

# Ways to Utilize MRC Volunteers



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# Natrona County MRC

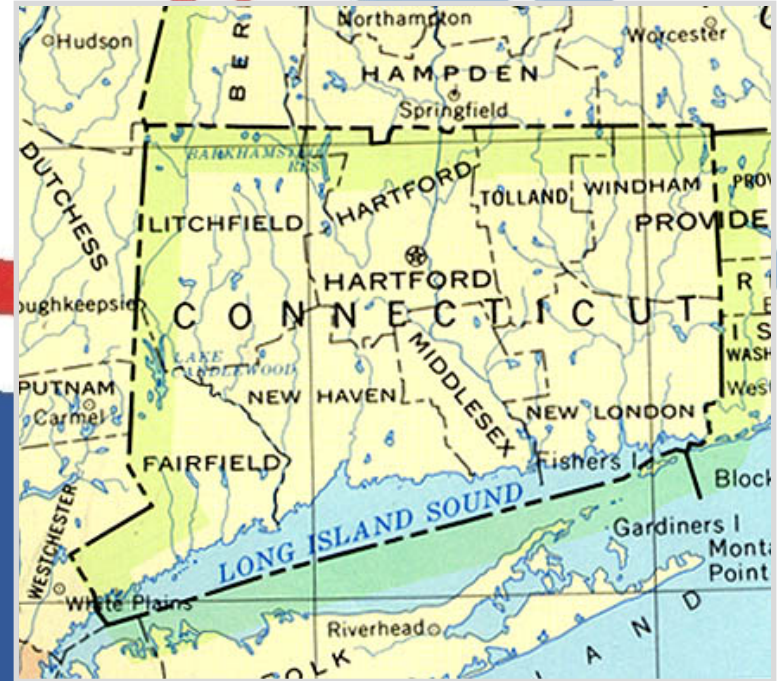
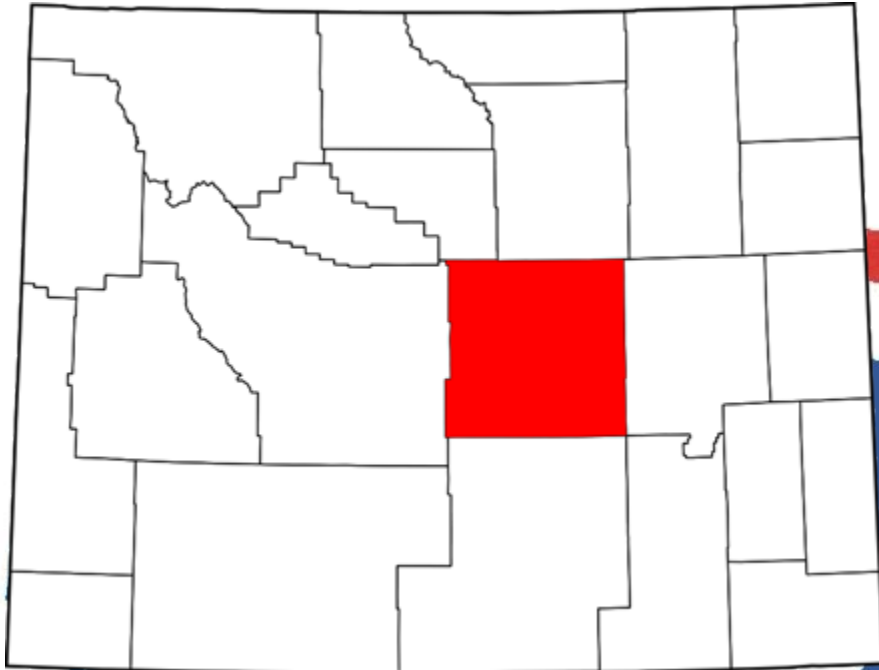


A Mission-Driven Organization

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Marty Thone, M.S., Ph.D.

# Natrona County, Wyoming



- Area – 5,376 sq mi

- Pop – 70,000

- Area – 5,543 sq mi

- Pop – 3.4 million

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# Casper, WY

- Pop – 58,000
- 2<sup>nd</sup> Largest city in Wyoming

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# Natrona County MRC

- Established 2005
- Medical Response Unit of the Casper-Natrona County Health Department
- Currently 54 Volunteers
- 2 Missions
  - Disaster Medical Response
  - Firefighter Rehabilitation

