



**American  
Red Cross**

# Emergency Response Plan: Blood Center's Perspective

Corinne Goldberg MD  
ARC Medical Director  
April 4, 2018



# Conflicts of Interest

None to report

# Topics of Discussion

## **Introduction:**

Defining the purpose of an emergency preparedness plan

## **The Emergency Response Plan:**

Identifying key components and action items

# Social Impact to a Disaster

- Casualties – death, illnesses, injuries
- Destruction of property – structures and content
- Disruption to community infrastructure - electricity, water, fuel, telecommunications, transportation
- Unforeseen dangers – animal displacement





# Disaster's effect on Blood Centers



AABB Interorganizational Task Force on Domestic Disasters and Acts of Terrorism defines **disaster** as a...



- Sudden surge in demand for blood beyond the norm OR
- Disruption to blood collector's operations OR
- An event that requires immediate replacement or resupply of the region's blood inventory

# Causes of Disaster

## **Natural disasters:**

- Hurricanes, winter storms, floods, fires, epi/pandemic infections...

## **Man-made disasters:**

- Arson
- Acts of terrorism
- Civil unrest
- Disruption to main transportation infrastructure
- Electric power disruptions
- Interruptions to blood center processes: collection, testing, transport
- Mass shootings
- Etc...

# The Purpose of an Emergency Response Plan

- To coordinate and collaborate effort between the blood center and the receiving medical facility
- To identify processes and actions to ensure blood product availability in the event of mass surge needs
- To maximize systemwide efficiency by avoiding redundancy and minimize communication failures
- To establish self-sufficiency with a triage system to sustain inventory for ~ 6 days

# Requirement for an Emergency Response Plan

AABB Standard 1.4, 31<sup>st</sup> edition

*'The BB/TS shall have emergency operation policies, processes, and procedures to respond to the effects of internal and external disasters.'*



# Emergency Response Plan

# The Emergency Response Plan in a Nutshell

1. Risk assessment for disaster types
2. Establish a local/ regional/national blood supply chain
3. Identify key points of contacts
4. Identify primary and alternate routes of communication
5. Identify secondary couriers for product transport
6. Identify resource back-ups
7. Accelerate collection and processing activities to supply blood in impacted or to support affected areas
8. Test the process

# Not all Responses Fit a Disaster

## Hurricane

- Develop process to distribute blood prior to 'hit'
- Consider effects of flooding, high winds on generators
- Disperse facility fleet to minimize loss
- Prepare regional/ national support blood center for surge blood needs

## Explosive Event

- Assess local areas for threats
- Plan for facility closure
- Mobilize immediate local emergency transport
- Coordinate immediate blood needs among local hospitals and blood centers.
- Mobilize regional/ national blood centers, AABB Disaster Task Force

# Disaster Risk Assessment

- Key step before developing the emergency response plan
- Each type of disaster requires a different approach and resources, which can be challenging to maintain proficiency and costly.
- To assist, AABB has generated a risk assessment tool to prioritize those hazards most likely to be encountered for incorporation into the disaster response plan
- Different disaster types are assessed for degree of damage as well as resources required for recovery

## Risk Assessment Chart (with sample data)

Type of Disaster	Probability of Occurrence	Human Impact	Property Impact	Business Impact	Recovery Resources Needed	Total Score
	High Low 5←---→ 1	High Low 5←---→ 1	High Low 5←---→ 1	High Low 5←---→ 1	High Low 5←---→ 1	
<b>External Hazards</b>						
<i>Pandemic influenza</i>	5	5	1	5	5	21
<i>Earthquake</i>	3	3	4	4	4	18
<i>Hurricane</i>	1	1	1	2	2	7
<b>Internal Hazards</b>						
<i>Flooding</i>	4	1	4	3	2	14
<i>Workplace violence</i>	2	5	2	4	1	14

