



NATIONAL WILDFIRE COORDINATING GROUP

National Interagency Fire Center
3833 S. Development Avenue
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MEMORANDUM

Reference: NWCG#021-2010

To: Vicki Christiansen, Chair
National Association of State Foresters Fire Committee
Bill Troup, Fire Program Specialist
National Fire Data Center, United States Fire Administration
Bob Roper, Chair
International Association of Fire Chiefs Wildland Fire Policy Committee
Heather Schafer, Executive Director
National Volunteer Fire Council
Dr. Tom Hales
National Institute for Occupational Safety and Health

From: NWCG Chair *William Raage*

Date: April 12, 2010

Subject: Volunteer Fire Department Heart Attacks on Wildland Fires

The National Wildland Fire Coordinating Group (NWCG) Risk Management Committee (RMC) conducts an annual review of injuries and fatalities that have occurred related to wildland fire activities. This information helps to identify trends, specific issues, and program needs.

Recent reviews have shown the leading cause of fatalities among volunteer fire departments (VFD) working on wildland fires is heart attacks. Statistically, this trend appears to be on the rise. As a result, the NWCG Executive Board is proposing a coordinated effort with the National Association of State Foresters (NASF), the United States Fire Administration (USFA), the International Association of Fire Chiefs (IAFC), the National Volunteer Fire Council (NVFC), and the National Institute for Occupational Safety and Health (NIOSH) to highlight the issue and to identify existing programs and resources that can address this trend.

VFDs are essential partners to assist in wildland fire operations across the nation. The NASF, USFA, IAFC, NVFC, NIOSH, and NWCG all share the common core value of having every firefighter return home safely at the end of a fire assignment. Groups such as the National

Volunteer Fire Council have developed informative health and wellness references which offer tips on long-term physical conditioning. Other resources also exist and need to be promoted with key partners to the wildland fire community such as VFDs.

The NWCG RMC has developed three papers (attachments) which outline some of the existing wellness references. The first attachment defines the issue with VFD heart attack statistics. The second identifies resources for developing medical screening and physical fitness programs. The third lists relevant grant programs for implementing medical screening and physical fitness programs.

The NWCG Executive Board respectfully requests assistance from the NASF, USFA, IAFC, NVFC and NIOSH to share this critical information with VFDs. Specifically, we are asking for your assistance to:

1. Broadly distribute the attachments to volunteer fire departments and other applicable entities so these resources are available to develop medical screening and physical fitness programs.
2. Provide additional health/fitness resources and related grant opportunities to the NWCG RMC to update the reference lists. Additions can be sent to the RMC Southeast State Representative, Mark Goeller at: mark.goeller@oda.state.ok.us. The lists will be maintained on the RMC webpage at: <http://www.nwcg.gov/>.
3. Provide the RMC with key points of contacts in other national organizations so that a collaborative effort can continue.

A collaborated focus between the NWCG, NASF, USFA, IAFC, NVFC and NIOSH will support our common mission to foster a safe and efficient wildland fire workforce. Please direct any comments or questions to Mark Goeller, (405) 522-6146.

Attachment A: Firefighter Heart Attack Studies and Statistics

Attachment B: Resources for Implementing Medical Screening and Physical Fitness Programs

Attachment C: Potential Grant Programs for Implementing Medical Screening and Physical Fitness Programs

cc: NWCG Executive Board

ATTACHMENT A

Firefighter Heart Attack Studies and Statistics

The following statistics and study summaries are provided to illustrate and document the importance of physical fitness and medical screening programs to reduce firefighter heart attacks.

Wildland Firefighter Fatalities in the United States: 1990-2006 (PMS 841) -

http://www.nwcg.gov/pms/pubs/pms841/pms841_all-72dpi.pdf

This NWCG study found that from 1990-2006, heart attacks were the third leading cause of fatalities during wildland fire operations.

- Aircraft accidents – 72 deaths, 23%
- Vehicle accidents – 71 deaths, 23%
- Heart attacks – 68 deaths, 22%

Heart attacks accounted for 3.2 fatalities/year from 1990-1998 and 4.9 fatalities/year from 1999-2006. This is a 51% increase in the annual average. Volunteer firefighters accounted for 44 of the 68 heart attack deaths, or 65% of all heart attack fatalities. The report goes on to state:

“The number of volunteer firefighters dying from heart attacks probably can be explained by a couple of factors: many more volunteer firefighters are involved in wildland fires on the local level than are agency firefighters, and many volunteer departments have no physical fitness testing or health screening requirements.”

