

Why So Complicated?

Navigating Wildland Fire and Incident Medical
Care

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Disclaimers

- No conflicts of interest.
- USPHS officer and Emergency Physician at Saint Alphonse.
- The opinions expressed here are my own and do not necessarily reflect either of these organizations.

Objectives

- Understand the history of wildland fire medical care
- Describe the different types of care provided on wildland fires
- Understand the different agencies and their authority to provide care on a wildland fire
- Provide some advice for general fireline care
- Discuss what the future may look like





ER Doc
USPHS
BLM Fire & Aviation



Support Team

- Keep the big rocks in the jar and the sand will fit





George Santayana
(Dec 1863-Sept
1952)

“Those who cannot remember
the past are condemned to
repeat it.”

Case Study

Time Zero:

Radio transmission ***“Man down, man down. We need help. Medical emergency. Dozer pad. Broken leg. Bleeding. Drop Point 72 and dozer line. Call 911, we need help.”***

The local sheriff’s office received a call from incident command and began inquiring about a helicopter.

Two air medical services declined the mission due to poor visibility from smoke.

Other firefighters arrived on scene. Nomex[®] shirts are used as pressure bandages on shoulder and leg injuries.

The injured firefighter was reported as having severe bleeding and conscious.

Case continues

- As the medics arrived on scene, they realized the injuries were much more serious than they had been told and decided to facilitate a rapid evacuation via carryout.
- **55 minutes:** The patient was prepared to move, and the decision was made to go to the ambulance rather than wait for the helicopter. The ambulance was approximately 2,000 feet down the dozer line.
- **85 minutes:** A third paramedic arrived on scene and the decision was made to wait for the helicopter. Firefighters started clearing a zone for hoist extraction.



Part of impact tree

Part of impact tree

Wedge Pouch

Right side of saw chain

Undamaged radio harness

Falling axe & wedges

FC-1 left boot

25/07/2008

- **1 hour 50 minutes:** Multiple delays of the USCG helicopter are caused by poor communication of patient status, potential use of a Forest Service helicopter assigned to the fire, and method of extraction. While being transferred to the hoist basket, personnel on the ground report profuse bleeding. No patient care can be given during hoist.
- **2 hours and 47 minutes since the accident.** During the flight, cardiac arrest treatment protocol was initiated, and the helicopter landed at Airport with CPR in progress.
- **3 hours and 26 minutes since the accident.** An ER physician pronounced time of death, via radio. The coroner later determined death was caused by excessive blood loss.



Wildland Fire Lessons Learned Center
Dutch Creek Investigation Report 7/25/2009

Dutch Creek Accident Investigation

Reference: NWCG#025-2010

To: NWCG Organization (NWCG Committees and Program Management Unit)
Geographic Area Coordinating Group (GACG) Chairs
Geographic Area Coordination Center (GACC) Managers
Area Command/Incident Command Council (AC/IC) Chair.

From: NWCG Chair *Wilbur Raage*

Date: May 25, 2010

Subject: Dutch Creek Serious Accident Investigation Report Response:
Three (3) New Incident Management Team (IMT) Daily Operation
Protocols/Procedures

The Dutch Creek Serious Accident Task Team (Task Team), assembled by the NWCG Executive Board in February 2010, was tasked to provide recommendations to resolve the findings from the Dutch Creek Serious Accident Investigation Report and Accident Review Board. Based on the work and recommendations of the Task Team, NWCG is providing direction in three main areas:

1. Standardized Medical Emergency Procedures for Incident Management Teams (IMT) to include in their Incident Emergency Plans
2. Standardized Communication Center Protocols
3. An expanded ICS 206 Medical Plan to include emergency medical procedures that will be reviewed each Operational Period at the Planning Meeting.

Incorporating these procedures and protocols into daily operations and practicing the critical elements should result in faster and more effective medical emergency medical response.

