

5-2007

An anecdotal examination of wellness programs

Sean M. Greenway

Follow this and additional works at: <http://scholarship.richmond.edu/masters-theses>

Recommended Citation

Greenway, Sean M., "An anecdotal examination of wellness programs" (2007). *Master's Theses*. Paper 671.

This Thesis is brought to you for free and open access by the Student Research at UR Scholarship Repository. It has been accepted for inclusion in Master's Theses by an authorized administrator of UR Scholarship Repository. For more information, please contact scholarshiprepository@richmond.edu.

An Anecdotal Examination of Wellness Programs

Sean M. Greenway

Master of Human Resource Management

University of Richmond

May 2007

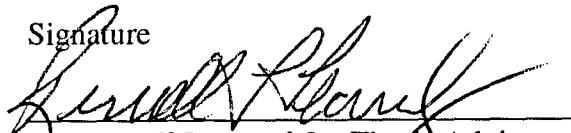
Dr. Russell Leonard Jr., Thesis Advisor

Abstract

This research investigates the question whether or not Wellness Programs are available to police officers throughout Virginia. Research has shown these programs to be beneficial in reducing the health risks associated with police work. Police departments may also see a decrease in sick leave and work related injuries. In order to address the research question, a questionnaire was distributed to 150 police departments throughout Virginia. A total of 57.7 percent of the departments reported the availability of a voluntary Wellness Program. Based on a lack of data, the findings suggest that the departments are not evaluating the effectiveness of their programs. This study contends that police officers and police departments can benefit from a properly implemented Wellness Program.

I certify that I have read this thesis and find that, in scope and quality, it satisfies the requirements for the degree of Master of Arts/Master of Science.

Signature



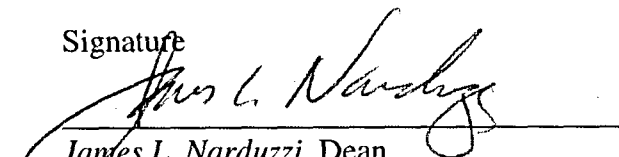
Dr. Russell Leonard Jr., Thesis Advisor

Signature



Dr. Patricia Strait, Program Director

Signature



James L. Narduzzi, Dean

AN ANECDOTAL EXAMINATION OF
WELLNESS PROGRAMS

By

SEAN MICHAEL GREENWAY

B.S., Hilbert College, 1996

A Thesis

Submitted to the Graduate Faculty

of the University of Richmond

in Candidacy

for the degree of

MASTER OF HUMAN RESOURCE MANAGEMENT

May, 2007

Richmond, Virginia

ACKNOWLEDGEMENT

I would like to take this opportunity to acknowledge several people who were instrumental throughout this journey. First and foremost, I would like to thank my wife for her endless support throughout this process. Your encouragement and understanding made this possible. To my advisor, Dr. Leonard, thank you for your guidance and assistance. Finally, to my classmates, your friendship and humor kept me on track. It has been a pleasure sharing this experience with each of you. Good luck and stay safe.

TABLE OF CONTENTS

I. Introduction	
Rational for Selection	1
Significance of the Topic	4
Delimitations	6
Client	6
II. Research of the Literature	10
Benefits of Physical Activity and Fitness	12
The Cost of Illness	13
Police Officer Health	14
The Use of Fitness Standards and Programs	16
Wellness Programs	18
Purpose	18
Background	19
Prevalence	20
Components of a Wellness Program	20
Physical Fitness	21
Stress Management and Mental Health	22
Nutrition and Dietary Related Issues	23
Alcohol and Chemical Dependency	25
Cost and Return on Investment	25
Developing a Wellness Program	26
Incentives	28
Legal Considerations	30
Wellness Works	32

III. Methodology	37
Research Question	37
Subjects	37
Sample	37
Variables	38
Research Design	38
Questionnaire Development	38
Survey Instrument and Distribution	39
Analysis of Data	40
IV. Findings	42
Conclusion	51
Limitations of the Study	53
V. Conclusion	55
Recommendations	58
Implementation	59
Short Term Recommendations	59
Cost	68
Long Term Recommendations	69
Dissemination	70
APPENDIX A	71
APPENDIX B	72
APPENDIX C	73
APPENDIX D	74
APPENDIX E	75
APPENDIX F	76
APPENDIX G	77