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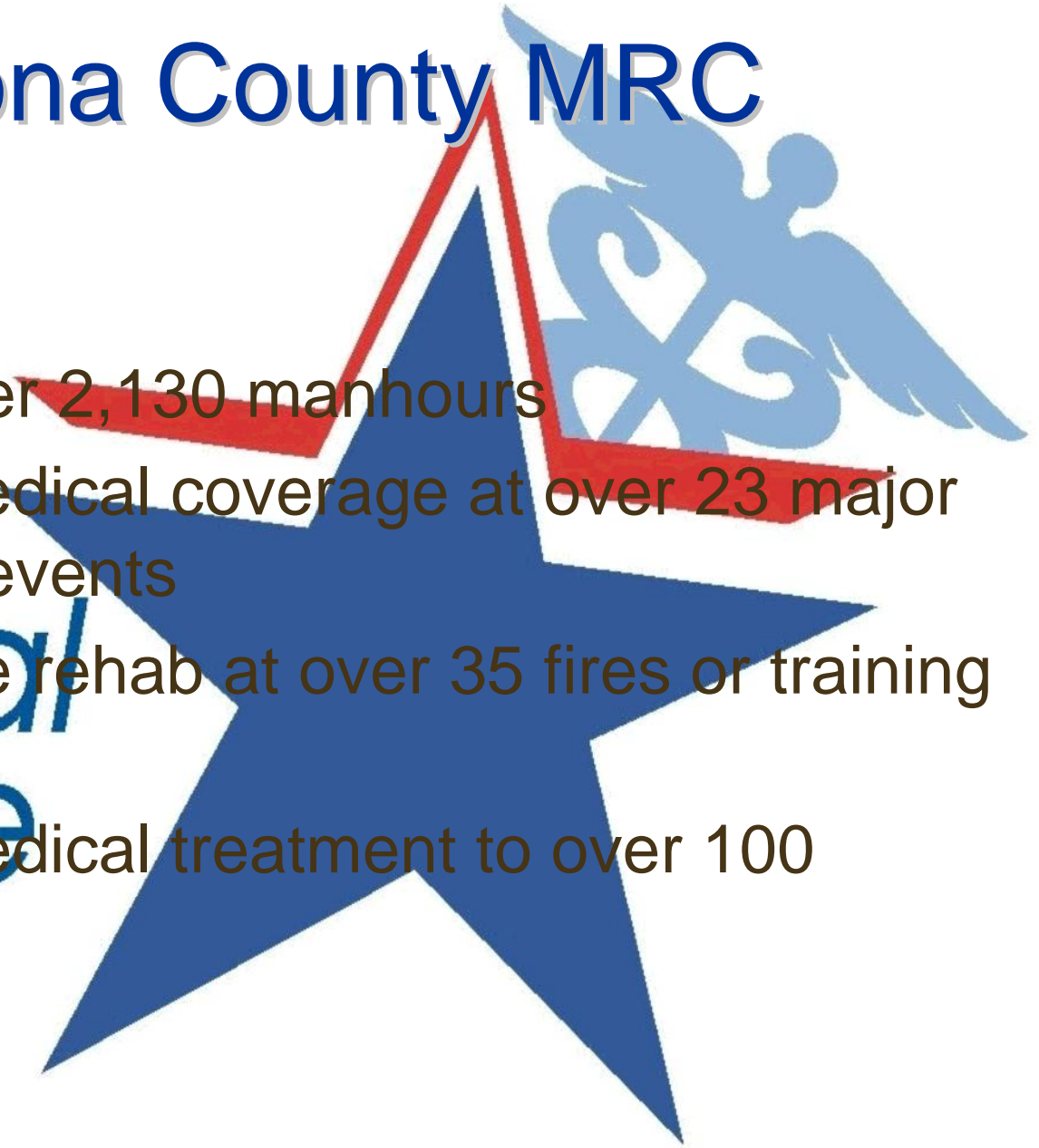


# Natrona County MRC

- Statistics

- Donated over 2,130 manhours
- Provided medical coverage at over 23 major community events
- Provided fire rehab at over 35 fires or training exercises
- Provided medical treatment to over 100 persons

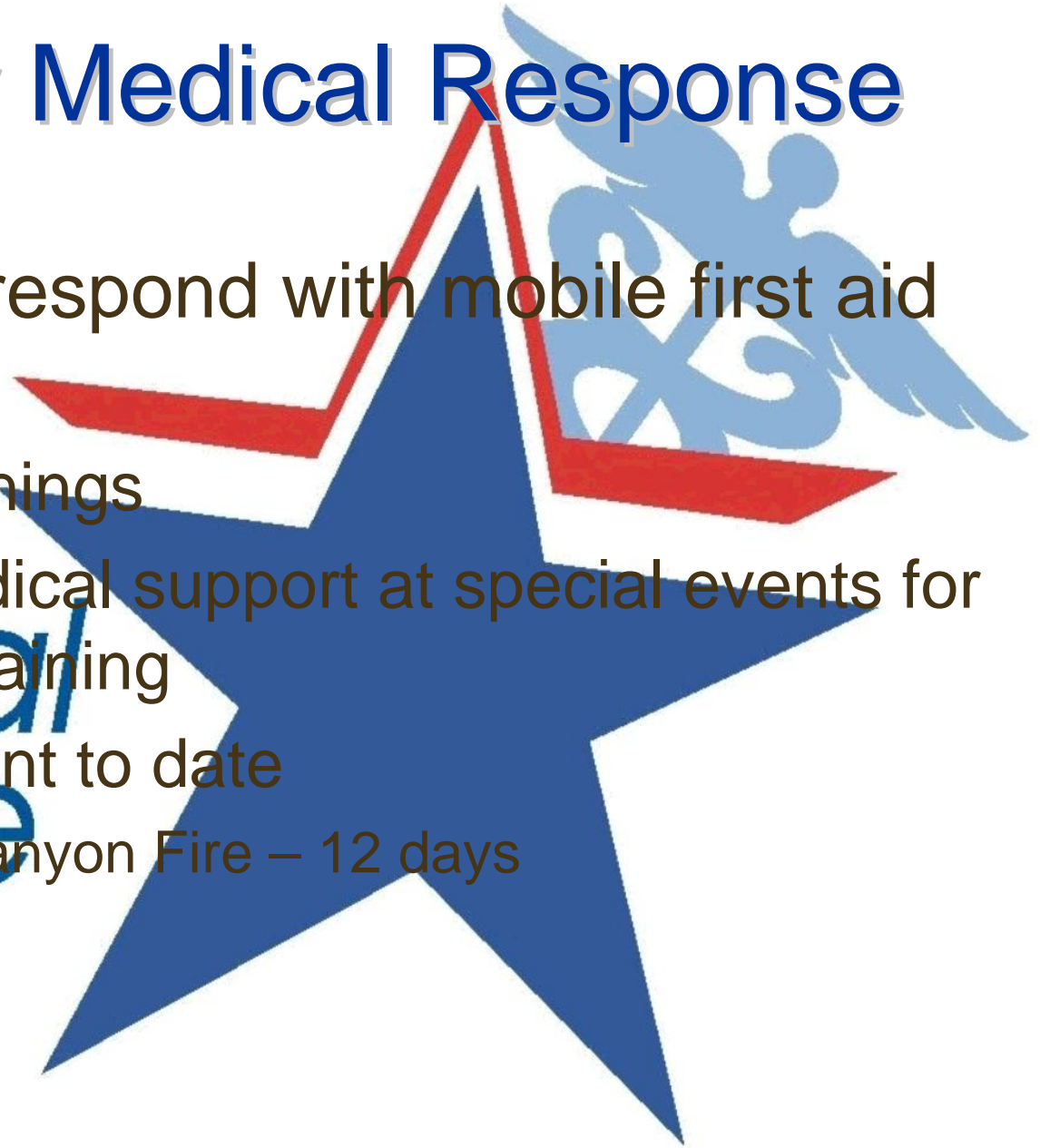
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# Disaster Medical Response

- Prepared to respond with mobile first aid assets
  - Monthly trainings
  - Provide medical support at special events for real-world training
  - Longest event to date
    - Jackson Canyon Fire – 12 days