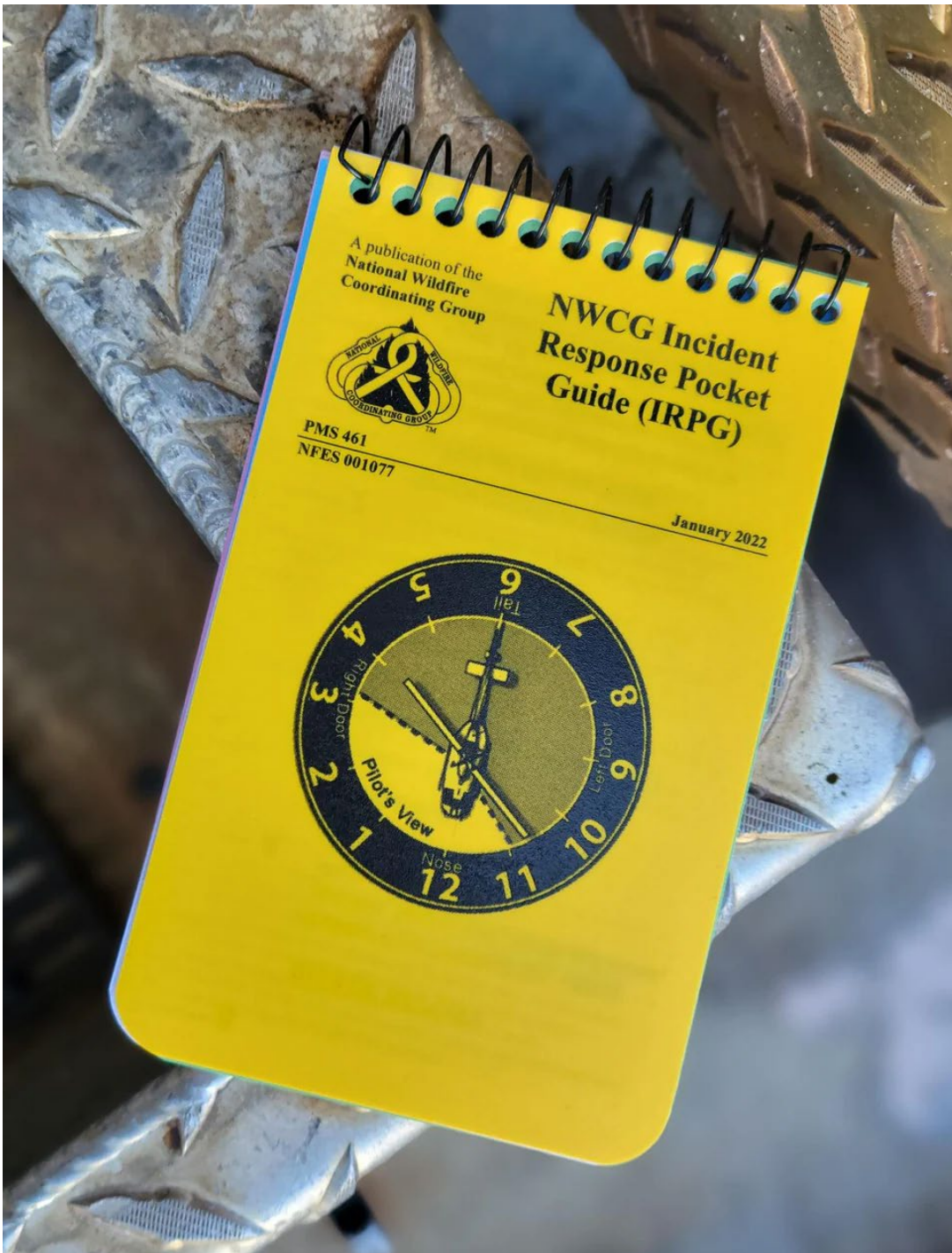
Specifically all IMTs need to incorporate the following protocols into daily operations:

NWCG#025-2010
Dutch Creek Serious Accident
Investigation Report Response:
Three (3) New Incident Management
Team (IMT) Daily Operation
Protocols/Procedures

Incident Communication Center Protocol Standard Elements

COML/designee will ensure the following information is obtained and recorded during medical emergencies:

1. Determine the nature of the emergency.
2. Medical injury/illness? If injury/illness is it life threatening?
3. If life threatening, clear designated frequency for emergency traffic.
4. Identify the on-scene Point of Contact (POC) by resource and last name (i.e. POC is TFLD Smith).
5. Contact Medical Unit Leader immediately.
6. Request POC to provide number injured, patient assessment, and location (geographic and GPS coordinates).
7. Identify on-scene medical personnel by position and name (i.e. on-scene medical personnel is EMT Jones).
8. Request preferred method of patient transport.
9. Determine if any additional resources and/or equipment are needed.
10. Document all information received and transmitted on the radio or phone.
11. Document any changes in the on-scene Point of Contact or medical personnel as they occur.



