
**ORANGE COUNTY FIRE AUTHORITY
FIREFIGHTER WELLNESS & FITNESS
PROGRAM REPORT**

January 2004 to December 2005



Human Resources/Risk Management
May 2006

Table of Contents

Introduction and History	3
Program Implementation	4
Program Progress and Outcomes	7
Aggregate Data Analysis	10
Economic Outcomes	11
Summary and Conclusions.....	12

WEFIT MISSION

The Orange County Fire Authority (OCFA) Wellness & Fitness Program (WEFIT) is a proactive partner with all OCFA members to enhance and maintain their occupational health, fitness, nutritional, physical, and mental well being throughout their careers.

Introduction and History

Wellness experts link employee health with organizational health. Healthy employees get their jobs done better, and the good job performance makes the organization better. Medical and fitness exams, lifestyle counseling, immunization and screening, and fitness equipment improve employee health. In turn, healthy employees improve a public agency's service to the community.

Fire Service Joint Labor and Management Wellness-Fitness (WEFIT) Initiative

National trends in firefighter injuries, illnesses, and line-of-duty deaths showed the need for an international wellness and fitness program. From 1997 through 2000, ten major fire departments in the U.S. and Canada developed the Fire Service Joint Labor and Management Wellness-Fitness (WEFIT) Initiative. The Washington, D.C., offices of the International Association of Firefighters (IAFF) and the International Association of Fire Chiefs (IAFC) then published the initiative.

WEFIT addressed holistic firefighter health and fitness with the following major program components:

- Medical Examinations
- Fitness Evaluations and Fitness Programs
- Immunizations and Disease Screening
- Medical/Fitness/Injury Rehabilitation
- Data Gathering and Reporting

WEFIT implementation predicted benefits including greater stamina and strength; decreased risk of death, injury, or disability from disease/injury; improved performance; reduction of anxiety, stress, tension, and depression; increased energy and self-esteem; and enhanced recovery from strenuous and exhaustive work.

Program Inception With Board of Director Approval

The Orange County Fire Authority (OCFA), under the direction of Fire Chief Chip Prather, established a labor/management project team. Its tasks were to (1) review the WEFIT Initiative and (2) report to the Board with the initiative's applicability to OCFA.

The project team presented its analysis and recommendations to the OCFA Board of Directors. On June 26, 2003, the Board approved the implementation of a WEFIT pilot program, pending two items:

- A 50 percent cost share agreement with the Orange County Professional Firefighters Association (OCPFA) totaling \$579,912
- The award by the Federal Emergency Management Agency (FEMA) of a grant to OCFA for \$476,600

On September 25, 2003, the OCFA Board of Directors accepted the FEMA grant and the OCPFA 50 percent cost share agreement. The program was approved as a two-year pilot.

Program Implementation

Testing Began January 2004

The FEMA grant required OCFA to complete 390 WEFIT exams by the end of July 2004. To achieve that goal, the program required expedited development and approval of contracts with the selected medical provider, the University of California Irvine's (UCI's) Center of Occupational and Environmental Health (COEH), and an exercise physiologist.

The medical exams and fitness testing began in January 2004, including Fire Chief Chip Prather and OCPFA President Joe Kerr completing their exams.

Structure of the Exams

The exams are conducted at the COEH, located in the City of Irvine. Both the medical exam and fitness test take about 3 hours to complete. Generally, three to four firefighters go through the exam in the morning, from 9 a.m. to 12 noon, and another group goes through in the afternoon, from 1 to 4 p.m. Blood draws for analysis occur approximately 30 days in advance of the scheduled exams.

The medical physician provides written results and reviews them with the firefighter the day of the exam. The firefighter can ask questions and obtain recommendations for follow up, if needed. An exercise physiologist conducts a fitness test, consisting of:

- Aerobic capacity (fitness treadmill)
- Strength evaluation
- Endurance evaluation
- Flexibility evaluation

The exercise physiologist provides feedback on the results to the firefighters. The physiologist advises them to seek assistance from the OCFA exercise physiologist in areas of fitness needing improvement and/or to follow general fitness

programs designed to the individual firefighter's needs.

Immunization and Disease Screening

The WEFIT Initiative identified several immunizations and disease screening tests for firefighters. Providing these will help prevent health risks associated with the various occupational exposures encountered by firefighters.

An occupational health nurse (OHN) under contract with OCFA has reviewed, automated, and updated a database of all immunization and disease screening tests. Using this database, the OHN has been immunizing firefighters and ensuring they have received the various disease screening tests.