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# Medical Care Delivery

- Established 4 levels of expertise/training
- Mandatory training prior to treating any person
- Standard treatment protocol (American Heart Assn.)
- Work in teams of 2 or 3: one providing oversight
- Document all treatment rendered

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# Assets



# Firefighter Rehabilitation

- Initial response by Health Department Special Operations personnel
  - Supplemented by Natrona County MRC personnel for extended events
  - Operate under specific protocols

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# Firefighter Rehabilitation

- A systematic activity to care for the well-being of the firefighter and extend the ability to continue to perform

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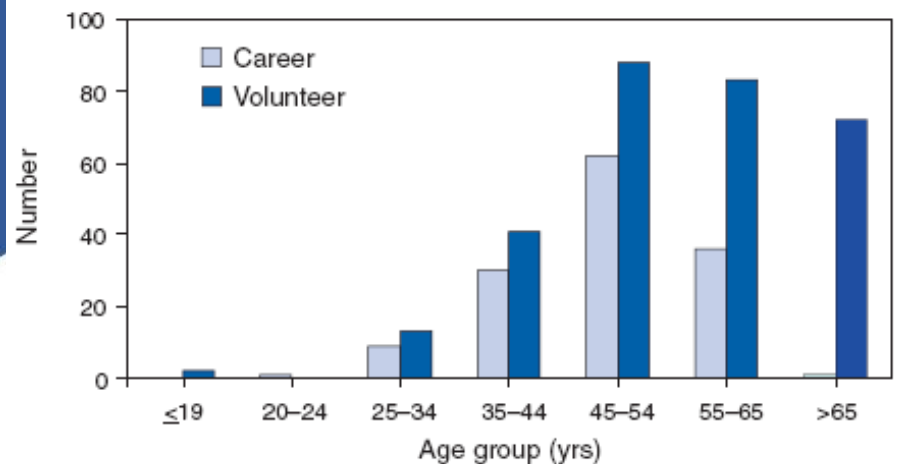


# Firefighter Deaths

- From 1994 to 2004
  - 978 on-duty firefighter deaths
  - 449 (46%) attributed to stress/overexertion resulting in a heart attack

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FIGURE 1. Number of fatalities caused by heart attacks\* among career and volunteer firefighters, by age group — United States, 1994–2004



\* For example, myocardial infarction or arrhythmia.

# Duty to Protect Health and Safety

A stylized graphic in the top right corner. It features a blue silhouette of a person with wings, appearing to be in motion or carrying something. To the left of the person is a large, upward-pointing triangle with a red border and a blue interior.

- OSHA “general duty” clause places a duty on employers to take reasonable precautions to protect the health and safety of workers.
- NFPA Standards require rehabilitation
  - Rehab to be provided where required (1500)
  - Is part of tactical level management (1561)
  - Provides a “Recommended Practice” for rehab (1584)

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# Firefighting is Hot, Strenuous Work

A stylized graphic in the top right corner. It features a red and blue fire triangle on the left. To its right is a blue silhouette of a firefighter in a crouching position, holding a hose. The background of the graphic is a light blue gradient.

- Extremely high temperatures
  - Little opportunity to cool their bodies through normal sweating
  - Moderate to heavy work generates metabolic heat
  - Bunker gear makes it difficult to dissipate this heat build-up - can result in heat stress
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# Defining Rehab

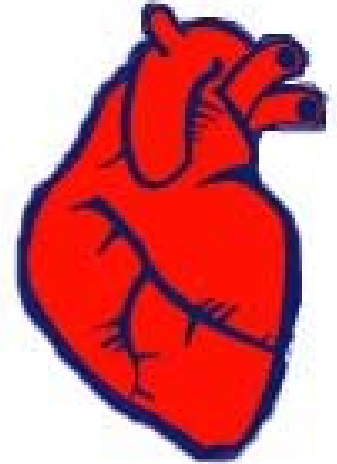


Rehab Is:

- An attempt to restore (a person) to normal physical functioning
- Efforts used to:
  - Ensure adequate hydration
  - Limit core temperature heating with “active cooling”
  - Provide rest
  - Sustain a Firefighter’s energy

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# Heat to Heart



- Firefighting stresses the heart
  - Generates heat build-up
  - Fluid loss through sweating
- Stroke volume is decreased - heart stress is increased
- Core temperature rise - stresses the heart
- Blood “thickens” increases heart stress
- Need to provide effective rehabilitation to minimize potential for loss

# The 6 Rs of Comprehensive Rehab

- Rest
- Rehydration
- Replenishment
  - electrolytes
- Restoration
  - Active Cooling
- Refueling
- Rx/Medical Monitoring



# Emergency Scene Rehabilitation

– Support During:

- Emergency Operations
- Non-emergency/Extended Operations
- Training Exercises



# Emergency Scene Rehabilitation

- Four Steps of Firefighter Rehab
  - Step 1 – Processing
    - Check in Providing Name & Department
    - Doff Turnout Gear – Helmet, Coat, Hood, Loosen Pants
    - Clean Hands & Face
    - Initial Vital Signs
      - Pulse
      - Blood Pressure
      - Body Temperature
      - Oxygen Uptake



# Emergency Scene Rehabilitation

- Four Steps of Firefighter Rehab
  - Step 2 – Rehabilitation
    - Rest Period of 15 Minutes
    - One Liter of Fluid (Oral)
      - Water or Sports Drink
    - Meal Supplement Bars (Power Bar)



# Emergency Scene Rehabilitation

- Four Steps of Firefighter Rehab
  - Step 2 – Rehabilitation
    - Reducing core temperature of primary concern
    - If the ambient temperature is greater than 80 degrees F. or otherwise deemed necessary
      - Employ Misting Units
      - Employ Hand and Forearm Immersion (@65 degree water)



# Emergency Scene Rehabilitation

- Four Steps of Firefighter Rehab
  - Step 3 – Evaluate Rehab's Effect
    - Repeat Vital Signs Following the Rest Period
      - Pulse
      - Blood Pressure
      - Body Temperature
      - Oxygen Uptake



# Emergency Scene Rehabilitation



- Four Stages of Firefighter Rehab
  - Step 3 – Evaluation

## Red Flags:

- Tympanic temperatures of 100.6 F or greater.
- Diastolic BP of 90mmHg or greater.
- Systolic BP of 160mmHg or greater.
- O2 Saturation below 90 or above 97 on room air.
- Irregular or rapid resting pulse rates of 110 bpm or greater.