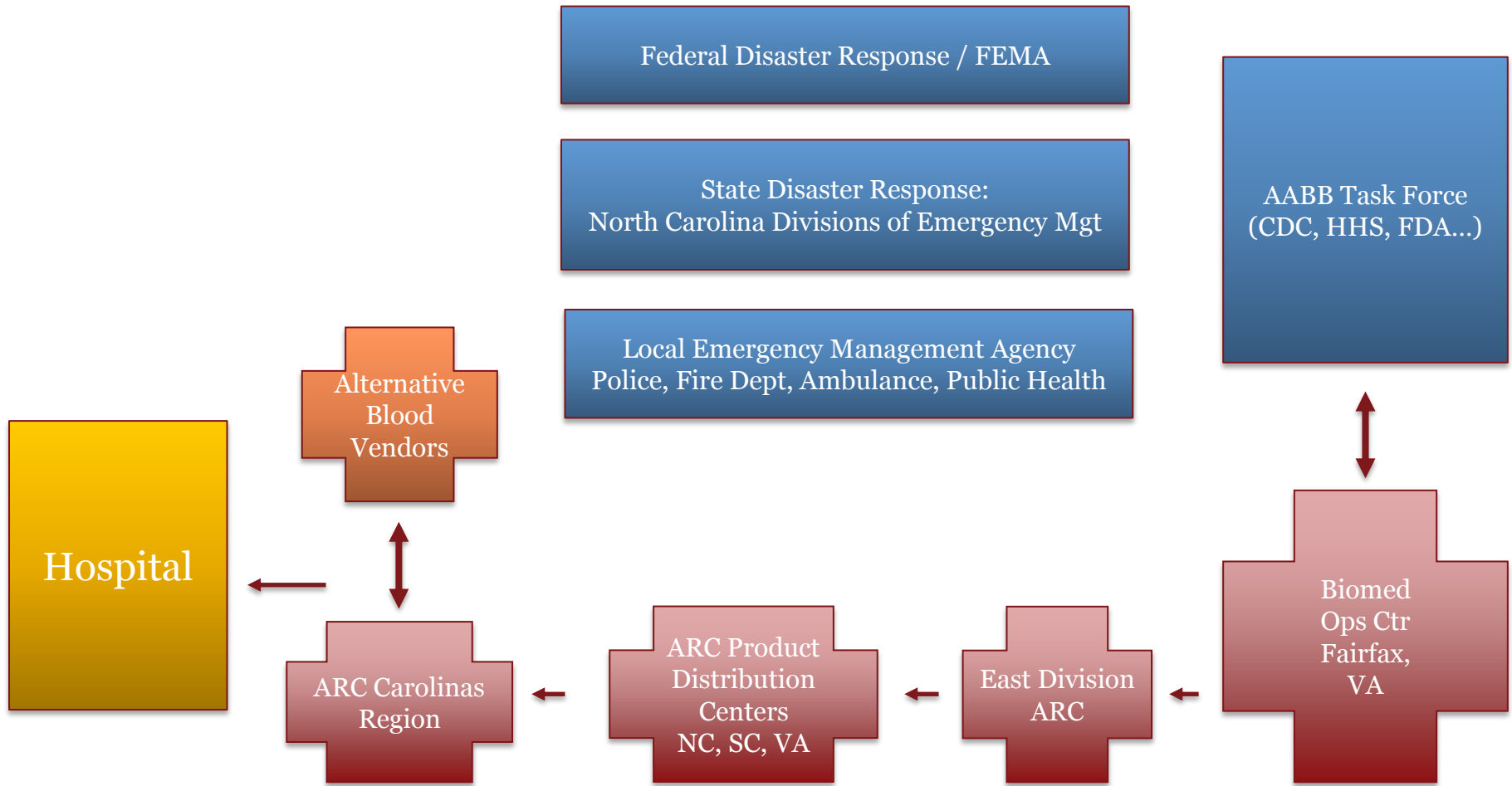
### Probability Score

5: high, >80% event would occur  
 4: likely, 50 – 80%  
 3: possible, 50%  
 2: low to moderate, 10 – 50%  
 1: not likely, <10%

### Impact

5: catastrophic  
 4: high  
 3: moderate  
 2: low to moderate  
 1: negligible

# Establish Regional / National Blood Supply Chain





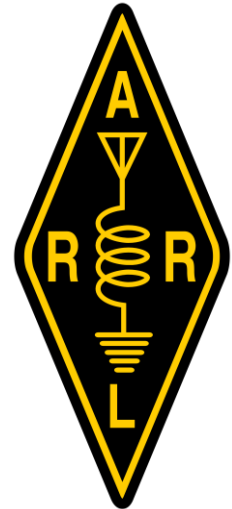
# Communication – Key Contact List

Blood Center	Hospital
Primary: Customer Service	Primary: Blood Bank
Secondary (back-up to Customer Service)	Hospital Emergency Command Center
Manufacturing/Distribution/Transportation	Transfusion Medicine On-call
Non-ARC commercial couriers	Alternative Blood Centers
IRL	
Medical Director On-call	
Blood Collections	
Regional Disaster Relations Officer / Communications	
Federal and State Disaster Response AABB Disaster Task Force	