Fitness Program

The fitness program—along with the fitness testing—consists of peer fitness trainers (PFTs), fitness equipment at fire stations and the OCFA Regional Fire Operations Training Center (RFOTC), fitness club memberships, and quarterly educational classes. Additionally, a contracted exercise physiologist assists in the development and maintenance of the fitness program.

Peer Fitness Trainers (PFTs)

PFTs are firefighters who have volunteered to receive specialized training and education and have passed certification established by the American Council on Exercise (ACE). Their role in the WEFIT program is to:

- Promote and encourage participation.
- Assist firefighters on a one-on-one basis.
- Work with the OCFA exercise physiologist in developing appropriate fitness programs.

The OCFA has trained 43 PFTs and believes the

one-on-one assistance, firefighter-to-firefighter, will increase the level of firefighter health and fitness.

Fitness Equipment at the Fire Stations

The OCFA has equipped 47 fire stations with fitness equipment and has provided 14 fire stations with memberships to fitness clubs within their respective response areas, enabling station crews to participate in the fitness program. The fitness club memberships were provided to fire stations lacking space to accommodate fitness equipment.

Fitness Equipment at the RFOTC

Fitness equipment has been installed at the RFOTC in two locations.

The first location is in the main fitness room with fitness equipment that can be used by all OCFA personnel. Prior to using the fitness room, non-firefighter OCFA members must complete a fitness assessment and fitness center orientation with the OCFA exercise physiologist.

The second location is on the training ground. This complement of fitness equipment is for new recruits to help them maintain and/or increase their level of fitness and strength conditioning.

Exercise Physiologist

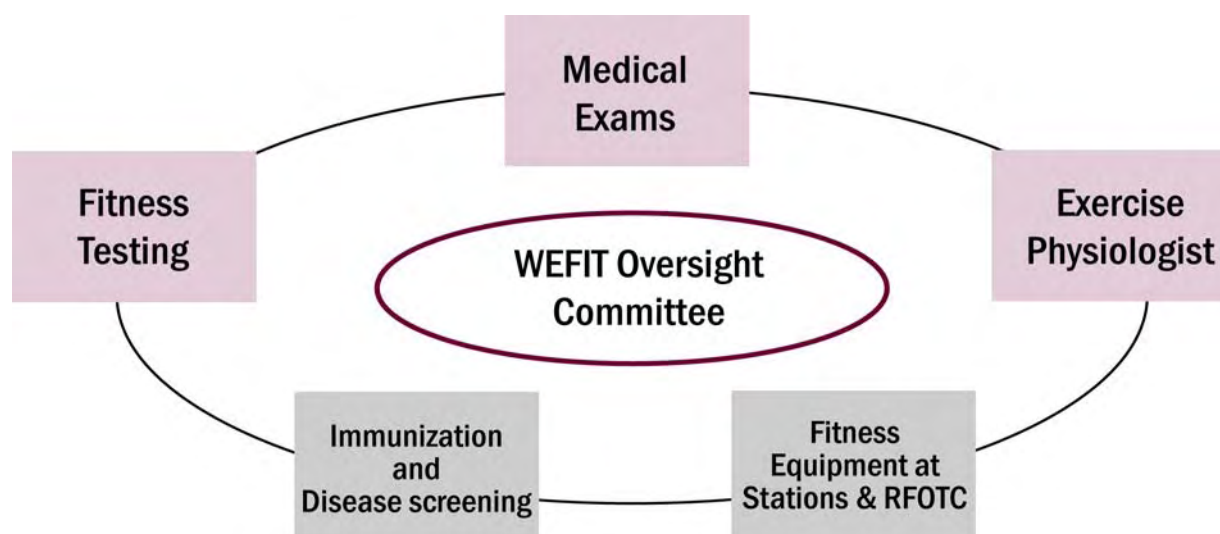
OCFA has contracted for exercise physiologist services. This individual conducts fitness equipment orientations and fitness assessments, customizes exercise programs for OCFA members, and meets with OCFA members to help them achieve their health and fitness goals.

The exercise physiologist also assists in training the PFTs, oversees custom exercise programs created by the PFTs, and ensures professional growth by providing continued fitness and nutrition education opportunities.

Finally, the physiologist follows up on all fitness-related injuries to help prevent future injuries.

WEFIT Oversight Committee

A WEFIT Oversight Committee was established as part of the program implementation to assist and provide labor-management program oversight and guidance over the various program elements. The committee consists of eight members with representatives from both labor and management. The committee met monthly during the pilot program and initial implementation. The committee currently meets quarterly.