**Anyone with a Red Flag condition will be provided another rest period with hydration.**

# Emergency Scene Rehabilitation

- Four Steps of Firefighter Rehab
  - Step 4 – Treatment
    - If a Red Flag condition still exists after the second rest period, or if the responder complains of any cardiac symptoms
    - EMS will be notified and transport considered

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# University of Minnesota Medical Reserve Corps: 35W Bridge Collapse Response



**Kathy Berlin RN,PHN**  
MRC Coordinator

Academic Health Center  
Office of Emergency Response

# Current Membership: U of MN MRC

- AHC students, staff and faculty
  - School of Public Health
  - Medical School
  - School of Nursing
  - College of Pharmacy
  - School of Dentistry
  - College of Veterinary Medicine
- Boynton Health Service staff
- Registered members: 800

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# MRC Functional/Strike Teams

- Veterinary Medicine Response Team
- Metropolitan Pharmaceutical Cache Team
- Personal Protective Equipment Fit-Testing Team
- Behavioral Health Crisis Response Team

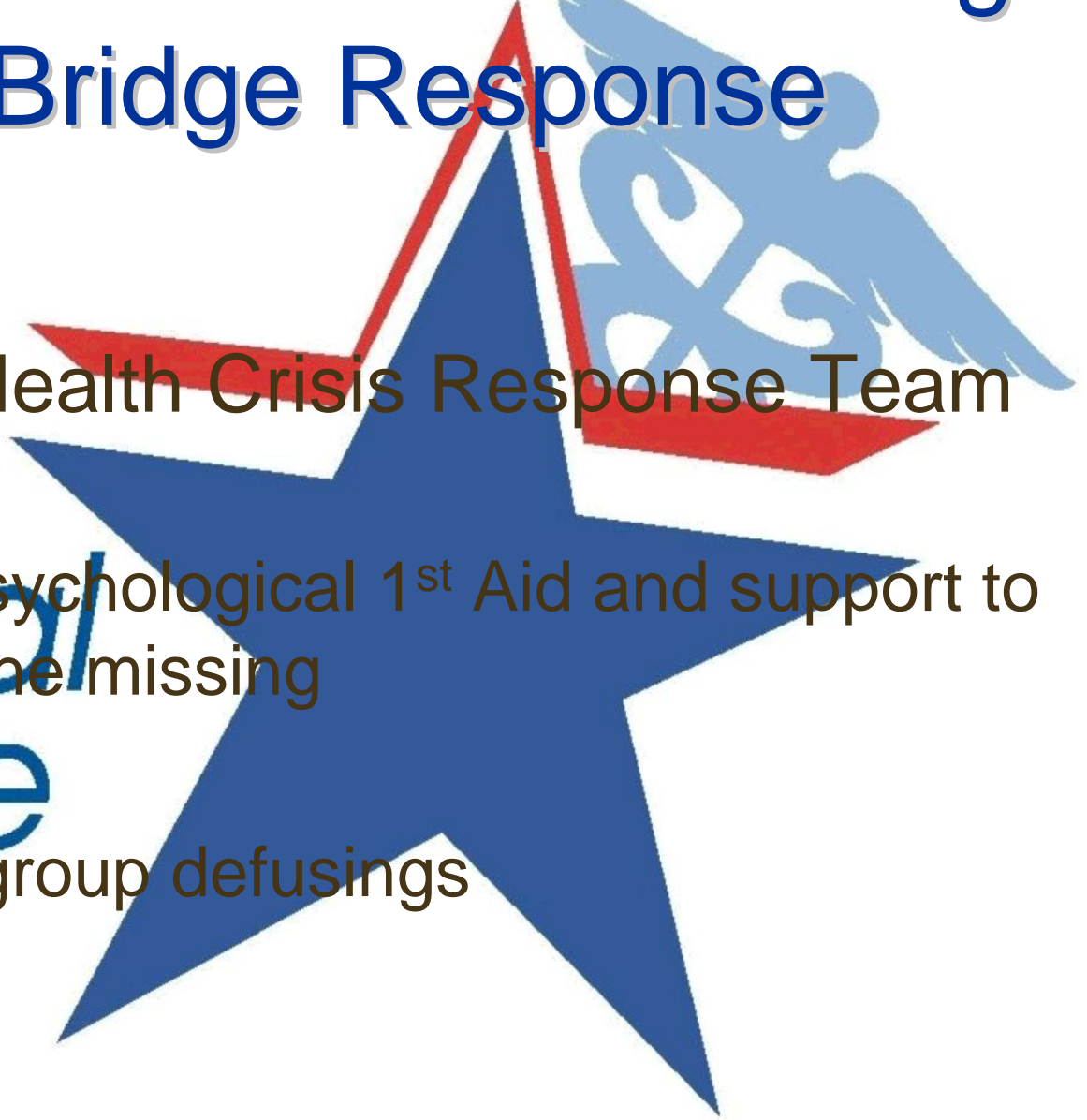
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# Role of MRC Members During 35W Bridge Response

- Behavioral Health Crisis Response Team Members:
  - Provided Psychological 1<sup>st</sup> Aid and support to families of the missing
  - Facilitated group defusings

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# Role of MRC Members During 35W Bridge Response

- Medical (RN/Physician) Members:
  - Staffed FAC Medical Station
    - Health Resource - Triage
    - Dispensed OTC meds
    - Provided prescriptions and referrals
    - Basic 1<sup>st</sup> Aid
    - Psychological 1<sup>st</sup> Aid

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# 35W Bridge Collapse Response Timeline



- Wednesday, August 1
  - Deployed 3 members to UMMC-Fairview
- Thursday, August 2
  - 6 members provided Psychological First Aid and support to families of the missing at the Family Assistance Center