MEDICAL PLAN (ICS 206 WF)

Controlled Unclassified Information//Basic

| Medical Incident Report | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------|---------------------|---------------|------------|---------------|------------|---------|--|--|--|--|--|-------------|--|--|--|--|--|----------|--|--|--|--|--|
| <p>FOR A NON-EMERGENCY INCIDENT, WORK THROUGH CHAIN OF COMMAND TO REPORT AND TRANSPORT INJURED PERSONNEL AS NECESSARY.</p> <p>FOR A MEDICAL EMERGENCY: IDENTIFY ON SCENE INCIDENT COMMANDER BY NAME AND POSITION AND ANNOUNCE "MEDICAL EMERGENCY" TO INITIATE RESPONSE FROM IMT COMMUNICATIONS/DISPATCH.</p> <p>Use the following items to communicate situation to communications/dispatch.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. CONTACT COMMUNICATIONS / DISPATCH (Verify correct frequency prior to starting report) <small>Ex: "Communications, Div. Alpha, Stand-by for Emergency Traffic."</small></p> <p>2. INCIDENT STATUS: Provide incident summary (including number of patients) and command structure. <small>Ex: "Communications, I have a Red priority patient, unconscious, struck by a falling tree. Requesting air ambulance to Forest Road 1 at (Lat./Long.) This will be the Trout Meadow Medical, IC is TFLD Jones. EMT Smith is providing medical care."</small></p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Severity of Emergency / Transport Priority | <input type="checkbox"/> RED / PRIORITY 1 Life or limb threatening injury or illness. Evacuation need is IMMEDIATE <small>Ex: Unconscious, difficulty breathing, bleeding severely, 2" - 3" burns more than 4 palm sizes, heat stroke, disoriented.</small> <input type="checkbox"/> YELLOW / PRIORITY 2 Serious Injury or illness. Evacuation may be DELAYED if necessary. <small>Ex: Significant trauma, unable to walk, 2" - 3" burns not more than 1-3 palm sizes.</small> <input type="checkbox"/> GREEN / PRIORITY 3 Minor Injury or illness. Non-Emergency transport <small>Ex: Sprains, strains, minor heat-related illness.</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| Nature of Injury or Illness & Mechanism of Injury | Brief Summary of Injury or Illness <small>(Ex: Unconscious, Struck by Falling Tree)</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| Transport Request | Air Ambulance / Short Haul/Hoist Ground Ambulance / Other | | | | | | | | | | | | | | | | | | | | | | | | |
| Patient Location | Descriptive Location & Lat. / Long. (WGS84) | | | | | | | | | | | | | | | | | | | | | | | | |
| Incident Name | Geographic Name + "Medical" <small>(Ex: Trout Meadow Medical)</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| On-Scene Incident Commander | Name of on-scene IC of Incident within an Incident <small>(Ex: TFLD Jones)</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| Patient Care | Name of Care Provider <small>(Ex: EMT Smith)</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>3. INITIAL PATIENT ASSESSMENT: Complete this section for each patient as applicable (start with the most severe patient)</p> <p>Patient Assessment: See IRPG page 106</p> <p>Treatment:</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>4. TRANSPORT PLAN:</p> <p>Evacuation Location (if different): (Descriptive Location (drop point, intersection, etc.) or Lat. / Long.) Patient's ETA to Evacuation Location:</p> <p>Helispot / Extraction Site Size and Hazards:</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5. ADDITIONAL RESOURCES / EQUIPMENT NEEDS:</p> <p><small>Example: Paramedic/EMT, Crews, Immobilization Devices, AED, Oxygen, Trauma Bag, IV/Fluid(s), Splints, Rope rescue, Wheeled litter, HAZMAT, Extrication</small></p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>6. COMMUNICATIONS: Identify State Air/Ground EMS Frequencies and Hospital Contacts as applicable</p> <table border="1"> <thead> <tr> <th>Function</th> <th>Channel Name/Number</th> <th>Receive (RX)</th> <th>Tone/NAC *</th> <th>Transmit (TX)</th> <th>Tone/NAC *</th> </tr> </thead> <tbody> <tr> <td>COMMAND</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>AIR-TO-GRND</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TACTICAL</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | Function | Channel Name/Number | Receive (RX) | Tone/NAC * | Transmit (TX) | Tone/NAC * | COMMAND | | | | | | AIR-TO-GRND | | | | | | TACTICAL | | | | | |
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| TACTICAL | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>7. CONTINGENCY: Considerations: If primary options fail, what actions can be implemented in conjunction with primary evacuation method? Be thinking ahead.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>8. ADDITIONAL INFORMATION: Updates/Changes, etc.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>REMEMBER: Confirm ETA's of resources ordered. Act according to your level of training. Be Alert. Keep Calm. Think Clearly. Act Decisively.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |

Historical State





SCHWARZENEGGER

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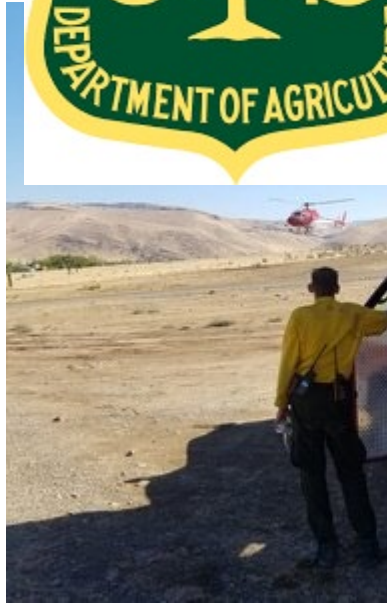
So what ha

?



W. Edwards Demming

“Every system is perfectly designed to get the results it gets.”



MEDL

Case Study

- Time Zero: Tree Strike and pin of IHC member on remote section of line. Initial assessment and extraction with 2 Federal EMTs on the crew
- 2 min: Red Medical announced on Tactical Channel and Dispatch notified
- 12 min: Short Haul with EMT lifts from H-10, ALS ambulance enroute Air Ambulance ordered by MEDL
- 13min: Medical Incident Report by IWI Commander relayed over command

Continued

- 20 Mins: REMS team and line medic arrive (5 providers on scene)
- 30 Mins: Patient assessment favors walking down slope to helispot. Jaw pain, back pain, multiple lacs to head. C-Spine without obvious contraindication to movement.
- 40 Mins: Helicopter with park service EMT and patient at helispot. Storm arrives with hail and shuts down operations

- 50 Mins: Storm clears and decision made to fly directly to hospital
- 61 Mins: Patient arrives at local ER
- Ultimately flown to regional trauma center and had Jaw fracture, lacerations and scapular fractures

Little Twist Fire Tree Strike Injury Fishlake National Forest
Date of injury: June 23, 2024
Wildland Fire Lessons Learned Center

What is wildland fire Incident Care?



Different Stages of Wildland Fire = Different Resources and Responsibilities

- Different types

- Initial Attack

- Remote
 - Less resources
 - Emergent injuries

Local Fire/EMS and
Local Federal Resources
“self sufficient for short duration”

- Extended Attack

- Some emergent injuries
 - Chronic injuries
 - “Camp” Care (IMS)
 - Public health/sanitation

Federal Resources
Cooperators
Contractors
Some local resources potentially
“extended care resources and planning”

Major Players

- United States Government
 - BLM, USFS, FWS, NPS, BIA, etc.
- Cooperators
- Contractors
- Local/State Fire Departments
- Local/State EMS
- State Department Of EMS
- NWCG





Authority to provide care

- State Based:
 - Contractors
 - Cooperators
 - Local Resources
- Federal Based:
 - ADs
 - Federal Employees



Forest Service
U.S. DEPARTMENT OF AGRICULTURE

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Forest Service EMS And Medical Professionals Working The State Where They Are Licensed

Background:

Forest Service employees requiring a medical license to treat patients may be assigned to work in states other than where they are medically licensed. This raises the issue of whether they are practicing without a license in the state where they are not licensed for practicing without a license.

Issue

Whether Federal employees and volunteers are exempt from licensing when they are performing official duties outside of the state where they are licensed.