Program Management

The OCFA Risk Manager and a Fire Captain (WEFIT program coordinator) manage the program, including the following activities:

- Coordinating and scheduling exams
- Managing and overseeing contracts with the medical provider, the exercise physiologist, the OHN, the fitness equipment vendors, the medical suppliers, and the fitness clubs
- Managing and overseeing the PFTs
- Reviewing aggregate data to measure program outcomes and/or to develop strategies to improve program outcomes
- Providing on-going discussions with OCFA members on questions concerning the program
- Meeting quarterly with the WEFIT Oversight Committee to review the program status and/or issues affecting the program or related to labor-management concerns
- Managing the RFOTC Wellness Center

Program Contracts

The OCFA contracts with the UCI COEH to provide the firefighters with medical and fitness evaluations (WEFIT exams), verbal and written feedback to each firefighter and monthly aggregate reports to Risk Management and the WEFIT Oversight Committee.

Additionally, the OCFA contracts the services of an exercise physiologist and an OHN.

The exercise physiologist provides:

- Coordination with UCI COEH on any WEFIT

exam followup recommendations

- Follow up on all fitness-related injuries
- Health and fitness education and training
- Design of individual firefighter fitness and nutrition programs
- Training and mentoring of OCFA PFTs
- Assistance with fitness training for new firefighter recruits
- Health and fitness consultations for non-firefighter OCFA personnel

The OHN is responsible for the implementation of the immunization and screening component of the WEFIT program. This includes:

- Conducting audits of existing OCFA firefighter immunization and screening records
- Developing electronic immunization records for each firefighter
- Implementing WEFIT immunization guidelines
- Setting up medical oversight with the OCFA medical director
- Developing immunization program protocols, including employee consents
- Coordinating and scheduling appointments with firefighters requiring immunizations and/or disease screenings

Program Progress and Outcomes

WEFIT's First Two Years Brought Notable Successes

In January 2006, OCFA's WEFIT program completed its first two years with notable successes. These initial successes suggest long-term benefits will accrue, including:

- Increased personal firefighter fitness and health.
- Enhanced quality of service to our communities because of improved overall firefighter health and fitness.
- Cost controls and savings associated with workers compensation and occupational health and safety.

Research by the insurance industry of corporate wellness programs and the experience of other fire departments reveals cost savings from wellness/fitness programs may take from three to seven years to materialize.

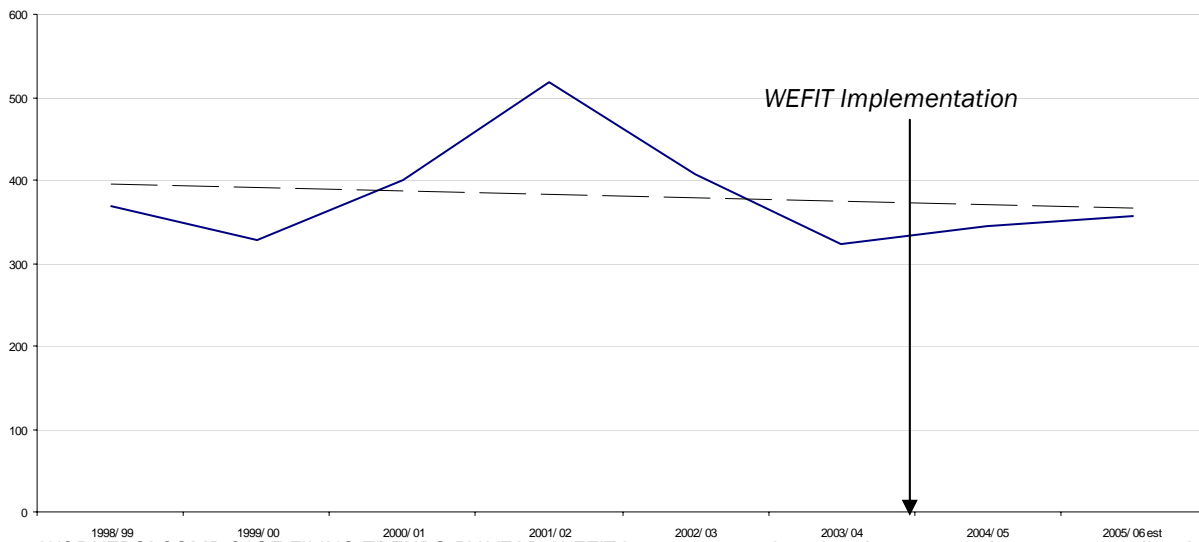
But results show OCFA's WEFIT program already has made significant progress towards ensuring a greater level of firefighter health and fitness and,

most importantly, a decrease in the risk of death, injury, or disability from disease/injury.