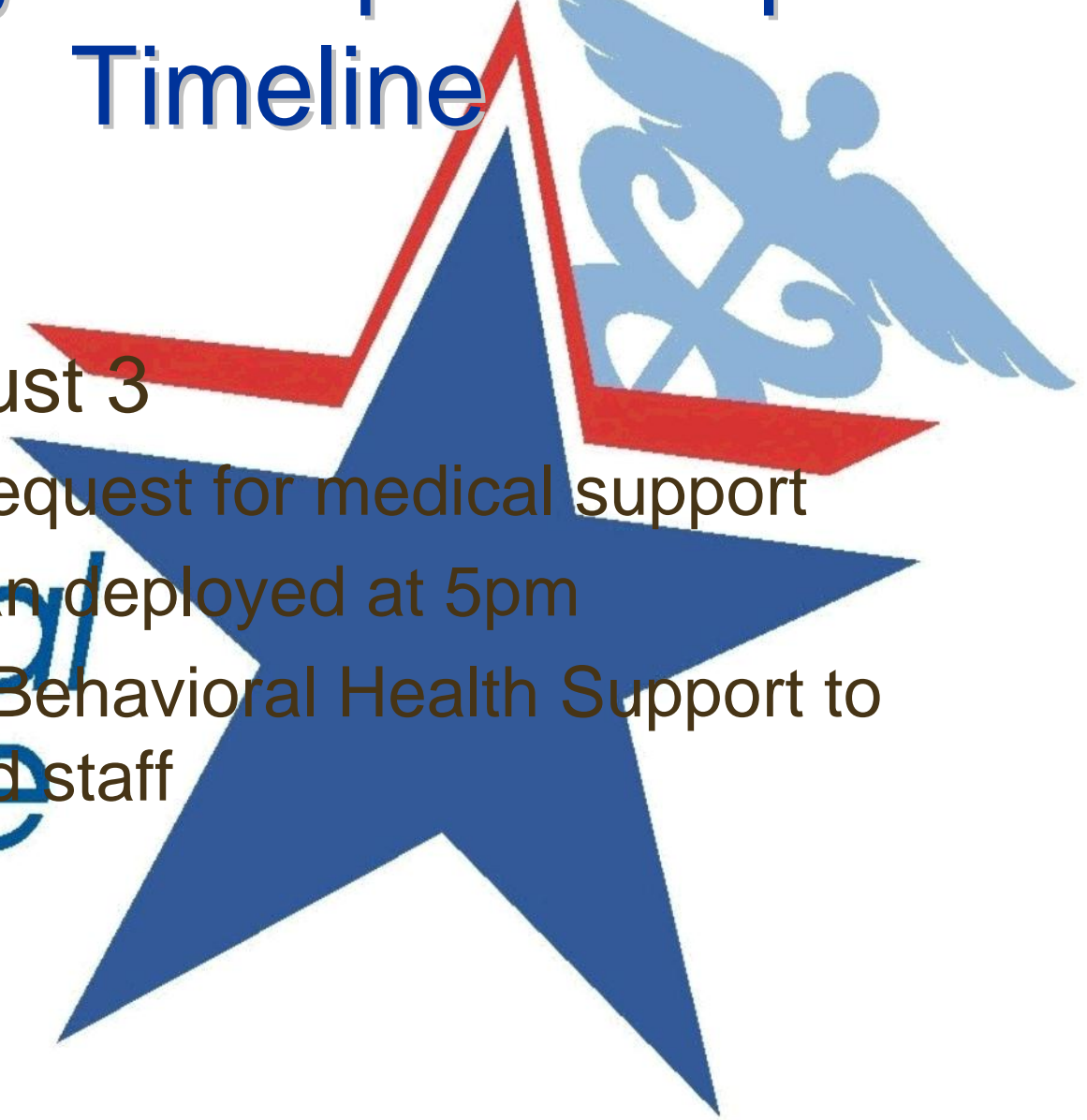
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# 35W Bridge Collapse Response Timeline

- Friday, August 3
  - Received request for medical support
  - 1<sup>st</sup> Physician deployed at 5pm
  - Continued Behavioral Health Support to families and staff

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# Bridge Collapse Response Timeline

- Saturday, August 4
  - Family Assistance Center relocated to Augsburg College
  - 12 members deployed
    - Behavioral Health
    - Medical Station

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# 35W Bridge Collapse Response Timeline

- August 5-10
  - Continued “Medical Station”

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– Continued Behavioral Health Response



# Support Provided to MRC Members During Response

- Mission assignment and logistics
- 24/7 OER Staff Support
- Post Deployment Debriefing

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# Lessons Learned and Next Steps: Communication

- Lessons Learned
  - Response Updates
  - Communication with partners is key
- Next Steps
  - Contact Cards
  - Enhance communication plans

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# Lessons Learned and Next Steps: Office of Emergency Response Administration Plans