2009 NWCG Safety Gram – <http://www.nwcg.gov/teams/shwt/safetygram2.htm>

In 2009 four local/VFD firefighters died on wildland fires due to heart attacks or other comparable medical emergencies. This accounts for 26% of the total wildland fire fatalities for the year (15).

Health and Wellness Guide for the Volunteer Fire and Emergency Services; USFA, FEMA & NVFC; February 2009 - <http://www.nvfc.org/files/documents/HealthWellnessGuide-2009.pdf>

“Volunteer firefighter fatalities accounted for 73 percent of all firefighting-related deaths in 2006. In that year, stress was the leading cause of on-duty deaths among volunteer firefighters, leading to the death of 38 firefighters. Heart attacks were the direct cause of death in over 47 percent of on-duty volunteer firefighter fatalities. In both nature and cause, stress and heart attacks killed a higher percentage of on-duty volunteer firefighters than career firefighters, making clear the need for increased emphasis on cardiovascular health, physical fitness, and overall wellness in the volunteer emergency services.”

“In 2007, the USFA reported 118 firefighter fatalities. About half of those deaths were volunteers. Almost 50 percent of these deaths were from heart attacks. These statistics underscore the health and wellness issues and show how current the problem is in today’s volunteer fire and emergency services.”

“Planning is the most important step in implementing a health and wellness program. A vision is needed to provide guidance on how to develop and implement an individualized departmental

program. There is no model plan that will work for all departments in all places, but there are model elements and core components that should be implemented, including

- regular health and fitness screenings and medical evaluations;
- fitness program (cardiovascular, strength, and flexibility training);
- behavioral modification (smoking, hypertension, diet, cholesterol, diabetes);
- volunteer education; and
- screening volunteer applicants.”

“In a program where all of these components are combined, the volunteers pay more attention to their personal health and wellness, which will improve the department overall. If a department cannot implement the entire program at once, it is far better to initiate some of these components than to do nothing.”

“Education is the best option to counter concern among members about increasing their time requirements. Understanding the risks and consequences of not participating in a health and wellness program is a critical step in creating and implementing a successful program. When presented with comprehensive reasons why they should participate, many individuals often do so.”

Firefighter Fatality Investigation and Prevention Program; NIOSH -
<http://www.cdc.gov/niosh/fire/>

Each year an average of 105 firefighters die in the line of duty. To address this continuing national occupational fatality problem, NIOSH conducts independent investigations of firefighter line of duty deaths, including fatalities from medically related causes. This web page provides access to NIOSH investigation reports and other firefighter safety resources.

ATTACHMENT B

Resources for Implementing Medical Screening and Physical Fitness Programs

The following identifies references that will assist with implementing medical screening and physical fitness programs.

Health and Wellness Guide for the Volunteer Fire and Emergency Services; USFA, FEMA & NVFC; February 2009 - <http://www.nvfc.org/files/documents/HealthWellnessGuide-2009.pdf>

This Guide provides the rationale and suggestions for implementing a health and wellness program successfully in the volunteer fire and emergency services. It also addresses many common roadblocks. The chapters are organized to help volunteer departments develop a program from the ground up.

Heart-Healthy Firefighter Program; NVFC - <http://www.healthy-firefighter.org/>

The National Volunteer Fire Council's Heart-Healthy Firefighter Program is the only national program dedicated to saving America's firefighters and EMS personnel from their leading cause of death: heart disease. We invite firefighters, EMS personnel, and their families to explore the site to find out how easy, fun, and rewarding it is to get healthy. It takes a person with heart to do their job. Let's help keep them healthy.

Wellness-Fitness Task Force; IAFF & IAFC - <http://www.iaff.org/HS/Well/index.htm>

The International Association of Firefighters, International Association of Fire Chiefs, and 10 pairs of local union and their municipalities joined together to form the Fire Service Joint Labor Management Wellness-Fitness Task Force. The Task Force has dedicated itself to developing a holistic, positive rehabilitating and educational approach to wellness and fitness programs in the fire service. The Task Force has developed the following three programs:

- The Fire Service Joint Labor Management Wellness/Fitness Initiative
- The Candidate Physical Ability Test
- The Fire Service Peer Fitness Trainer Certification

Fit to Survive Program; IAFF - <http://www.nifc.gov/FireFit/index.htm>

This website, sponsored by the IAFF Fire Service Joint Labor Management Wellness-Fitness Initiative (WFI) provides expert advice and practical information on staying fit and healthy, as well as recipes and nutrition tips.

