



## Emergency Management and Response Information Sharing and Analysis Center (EMR-ISAC)

**INFOGRAM 45-08**

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**NOTE:** This INFOGRAM will be distributed weekly to provide members of the Emergency Services Sector with information concerning the protection of their critical infrastructures. For further information, contact the Emergency Management and Response- Information Sharing and Analysis Center (EMR-ISAC) at (301) 447-1325 or by e-mail at [emr-isac@dhs.gov](mailto:emr-isac@dhs.gov).

### MRSA Outbreaks in Wildland Communities

Community-Acquired Methicillin-Resistant Staphylococcus Aureus (CA-MRSA) continues to infect members of the Emergency Services Sector (ESS), including an outbreak among wildland firefighters this fall that began with a single exposure. The Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) learned that the wildland fire environment “provides the perfect host for a staph infection to thrive due to limited personal hygiene practices, close living conditions, weakened immune systems, and potential contaminants,” according to Wildfire Magazine.

Wildland firefighters have an increased risk of contracting staph infections that can lead to MRSA because they often have skin openings created by cuts, scrapes, insect bites, and poison oak or other lesions that allow staph bacteria to penetrate the skin. During this fall’s MRSA outbreak, crew members became infected from simply handling the equipment of the originally affected responder.

To help responders in wildland communities and other environments work proactively against this threat, the EMR-ISAC provides the following guidance abridged from Wildfire Magazine:

- Have team leaders discuss preventative measures at all safety briefings.
- Change firefighting turnouts/Personal Protective Equipment (PPE)/wildland “Nomex®” clothing as often as possible.
- Remove Nomex® shirts (at a minimum) before entering dining facilities. This is especially important for poison-oak exposure because the urushiol (oil from the plant) sticks to the material and can be easily transferred to another person's skin.
- Leave dirty Nomex® and boots outside sleeping areas to avoid transferring contaminants. Take showers when units are available.
- Acquire “Bath-In-A-Bag” (disposable bathing system) components if there is no shower unit.
- Clean hands and skin often with sanitizers or hot water and soap.
- Trade dirty Nomex® for clean Nomex® through the supply unit.
- Pack a small supply kit that has alcohol-based hand sanitizer.
- Do not touch other responders’ open wounds or bandages without proper protection (latex gloves or equivalent).
- Do not share personal items such as towels, combs, and razors.
- Monitor closely any open wounds (cut, scrape, insect bites, and poison oak) and treat them as a perfect MRSA or staph bacteria entry site. If any redness, swelling, pus, or joint pain is present, seek immediate medical attention.
- Keep all open wounds clean and covered with a sterile bandage.
- Take immediate measures to ensure that all clothing, equipment, and personal items are disinfected if there is suspected or confirmed MRSA exposure.

To view and download the article, “Germ Probes,” visit [http://wildfiremag.com/preplan/germ\\_probes\\_1008](http://wildfiremag.com/preplan/germ_probes_1008).

## Winter Weather Preparedness

Extreme cold weather in some parts of the United States in recent days again reminds Emergency Services Sector (ESS) leaders that the ordinary events of nature (e.g., cold and hot weather) can potentially diminish response capabilities and threaten critical infrastructures, including emergency personnel. From an operational effectiveness perspective, extreme cold weather occurrences can be disruptive to the performance of duties and mission accomplishment. Freezing conditions make response operating conditions more hazardous and adversely affect the available water supply. These consequences can potentially degrade an organization's critical infrastructures by endangering personnel, damaging equipment, and disrupting "response-ability." It is not too late to prepare personnel, apparatus, and equipment, and review cold-weather operating procedures.

The EMR-ISAC offers cold weather preparedness gleaned from numerous sources, including FireChief.com and FireRescue1.com:

- Establish procedures with jurisdictional stakeholders to assist fire and emergency operations by setting priorities for snow removal at stations, on primary response routes, and at essential areas such as hospitals, nursing homes, and other designated critical sites.
- Plan to work in concert with other emergency agencies to ensure that abandoned vehicles are removed, traffic is controlled during operations, and streets are closed for emergency responses.
- Stock sand or salt at station locations and carry smaller quantities on apparatus along with shovels.
- Carry extra hose and hydrant and water supply appliances on apparatus to increase operational options in case of delays by other apparatus.
- Test hydrants before use to ensure they are not frozen and drain and replace hose as soon as possible.
- Place water extinguishers inside apparatus to prevent freezing.
- Use layers of warm clothing, and carry extra gloves (structural firefighting and work gloves) and socks whenever operating outdoors.
- Ensure that bunker boots and station boots are water repellent, provide traction, and are repaired or reconditioned, if necessary.
- Review rehabilitation procedures for cold weather and ensure that personnel can be monitored for hypothermia, hypoglycemia, and frostbite.
- Monitor the condition of breathing apparatus components for adverse effects from the cold.
- Carry large amounts of cat litter or sand in each emergency vehicle.
- Carry a snow or flat shovel, flares, and lock de-icers in each vehicle.
- Carry extra window cleaning materials such as ice scrapers and window-washer fluid.
- Review procedures for "dry pump" versus "wet pump" operations.
- Ensure availability and operating condition of tire traction devices.
- Inspect functionality of seatbelts and require their use.
- Encourage safe speeds and driving habits consistent with road conditions.
- Check antifreeze levels in vehicles, switch to cold-weather-appropriate blends of oil and fuel, and verify whether hydraulic systems need special cold weather fluids.
- Use engine block heaters for vehicles stored in unheated stations. Keep the water level above the level of the plates in batteries equipped with removable fill caps. Never attempt to jump start a frozen battery because it could explode. Instead, remove the battery from the vehicle, bring it into a warm room, and let it thaw before recharging.
- Consult pump operation and maintenance manual for specific recommendations regarding the storage and operation of pumps under very cold conditions.
- Follow manufacturers' recommendations for the installation of apparatus "winter fronts" when appropriate.