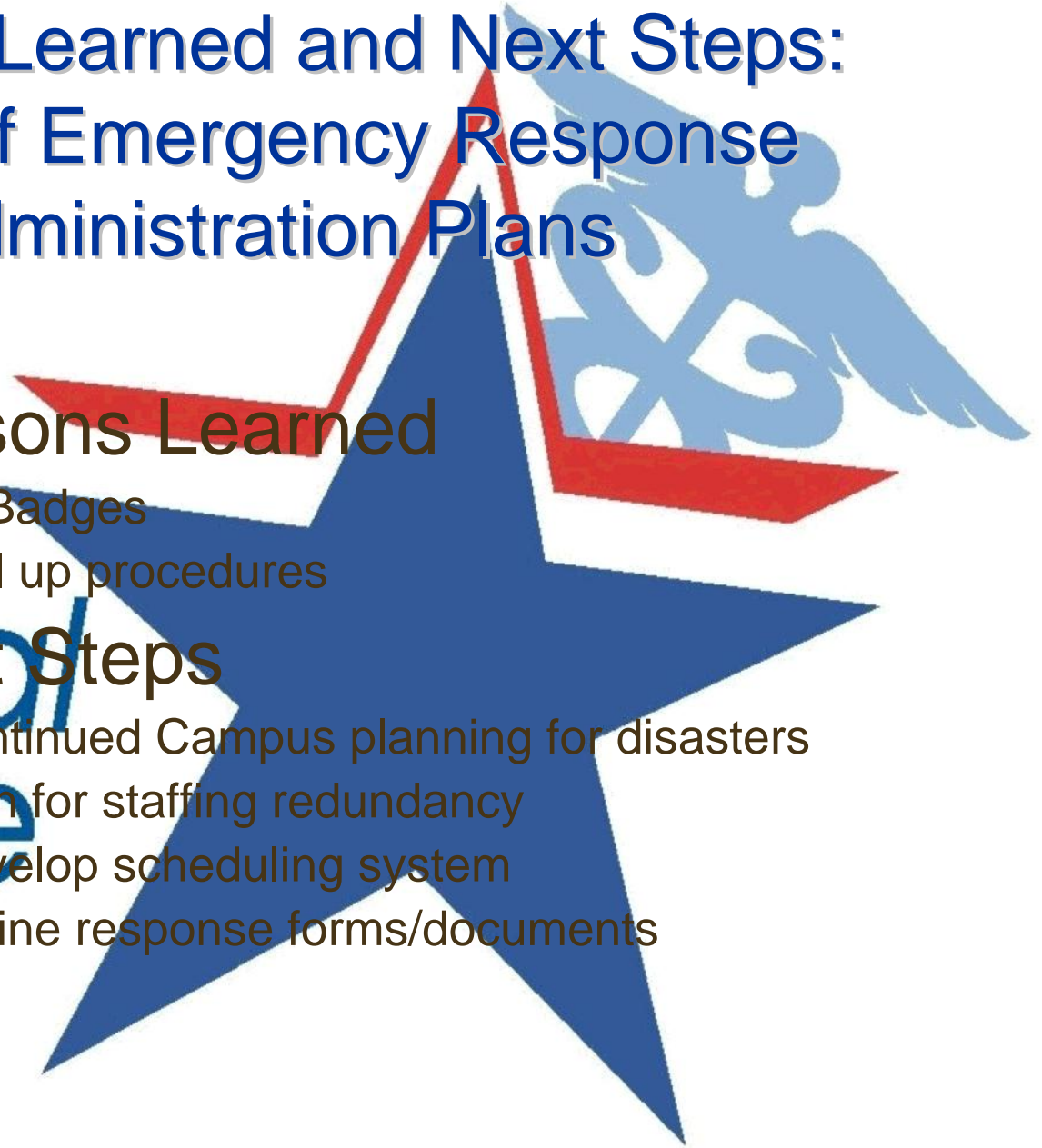
- **Lessons Learned**

- ID Badges
- Call up procedures

- **Next Steps**

- Continued Campus planning for disasters
- Plan for staffing redundancy
- Develop scheduling system
- Refine response forms/documents

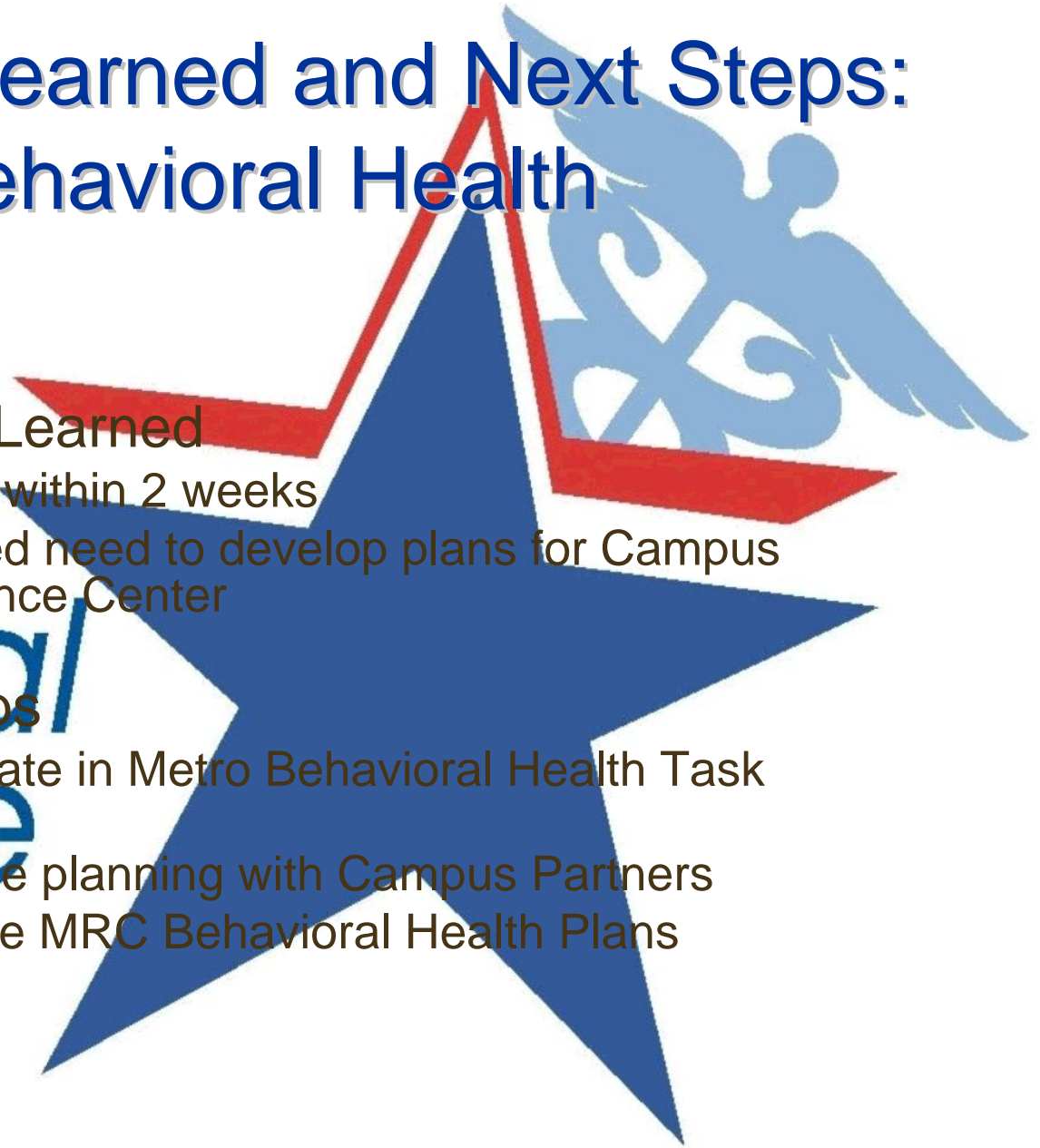
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# Lessons Learned and Next Steps: Behavioral Health