Program Progress and Assumptions

The progress of the first two years can be understood by reviewing some of the assumptions discussed during the planning stage. These assumptions included:

1. Participation may be low if WEFIT is voluntary.
2. Workers compensation cases may spike, due to new injuries and illnesses related to work being found, causing greatly increased workers' compensation costs.
3. Labor/management issues may delay implementation and impede progress.
4. Data collection by other fire departments has been inconsistent, so OCFA may see the same problem.
5. WEFIT likely will have a positive impact on firefighter health and wellness.



WORKERS' COMP CASE FILING TRENDS BY YEAR: WEFIT has not caused workers' compensation cases to spike. As shown, case filings (blue solid line) are roughly flat over the years (demonstrated by dotted trend line). A spike unrelated to WEFIT occurred in 2001/02 due to precautionary measures taken at a single incident occurring at UCI.

Program Outcomes

The program outcomes reflect the success at meeting and/or answering questions created by some of the assumptions discussed prior to implementing the WEFIT program.

ASSUMPTION 1: Participation may be low if WEFIT is voluntary.

During this two-year period, we have maintained a 90 percent level of active firefighter participation. This has been attributed to the overall effort made by labor representatives, management, the WEFIT program coordinator, PFTs, and individual firefighters taking responsibility for fitness and health by participating in the WEFIT program. Retirements, disabilities, and the voluntary nature of the program may make it unlikely that 100 percent participation will be achieved. However, maintaining 90 percent participation is a worthwhile program target.

ASSUMPTION 2: Workers' compensation cases may spike.

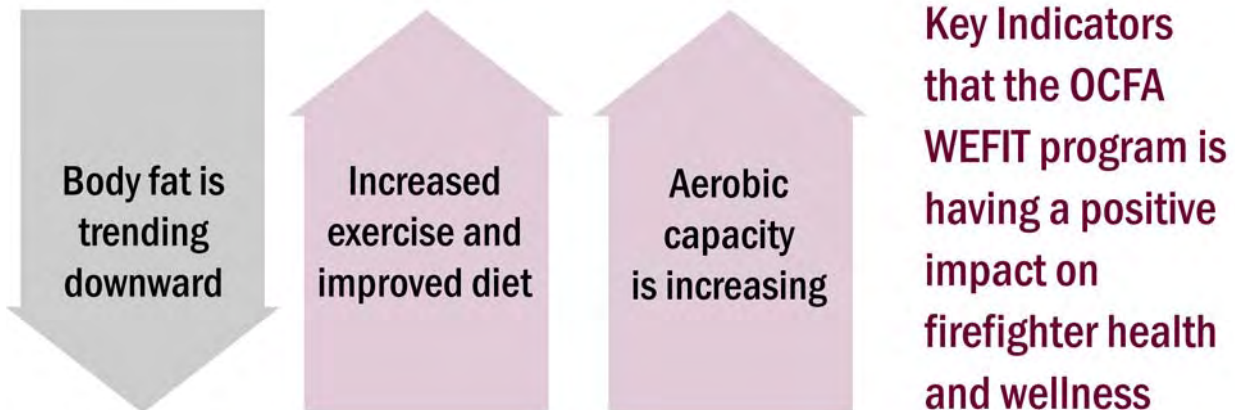
The workers' compensation cases did not spike, as shown by the previous graph. The cases have remained relatively stable at around the low- to mid- 300s per year. Those medical or fitness issues reported through the workers' compensation program include:

- Abdominal/groin strain
- Shoulder strain
- Lower back strain
- Cardiovascular conditions

With the exception of cardiovascular conditions, the other items have not been relatively significant. During this two-year period, cardiovascular conditions resulted in the need for surgery and other medical treatment. Overall workers' compensation costs have fallen over the past few years. This cannot be completely attributed to WEFIT; however, WEFIT is a likely contributor to a long-term reduction of workers' compensation costs.

ASSUMPTION 3: Labor/Management issues may delay implementation and impede progress.

Labor and management participation has helped make the OCFA WEFIT program a stand-out among U.S. firefighter fitness programs—from the implementation with funding participation by OCPFA IAFF Local 3631 to the ongoing participation of the WEFIT Oversight Committee. This ongoing participation has made these first two years a success and will contribute toward the future success of the WEFIT program.