Potential State Based Issues Contractors/Cooperators

- Variability:
 - Some are part of replica, some are not
 - Some have their own process for temporary licensure
 - Some allow home protocols and medical direction
 - Some only allow state based protocols and/or need state physician
 - Some want to know who is there, some do not
- Not to mention ambulances...
-or Medical directors (who are under the Board of Medicine and not the Department of EMS)

However, this remains true:

Federal Programs:

Operate under their own
authority

All other providers:

Follow state-based rules
where they working

As a provider you must...

- Know what who is supervising your care
 - Your medical director (do they know and have a license?)
 - Incident medical director
 - Local/county/state medical director
- Know what protocols you are under
 - Yours, states, incidents?
- Know what documentation is expected
 - Yours, states, incidents?

Featured Links

- [REPLICA - Recognition of EMS Personnel Licensure Interstate CompAct website](#)
- [Model Interstate Compact for EMS Personnel Licensure for State Adoption](#). This project will initiate a 20-month process to develop a model interstate compact for states' legislative use to solve the problem associated with day-to-day emergency deployment of EMS personnel across state boundaries. For more information go to the [National Association of State EMS Official's website](#). 2/2013
- [NWCG Incident Response Pocket Guide \(IRPG\), PMS 461](#)
- [NASEMSO State Processes for Legal Recognition of EMT's for Wildand Fires](#)

Additional Resources

- [Interagency Standards for Fire and Fire Aviation Operations \(Red Book\)](#)
- [NWCG Standards for Interagency Incident Business Management, PMS 902](#)
- [NIOSH-Traumatic Incident Stress for Emergency Workers](#)
- [Veteran Affairs - National Center for Posttraumatic Stress Disorder](#)

This guide is intended to be used as **reference material only**. State policies are subject to change and may not be immediately reflected in this document. The first section is a summary of state requirements; click on the state link for additional details.

The processes listed below are for *Basic Life Support* only.

Medical Unit Leaders, Logistic Section Chiefs, Agency Administrators, and others must appropriately research processes in each state.

This document is updated for the 2020 fire season.

| State | Process specific to out-of-state EMTs? | NREMT Certification Required? | Legal Recognition Basic Information (for out-of-state EMTs with <u>current</u> state certification) | Possible to Pre-credential? | Pre-credential Basic Information (for out-of-state EMTs with <u>current</u> state certification) |
|--|--|-------------------------------|---|-----------------------------|--|
| Alaska <i>Current as of June 25, 2020</i> | No | No | Current Alaska licensure is required to practice as an EMS provider in Alaska | No | n/a |
| Arizona <i>Current as of July 20, 2021</i> | No | Yes | Current Arizona licensure is required to practice as an EMS provider in Arizona | No | n/a |
| California <i>Current as of June 11, 2020</i> | Yes | No | Individuals, meeting certain defined conditions, may temporarily practice in California | Yes | Individuals need to obtain California certification ahead of time |
| Colorado <i>Current as of June 16, 2020</i> | No | Yes | Current Colorado certification is required to practice as an EMS provider in Colorado | Yes | Submit provisional request form with completed application |
| Idaho <i>Current as of June 25, 2020</i> | Yes | No | Individuals apply to the EMS Bureau for limited recognition to practice in Idaho | Yes | Same process as legal recognition |
| Montana | Yes | No | Individuals may function during a state and/or federally managed incident under Montana | No | n/a |

Resources

- NWCG emergency medicine committee page
- NASEMSO web site



Licensure Watchout Situations

- Fires across multiple state lines
- Scheduled drugs (FDA has yet to give clear guidance)
- Ambulances
- No MEDL
- Teams from out of area



Care related watch out situations

- Camp care vs EMS care
 - What are you trained on and what are your protocols?
 - What is your online medical support?
 - Returning patients from the ER/Clinic
 - Just because you are not sick enough for the hospital doesn't mean you are okay for fire camp
- Low time providers in resource limited situations
- IVs without a hospital visit
 - If needles come out, the patient goes in
- Secondary gain
 - Money





"The future cannot be predicted, but futures can be invented. It was man's ability to invent which has made human society what it is."

~ Dennis Gabor

Currently we are using an adopted system for an increasingly demanding and complex problem



What Is wildland fire care?