To see the full text of the articles cited above, go to <http://www.firerescue1.com/Columnists/Michael-Lee/articles/438586-Winter-Impacts-to-Personnel-Part-1/> and [http://firechief.com/apparatus/out\\_in\\_the\\_cold\\_1119/](http://firechief.com/apparatus/out_in_the_cold_1119/).

## DVD for Rural Volunteers

To help volunteer Emergency Services Sector (ESS) members in rural departments work toward fitness levels that could increase their survivability, researchers at Indiana University-Bloomington, funded by the Federal Emergency Management Agency (FEMA), created the training DVD, "Fit to Fight."

Their research and the resulting DVD intend to help responders understand the relationship between their work and overexertion, which can lead to life-threatening conditions such as stroke and heart attack. After six months of study that involved highly trained, medically supervised firefighters from the Indianapolis Fire Department, researchers were able to document how firefighters' respiratory and cardiovascular systems responded to four primary aspects of firefighting: fire attack, search and rescue, ventilation, and overhaul. Responders' vital signs were monitored through the use of vests embedded with sensors that continually monitored cardiovascular and respiratory systems. During fire calls, two firefighters wore thermal imaging cameras mounted on their helmets to capture live images. Researchers traveled to fire scenes to record a variety of information, such as weather conditions and types of buildings encountered. They studied every aspect of the firefighters' performance, including posture and sleeping patterns.

The Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) was interested to learn that one of the key findings was the surprisingly high level of cardiorespiratory stress responders experience even on "routine" fire calls. In some cases involving victim rescue, responders' heart rates were beyond what researchers thought possible. The 60-minute DVD offers firefighters explicit directions for assessing their fitness levels and guides them through exercises designed to mimic actions at fire scenes. Three progressions are offered, with models using household items such as milk jugs, so that responders can begin improving their health and fitness regardless of current fitness levels and without requiring the purchase of additional and costly exercise equipment. Each workout includes flexibility and strength training, cardiovascular recommendations, and charts personnel can use to measure their progress and set workout goals. The DVD can be viewed at <http://www.indiana.edu/~firefit/index.shtml?n1=home>.

## Wildland Firefighting Health Risks

A study of wildland firefighting environments, including exposure to potentially toxic substances present in smoke from wildland fires and the resulting health risks to the Emergency Services Sector (ESS), was released by Canada's Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST). The study reviewed by the Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) includes health-based recommendations concerning the need for wildland firefighter respiratory protection.

Responders in wildland environments perform intense manual labor during extended work periods in challenging and dangerous terrain, and in temperatures that range from below freezing to higher than 120°F. Their proximity to fires can be as close as a couple of feet, and they are continuously exposed to smoke for long periods of time. According to the report, wildland responders generally do not wear respiratory protection and essentially rely on their visual evaluation of the intensity of the smoke to avoid situations that could require such protection. The author collected data on the nature and duration of the exposure to contaminants that may pose risks to responders' health, and offers recommendations to help industry professionals determine respiratory protection needs unique to wildland firefighting.

The report can be viewed and downloaded at [http://www.irsst.qc.ca/en/publicationirsst\\_100404.html](http://www.irsst.qc.ca/en/publicationirsst_100404.html). To learn more about the safety and health Institute's projects, and its downloadable publications, reports, newsletters, and computer-based tools, visit <http://www.irsst.qc.ca> and select the English language option.

**NOTE:** There will be no INFOGRAM published on Thanksgiving Day, 27 November. Although the EMR-ISAC will be closed on 27 and 28 November, the ISAC staff will be available to respond to inquiries, information sharing requirements, or emergencies throughout the week.

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## **REPORTING NOTICE**

The National Infrastructure Coordinating Center (NICC) within the Department of Homeland Security (DHS) Office of Infrastructure Protection is the central point for notifications regarding infrastructure threats, disruptions, intrusions, and suspicious activities. Emergency Services Sector personnel are requested to report any incidents or attacks involving their infrastructures using at least the first and second points of contact seen below:

- 1) NICC - Voice: 202-282-9201, Fax: 703-487-3570, E-Mail: [nicc@dhs.gov](mailto:nicc@dhs.gov)
- 2) Your local FBI office - Web: <http://www.fbi.gov/contact/fo/fo.htm>
- 3) EMR-ISAC - Voice: 301-447-1325, E-Mail: [emr-isac@dhs.gov](mailto:emr-isac@dhs.gov), fax: 301-447- 1034, Web: [www.usfa.dhs.gov/subjects/emr-isac](http://www.usfa.dhs.gov/subjects/emr-isac), Mail: J-247, 16825 South Seton Avenue, Emmitsburg, MD 21727