ASSUMPTION 4: Data collection by other fire departments has been inconsistent, so OCFA may see the same problem.

OCFA established a consistent methodology of documenting WEFIT exam results. The COEH at UCI provides data collection, data tracking, and monthly reports. This information allows program evaluation and tracks firefighter health and fitness progress.

ASSUMPTION 5: WEFIT likely will have a positive impact on firefighter health and wellness.

The OCFA WEFIT program at the end of its two years has begun to see trends in:

- Reduced body fat
- Increased exercise and improved diet
- Increased aerobic capacity

WEFIT As A Preventative of Future Medical Problems

OCFA is aware of workers' compensation cases, which identified a life saved and other employees were provided with medical interventions—such as medications, surgery, or further diagnostic testing—to diagnose, prevent or minimize risk factors for cardiovascular disease.

Aggregate Data Analysis

By the end of December 2005, the following had been completed:

<u>Calendar Year</u>	<u>Exams Completed</u>
2004	619
2005	415

Additionally, a total of 60 new-hire exams were completed from 2004 to 2006.

Aggregate medical exam and fitness testing data was tracked and compiled for those exams. This information provides a growing database to review the costs and the benefits of the program. Based on the analysis of this information, OCFA can make any necessary changes to improve the program results.

WEFIT Is an Entry Exam for Recruits

All new firefighter recruits are participating in the WEFIT exam as their entry examination. New recruits are being informed on the importance of maintaining a certain level of

health and fitness to avoid potential occupational injuries and diseases. With new recruits being added to fill vacancies created by retirements, this action will enhance creating and maintaining an OCFA health and fitness culture.

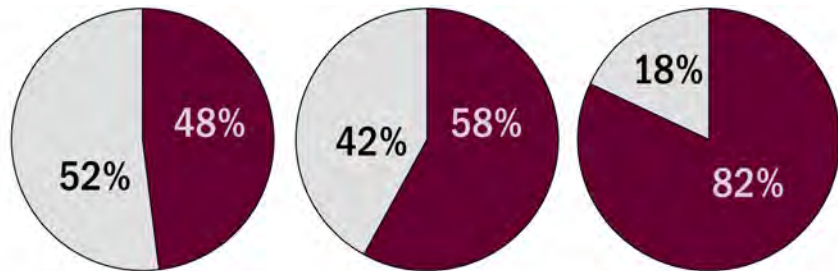
Trends in Firefighter Lung Health and Body Fat Percentages

As shown in the chart below, volume of oxygen (VO₂)—a lung wellness measure—and body fat data showed a positive trend when comparing 2004 and 2005 data. New hires have better measurements than incumbent firefighters.

To date, 381 participants returned for their second WEFIT visit and reported on lifestyle changes made during their first and second exams. Of the 381 participants, 31 percent reported improved diets and 38 percent reported increased exercise levels.

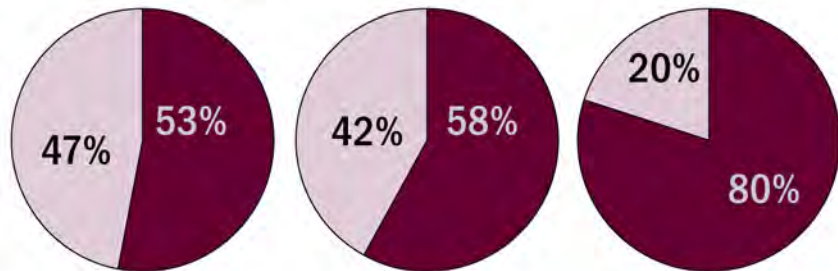
VO₂ max

■ color area of chart refers to percent of firefighters at levels lower than is recommended by the NFPA



Percent Body Fat

■ color area of chart refers to percent of firefighters at percent body fat greater than recommended



2004

2005

New Hires

Economic Outcomes

Three to Seven Year Timeframe Until Projected Savings

As noted, research on corporate wellness programs cautions that cost savings occur between three to seven years from implementation. With OCFA's WEFIT, we can begin to see trends, which we believe in the future we will be able to realize potential economic outcomes.

Workers' Compensation

Workers' compensation lost time measurements and actuarial cost projections have decreased over the past few years. Decreases in lost time—due to workers' compensation injuries and illnesses—also directly lead to decreases in overtime needed to cover vacancies due to injury.