**It is time to
recognize
Wildland Fire
Medical Care as
a unique field of
specialized
medical
knowledge**

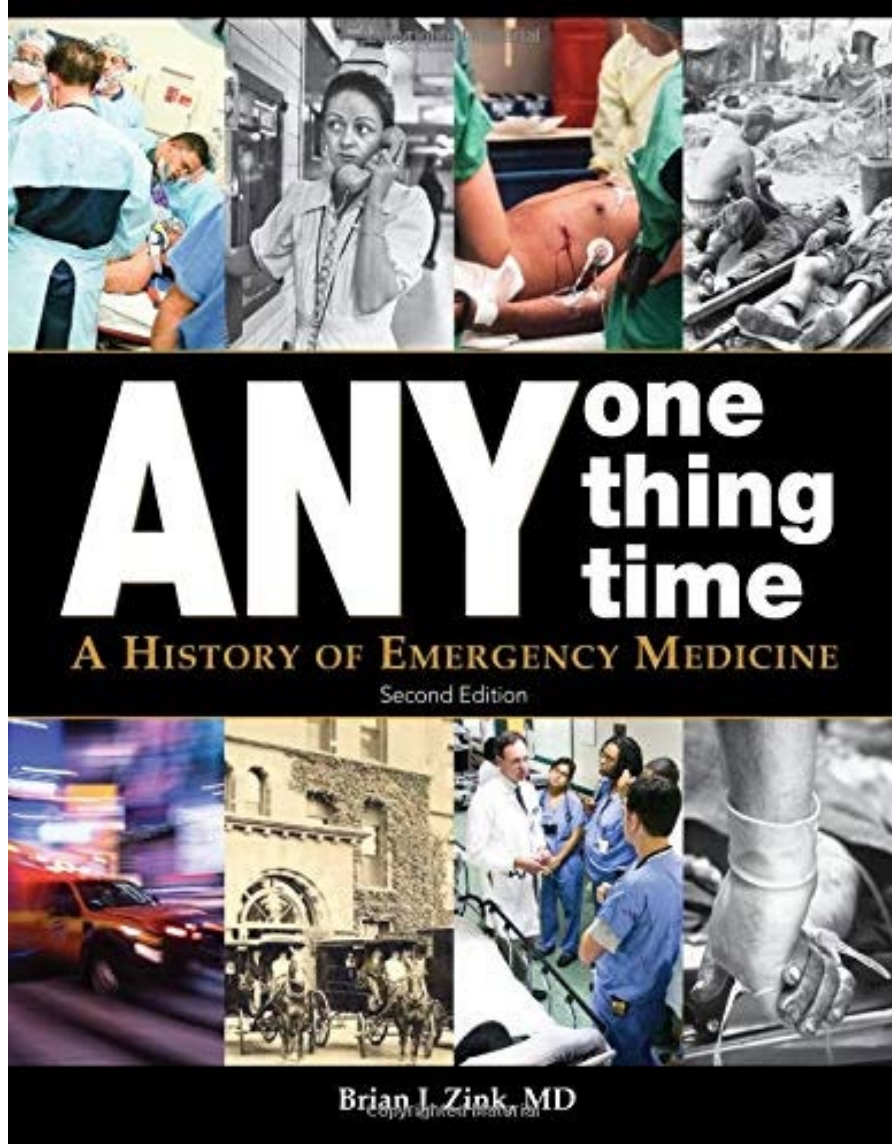


Imagine a future where...

- You check in with your Wildland Fire Credential
- Utilize the same protocols as the other providers
- Use the same PCR
- Have medical directors who understand the environment and teach to those protocols
- Real QA
- Same standards
- Data from thousands of incidents..



But could this ever really happen?



What affected everyone in this room?



Ready for a challenge?

Your new career awaits!

Models

- FEMA (ESF 8)
 - Stafford act
 - State Emergency Assistance
 - Compact States/ Replica



We are in a time of transition

- How long will it take?
- What will it take?

Future will have

- New Standards (NWCG)
 - Credentialing and Licensure
 - Portability and compliance
 - Standard of care
 - Accepted treatments and accountability
 - Protocols
 - Why not have one incident protocol?
 - Patient care reporting
 - Data collection
 - Compliance
 - QA/QI





It Takes All of Us

How can you help?

- Advocate for wildland fire fighter safety and health
- Be political
- NWCG EMC committee and others like it

Never doubt that a small group of thoughtful, committed **citizens** can **change** the **world**; indeed, it's the only thing that ever has.

— *Margaret Mead*

