf>; accessed June 6, 2017.





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## Facilitated Discussion



# On the line today...

- American College of Emergency Physicians (ACEP)
  - Dr. James Augustine, MD, FACEP, US Acute Care Solutions
  - Rick Murray, EMT-P
- American Hospital Association (AHA)
  - Roslyn Schulman
- American Nurses Association (ANA)
  - Sharon Morgan, MSN, RN, NP-C
- National Association of Emergency Medical Technicians (NAEMT)
  - Ann Dietrich, MD, FAAP, FACEP, Nationwide Children's Hospital
  - Melissa Trumbull
- National Renal Administrators Association (NRAA)
  - Joseph Lee, MD, MBA, JD, Nephrology Solution
- University of Pittsburgh Medical Center (UPMC)
  - Jessica Daley, PharmD, Pensiamo, Inc.
  - Alfred L'Altrelli, PharmD, UPMC Presbyterian Shadyside

# Questions and Answers



# ASPR TRACIE Resources

- Crisis Standards of Care Topic Collection:  
<https://asprtracie.hhs.gov/technical-resources/63/crisis-standards-of-care/60>
- Pharmacy Topic Collection:  
<https://asprtracie.hhs.gov/technical-resources/53/pharmacy/47>
- Drug Shortages and Disasters Factsheet:  
<https://asprtracie.hhs.gov/documents/TRACIE-Drug-Shortages-Factsheet.pdf>



ASPRtracie.hhs.gov



1-844-5-TRACIE



askasprtracie@hhs.gov