**\*\*Update Annually\*\***

# Identify Primary and Secondary Communication

- Land lines
- Cell phones with texting
- FAX
- Laptop with internet capability
  - Email, social media websites
  - Local Messengers - couriers
- Satellite phone / VoIP Internet
  
- Amateur HAM radio
- Government Emergency Telecommunication Service (GETs)
- Wireless Priority Service (WPS)



# Establish Emergency Transportation Contacts

- Secondary commercial couriers
- ARC Humanitarian Volunteer Service
- Emergency Medical Service
- Highway Patrol
- Local Police
- USAF Civil Air Patrol

Note: determine inventory capacity/conditions of affected hospital. If inventory conditions are impacted, may need to coordinate with nearby medical facilities to serve as supporting storage sites

# Standardize Hospital Communication

Product need is submitted using a consistent format

Example: AABB Emergency Plan Documentation

\*note: this form is restricted to RBC units

**Emergency Plan Documentation Form: Hospital**

Date / Time \_\_\_\_\_ / Type of Event \_\_\_\_\_

---

To: \_\_\_\_\_  
 Initial emergency response with MAR Key Contact will identify who receives this form

---

From (Name): \_\_\_\_\_ VCU Key Contact

Location: \_\_\_\_\_ (Blood Bank or Hosp Incident Command Center)

Phone: \_\_\_\_\_ Cell: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

---

**Hospital Medical Needs Assessment (from AABB Disaster Handbook):**

*Hospital Admissions Expected (Disaster-Related Only)*

Total Current Hospital Admissions: \_\_\_\_\_

Total Potential for Expected Hospital Admissions + \_\_\_\_\_

Total Hospital Admissions Expected (X) = \_\_\_\_\_

**Type O (both + and -) RBC available**

Total Type O RBCs in Hospital Inventory: \_\_\_\_\_

Total Type O RBC needed for non-disaster: - \_\_\_\_\_

Total Hospital O RBC Available: (Y) = \_\_\_\_\_

**Calculate total number of units needed from ARC:**

Total Hospital Admissions Expected	<i>Multiply (X) by 3</i>	Total Type O RBC Needed	(-) minus	Total Type O RBC Available	=	Total Type O RBC Needed
(X) _____	x 3* units=	_____		(Y) _____	=	_____

# Assume ALL Primary System will Fail

## Identify and test regularly back-up systems

- Communications: internet, FAX, cell phone, hospital switchboard
- Local utilities: Electric and energy company, water, fuel
- Packaging materials: containers, wet/dry ice...
- Transportation vehicles
- Confirm '**vendor priority**' status with local utilities
- Test back-up sources on a routine basis



# For Consideration: Regulatory

- Ensure emergency and exceptional release processes are in place
- In the event of an outage, approved back-up systems are to be in place (i.e. manual labeling)
- Identify trained personnel and establish a contact list of those who agree to be readily available during an emergency
- Contact AABB Disaster Task Force for guidance on FDA variances, assessed case-by-case basis (i.e. 9/11/2001 'unlicensed – for emergency use only')