Emerging Health and Safety Issues in the Volunteer Fire Service, 2008; USFA and NVFC – http://www.usfa.dhs.gov/downloads/pdf/publications/fa_317.pdf

This publication addresses emerging health and safety issues in the volunteer fire service. The paper also identifies some best practice solutions. Health issues discussed includes cardiovascular disease, nutrition, physical activity, and stress management.

Firefighter Wellness-Fitness Website; USFA - <http://www.usfa.dhs.gov/fireservice/research/safety/fitness.shtm>

This web page provides information on a variety of wellness and fitness initiatives that the U.S. Fire Administration has participated in. A number of related publications are available.

FireFit - <http://www.nifc.gov/FireFit/index.htm>

This program (sponsored by the Federal Fire and Aviation Safety Team) was created with the intent to provide the interagency wildland fire community with a comprehensive, easy-to-follow, fitness program with the ultimate goal of improving firefighter safety and health and reducing injuries. This program provides a basic format for a well balanced fitness program that can be augmented as local units see fit. Program success will rely on management support at every level, as well as individual's motivation and participation.

Fitness and Work Capacity, 2009 Edition (PMS-304-2) - <http://www.nwcg.gov/pms/pubs/pubs.htm> (*Publication should be posted to this website in the next couple months*)

This NWCG publication is designed to help field workers and wildland firefighters achieve fitness, health and work capacity.

NFPA 1583: Standard on Health-Related Fitness Programs for Fire Department Members, 2008 - <http://www.nfpa.org/AboutTheCodes/AboutTheCodes.asp?DocNum=1583>

As stated by NFPA, “The purpose of this standard is to provide the minimum requirements for a health-related fitness program for fire department members that enhances the members’ ability to perform occupational activities efficiently and safely and reduces the risk of injury, disease, and premature death. The health-related fitness program shall include the following components:

1. Assignment of a qualified health and fitness coordinator
2. Periodic fitness assessment for all members
3. Exercise training program that is available to all members
4. Education and counseling regarding health promotion for all members
5. Process for collecting and maintaining health-related fitness program data

When adapted, this standard can be a key component of any occupational safety and health program, and is a companion to *NFPA 1582: Comprehensive Occupational Medical Program for Fire Departments, 2007 Edition*

(<http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=1582>).

ATTACHMENT C

Potential Grant Programs for Implementing Medical Screening and Physical Fitness Programs

The following identifies possible national level grant programs that can be used by local and volunteer fire departments to obtain funding for medical screening and physical fitness programs.

FEMA Assistance to Firefighters Grant (AFG) - <http://www.firegrantsupport.com/>

The primary goal of the Assistance to Firefighters Grants (AFG) is to meet the firefighting and emergency response needs of fire departments and nonaffiliated emergency medical services organizations. Since 2001, AFG has helped firefighters and other first responders to obtain critically needed equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards. The Grant Programs Directorate of the Federal Emergency Management Agency administers the grants in cooperation with the U.S. Fire Administration. For fiscal year 2005, Congress reauthorized the Assistance to Firefighters Grants for an additional 5 years through 2010.

According to FireGrantsHelp.com, this grant opportunity specifically includes wellness/fitness services that support fire department operations and safety.

FEMA Fire Prevention and Safety Grants (FP&S) - <http://www.firegrantsupport.com/>

The Fire Prevention and Safety Grants (FP&S) are part of the Assistance to Firefighters Grants (AFG) and are under the purview of the Grant Programs Directorate in the Federal Emergency Management Agency. FP&S grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury.

Liberty Mutual Insurance's BeFireSmart Safety Pledge Program - <http://www.befiresmart.com/>

The program provides an opportunity to for fire departments to work with their own community residents to earn up to \$10,000. It appears that the funds can be used for any bonafide fire department needs, including medical screening and physical fitness programs.

FireGrantsHelp.com - <http://www.firegrantshelp.com/>

FireGrantsHelp.com provides members of the first responder community with a comprehensive resource for **Fire Grants** information and assistance. It features the most extensive fire grant database ever created, with a library of information not only for federal grant programs, but also state, local, and corporate grant opportunities.

This is a great resource to identify additional grant opportunities, especially grant programs at the state level.