Although WEFIT is not the only driver of these decreases. Sacramento legislative reforms, retirements, and program management are other major factors. However, it would be difficult to conclude that WEFIT has not had some effect. As the WEFIT program continues with its positive emphasis on firefighter health and fitness, we expect it will continue to assist in workers' compensation cost control.

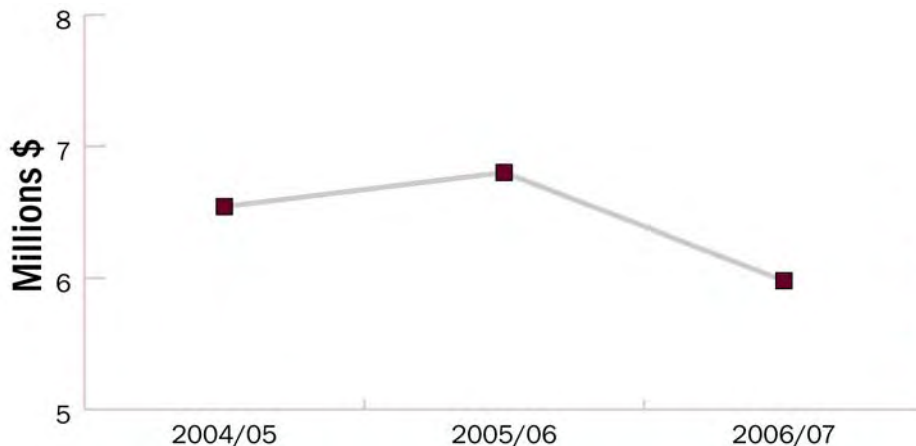
Cost Avoidance

While direct economic outcomes are just beginning to be realized, during this two year period, there have been individuals who—if not for the WEFIT

exam—might have suffered more severe medical injuries. This might have resulted in more costs for the OCFA.

Examples include detection of cardiovascular conditions that could lead to heart attack or death, hernias that could have worsened, or other health issues that could have endangered the employee and led to more costly medical treatment if left undetected.

As the WEFIT program continues, the OCFA anticipates additional cost savings will continue in the workers' compensation program and in preventing and/or avoiding serious injuries and medical conditions.



Actuarial projected "expected" costs for OCFA's self insurance workers' compensation program have decreased overall.

Summary and Conclusions

Wellness experts link employee health with organizational health. Healthy employees get their jobs done better, and good job performance makes a better organization. WEFIT medical and fitness exams, lifestyle counseling, immunization and screening, and fitness equipment improve employee health. In turn, healthy employees improve OCFA's service to the community.

The OCFA Board of Directors approved the WEFIT program on June 26, 2003, and staff began drawing up contracts and setting procedures in place. On January 26, 2004, UCI Occupational Health physicians gave Fire Chief Chip Prather and OCPFA President Joe Kerr the first OCFA WEFIT exams. More exams followed:

- In 2004, 619 exams
- In 2005, 415 exams
- From 2004 to 2006, 60 new-hire exams

In 2006, the program continues. A remarkable 90 percent of firefighters have participated. For a voluntary program, we believe this high percentage is significant.

Some of the negative assumptions, such as a spiking of workers' compensation claims as a result of these exams, never came to pass. Aggregate data gathered as part of the program has been analyzed. The January 2006 aggregate data report shows body fat percentage is down and aerobic capacity is up. Additionally, lifestyle trends improved in terms of diet and exercise.

OCFA's workers' compensation costs have fallen despite higher payrolls and additions to staff. LC4850 hours—firefighter work hours missed due to injury—have fallen. With LC4850 hours decreasing, this also directly decreases the need for overtime to fill vacant positions.

Although these savings cannot be accounted for solely by WEFIT, it appears the WEFIT program is developing into a cost-control and injury-reduction program.

Without the funding support from the OCFA Board of Directors, Firefighters IAFF Local 3631, and the FEMA grant, the WEFIT program would not have had been implemented. The key to the program's initial success can be attributed to:

- Management and labor collaboration
- Individual firefighter initiative
- Peer firefighter fitness trainers
- Exercise physiologist
- Qualified medical providers
- Maintenance of aggregate medical exams and fitness testing data
- Immunization and screening

As the WEFIT program continues, additional benefits will be realized in firefighter health and fitness including:

- Decrease in risk of death, injury, or disability from disease/injury
- Improvement in performance
- Reduction in workers' compensation costs

With a sustained effort, the WEFIT program will continue to develop into a key firefighter health and fitness program, a cost control for workers' compensation, and an enhancement of quality delivery of service to the community.