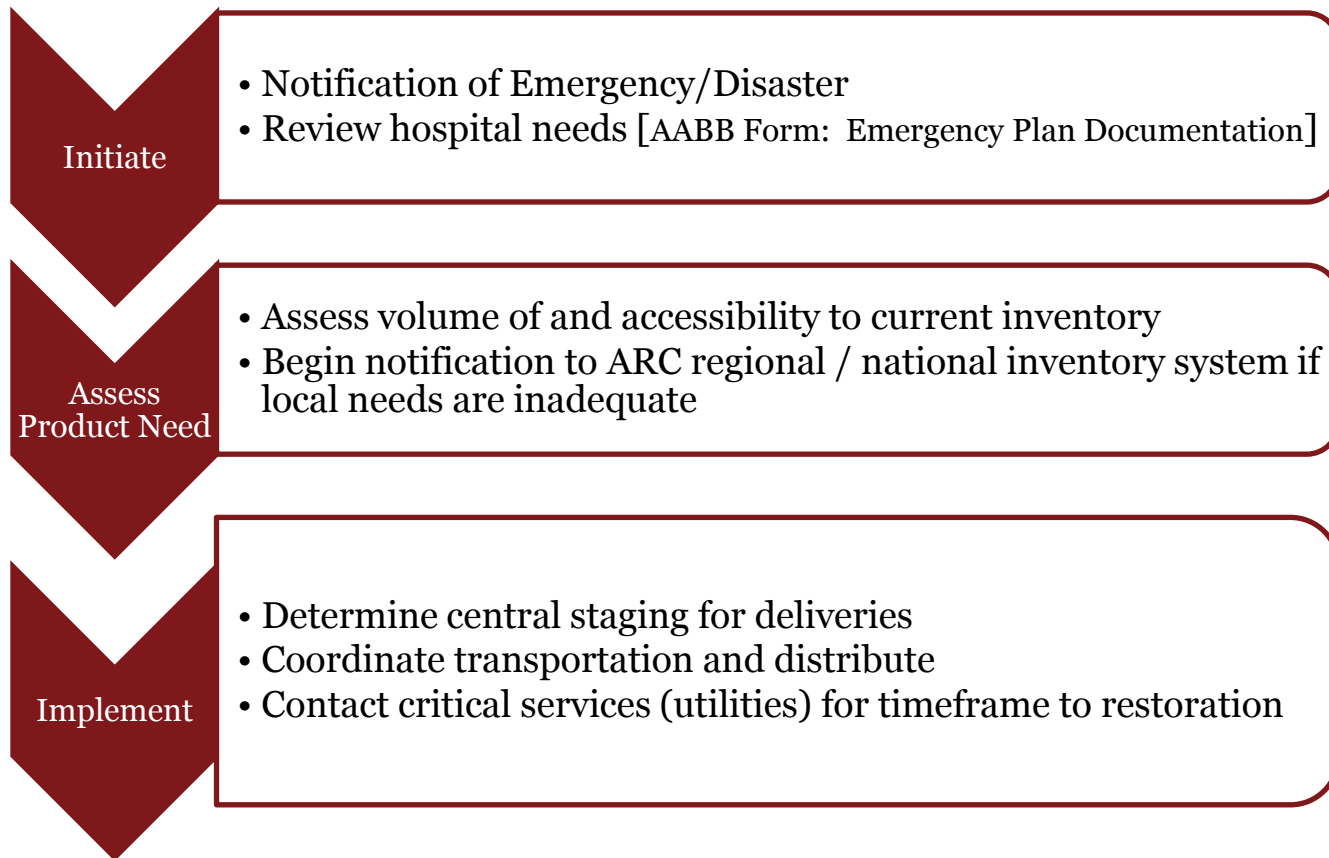


# For Consideration: Staff Needs

- Housing (cots at facility, hotel, home stays...)
- Food
- Water
- First aid
- Blankets
- Battery powered radios
- Flashlights
- Etc...



# The Emergency Response Plan in Action



**\*\*Perform annual testing, with simulations\*\***

# Resources

- **AABB, Disaster Operations Handbook: Coordinating the Nation's Blood Supply during Disasters and Biological Events (2008)**

<https://www.aabb.org/programs/disasterresponse/Documents/disastophndbkv2.pdf>

- **California Blood Bank Society, Disaster Response Plan (2012)**

[http://c.ymcdn.com/sites/www.cbbsweb.org/resource/collection/E637C37C-59BC-4012-83B6C9F1201A43D4/CBBS\\_Disaster\\_Response\\_Plan\\_No\\_Appendices.pdf](http://c.ymcdn.com/sites/www.cbbsweb.org/resource/collection/E637C37C-59BC-4012-83B6C9F1201A43D4/CBBS_Disaster_Response_Plan_No_Appendices.pdf)

- **CDC, Managing Surge Needs for Injuries: Blood Bank Response (2010)**

<https://www.acep.org/WorkArea/DownloadAsset.aspx?id=43036>

# **DON'T PANIC**

BOOK 1:



## **EMERGENCY CARE**

*You can do this.  
Go to next page!*

A

B

C

D