- Lessons Learned
  - Debrief within 2 weeks
  - Identified need to develop plans for Campus Assistance Center
- Next Steps
  - Participate in Metro Behavioral Health Task Force
  - Continue planning with Campus Partners
  - Enhance MRC Behavioral Health Plans

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# Roles for Youth in the Medical Reserve Corps

Kitty Juul

Program Manager, University of New Mexico Center for Disaster Medicine  
New Mexico MRC State Coordinator

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# Benefits of Working With Volunteers Under Age 18

- Youth can provide valuable assistance to MRC units



- Youth are introduced to various professions

- Youth can provide health and preparedness education to peers and community members

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# Benefits of Working With Volunteers Under Age 18

- Youth who are licensed can enter the workforce while in high school or immediately after graduation
- Some Jr. MRC programs provide college credit for courses taken in high school, giving students a head start when they enter college
- Enthusiasm is contagious!

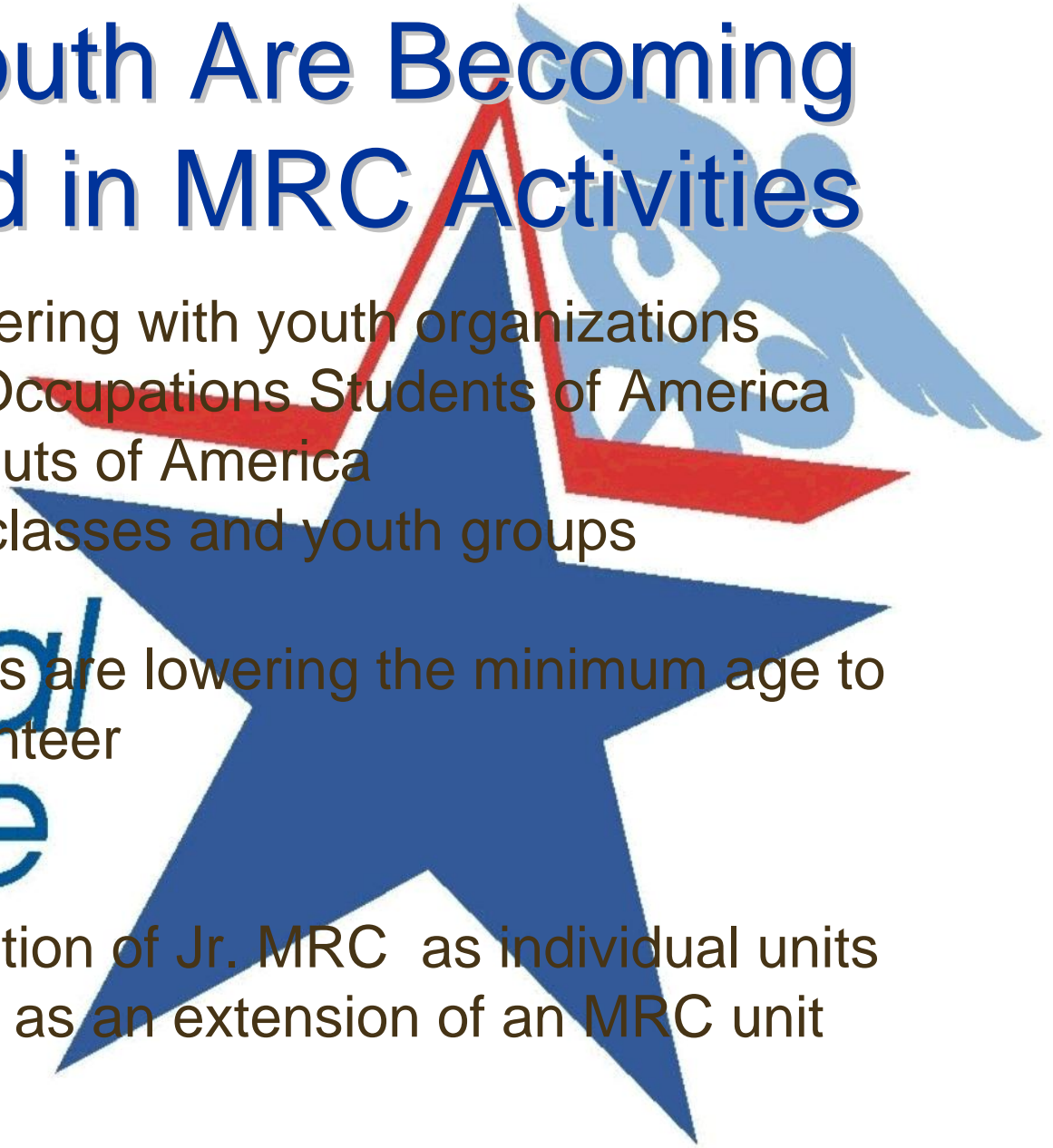
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# How Youth Are Becoming Involved in MRC Activities

- Units are partnering with youth organizations
  - Health Occupations Students of America
  - Boy Scouts of America
  - School classes and youth groups
- Units and states are lowering the minimum age to become a volunteer
  - Junior MRC
    - Registration of Jr. MRC as individual units
    - Jr. MRC as an extension of an MRC unit

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# What Can Those Under 18 Do In an MRC?

- Phone bank
- Administrative assistance
- Logistics support
- First aid stations
- Health education programs
- Immunization clinics
- Shadow volunteers
- Organize blood drives
- Assist in shelters

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# Examples From Across the County



Chattanooga-Hamilton Health Department  
*Chattanooga, TN*



Loudoun MRC  
*Leesburg, VA*



Kauai Jr. MRC  
*Lihue, HI*

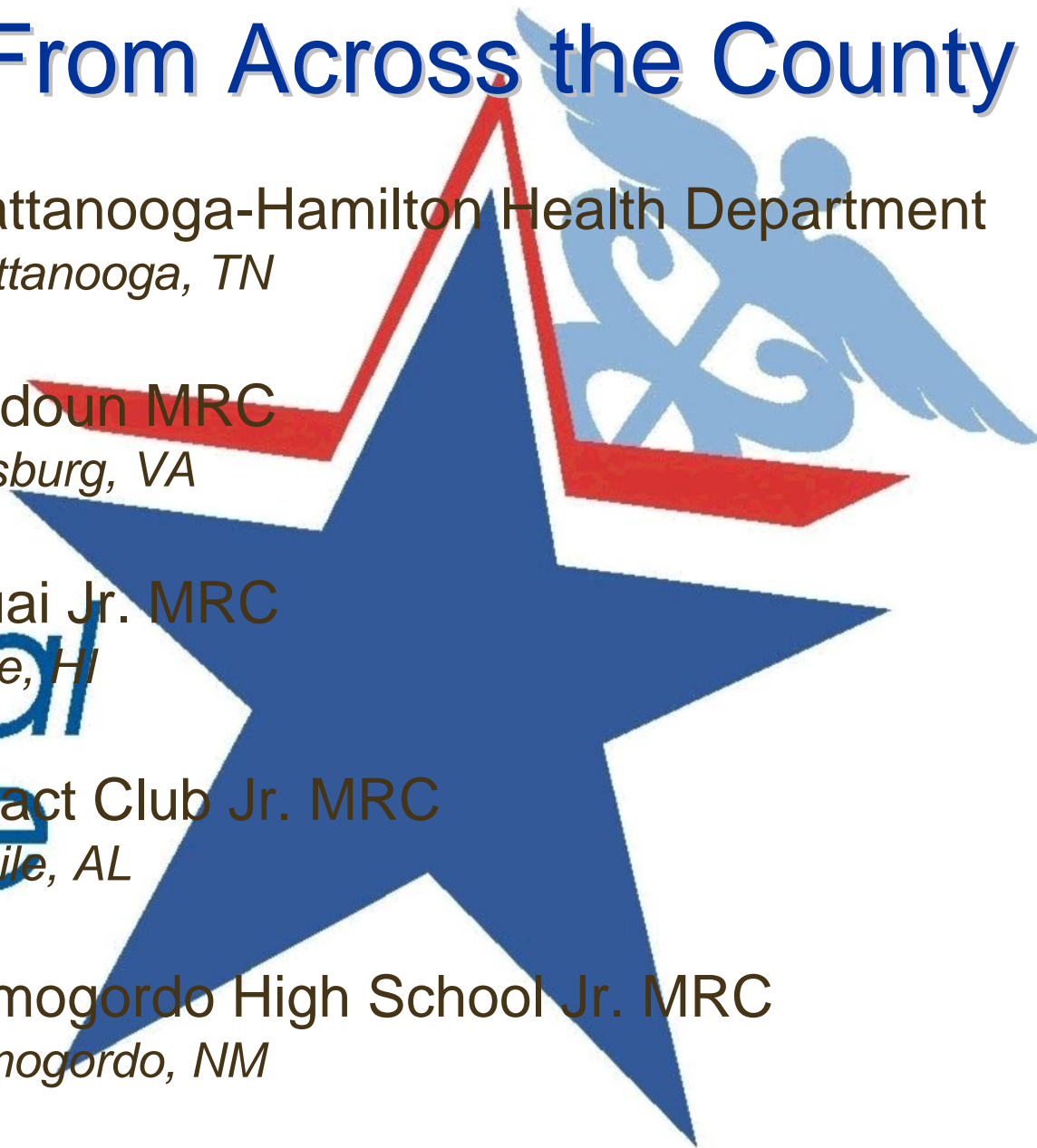


Impact Club Jr. MRC  
*Mobile, AL*



Alamogordo High School Jr. MRC  
*Alamogordo, NM*

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# Chattanooga-Hamilton Health Department

## Chattanooga, TN



*Sponsoring Organization:* Chattanooga-Hamilton County

- Unit partners with Health Occupations Students of America (HOSA)

- Students receive MRC Core Competency training, including ICS 100.a and NIMS 700.a, Point of Dispensing Clinic Training, Disaster Mental Health Awareness Training, Seasonal Influenza/Pandemic Influenza Training and Personal Emergency Preparedness

- Taught a Fire Prevention and Safety Awareness class for the Child Development Center students

- Participated in a flu shot clinic

- Educated students about the benefits of receiving a flu vaccine
- Made posters to advertise flu clinic
- During drill provided patient education under direction of a nurse
- Staffed registration table
- Helped with patient flow
- Provided screening services
- Staffed the exit review station
- Served as mock patients to test the Health Department's plans for high flow and the functional needs population
- Participated in hotwash



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# Loudoun MRC

## Leesburg, VA



*Sponsoring Organization:* Health Department

- Minimum age to volunteer for the MRC was lowered to 16

- Volunteers under age 18 attend a special informational session with a parent or guardian, during which time the liability forms/permission slips are signed

- Youth then attend regular MRC orientation

- Under 18 volunteers work side-by-side with adult volunteers and can participate in all activities

- Restrictions: Youth will never be left alone with medications or needles, will not be assigned to parking lot control, and will have no supervisory positions

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# Kauai Jr. MRC

## Lihue, HI



*Sponsoring Organization:* State of Hawaii Department of Health, Kauai District Health Office  
- Jr. MRC is Integrated with the adult unit

- In June the Jr. MRC will attend the Sequenced Transition to Education into the Public Schools program Parent /Child Fair, a Hurricane Disaster Preparedness Fair

- Attend the senior MRC unit's quarterly training
- Establishing a mentoring program



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# Alamagordo High School Jr. MRC

## Alamogordo, NM



*Sponsoring Organization:* Alamogordo High School  
- Unit is integrated with Health Science Technology (HST) Program

- Development of HST/Jr. MRC curriculum: Includes Medical Terminology, Anatomy and Physiology, Community Emergency Response Team certification, CPR, First Aid, First Responders, EMT-Basic and Intermediate
- Advanced students become instructors of CPR and First Responders in order to certify their peers in the program
- Additional activities include completion of family emergency plans and evaluation of the school emergency plan
- Received recognition for a response at the high school

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# Liability

- Sponsoring organization
- State coverage
- Purchase liability insurance
- Boy Scouts of American Venture program

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*OOPS!*

# Safety

- Provide a safe environment
- Have supervision



As with adult volunteers, have behavioral health professionals available if needed

- Know the volunteers' abilities and limitations
- Always have parental consent

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# Contact Information

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