List of Tables

Table 1.1 – Policy Regulating Fitness	42
Table 1.2 – Mandatory Fitness.....	44
Table 1.3 – On-Duty Exercise Time	44
Table 1.4 – Access to Fitness Facilities	45
Table 1.5 – Wellness Programs	46
Table 1.6 – Incentive Programs	48
Table 1.7 – Opinion Regarding Mandatory Programs.....	49
Table 1.8 – Department Support of Mandatory Standards	50

CHAPTER I (Introduction)

Rational for Selection

Reasons for selecting the specific topic. Wellness is defined as the quality or state of being in good health (Merriam-Webster Online Dictionary). Wellness includes both physical and mental health. A Wellness Program is more than just an exercise program. Although exercise is a vital component, Wellness Programs also address topics such as, nutrition/dietary issues, weight control, and stress management. Used together, these activities focus on employee health promotion and disease prevention.

The importance of wellness can be seen in police work. Police officers often work in highly stressful situations. The word “routine” should never be used to describe an officer’s workday. The potential for danger is constant. A police officer must be ready for the unexpected every second of the day. A “routine” traffic stop could turn into a vehicle or foot pursuit in an instant. Wellness aids in an officers ability to do the job safely and effectively.

The process of becoming a police officer in the Commonwealth of Virginia involves many phases. A law enforcement agency will generally subject the potential officer to written, physical, psychological, and medical testing. Once hired, the new recruit must then complete a basic training academy. Although the length of training varies by jurisdiction, every police recruit in Virginia must successfully complete 1,370 training objectives mandated by the Department of Criminal Justice Services (DCJS). DCJS arranges training objectives into nine categories covering topics such as basic law,

first aid, patrol techniques, firearms, and defensive tactics. Physical fitness training is covered under Category 9, however these objectives are considered optional by DCJS.

DCJS also regulates compulsory in-service training. Each year, every sworn officer is required to attend 4 hours of legal training, and 36 hours of career development/elective training. Police officers are also required to qualify with their firearm annually. Fitness is not addressed during this training period.

Police departments spend a great deal of time and money maintaining their equipment. Everything from vehicles to the office copy machine is serviced on a regular basis. This preventive maintenance reduces or eliminates minor issues before they become major problems. A wellness program could be used to protect a police department's greatest asset, the officer.

Wellness Programs may assist officers in achieving or maintaining the appropriate fitness level needed to perform their duties. Wellness Programs may offer health education programs, wellness assessments, fitness promotional activities, and screening for health conditions. Research on corporate wellness programs has shown them to be beneficial in areas such as: reduced health care costs, increased employee productivity, reduced turnover, absenteeism and work related injuries.

As a police officer, these issues are important; the health of fellow officers is of equal importance. Any programs that may improve officer health are worth exploring. Due to a lack of DCJS standards, officers are not required to demonstrate their level of fitness before leaving the academy or any time thereafter. Fortunately, almost every training academy in Virginia incorporates physical fitness into their basic training

curriculum (personal communication, R. Bessent, DCJS, November 6, 2006). From experience, most officers say they are in the best shape of their life when they leave the training academy. Unfortunately, the effects of shift work, overtime, etc., may have a negative effect on an officer's habits. For this reason, it would seem logical to reinforce a healthy lifestyle throughout an officer's career. Wellness programs may aid in this process.

Reasons for selecting organization. During the past eight years, the Chesterfield County Police Department has experienced many changes. The county's population is steadily growing. The Chesterfield Planning Department population estimate for 2006 was 299,000. It is believed the county surpassed 300,000 citizens this year. The increasing population may result in increased call volume, ultimately creating more work for the officers. This has a direct affect on the officer and the department.

From the department's standpoint, they are tasked with attracting, training, and retaining the officer's needed to serve the needs of the community. Over the last several years, law enforcement agencies have had to change their marketing strategies to attract candidates. Currently, the Chesterfield Police Department travels to numerous states to recruit officers and administer the written test. In years past, applicants traveled to Chesterfield for every aspect of the hiring process.

Retention is also a concern among law enforcement agencies. Employees leave for a variety of reasons. Some opt to go to another jurisdiction (state or federal), some leave for the private sector, others find the job is not for them. Whatever the reason, these vacancies need to be filled.

From an officer's perspective, an increased workload may mean longer days, more paperwork, more arrests, and possibly more stress. A wellness program may help in preparing an officer deal to with these changes. It is hoped that this research will show how both the department and officer could benefit through the use of a wellness program.

Significance of the Topic

Police officer wellness should be of concern to every member of the law enforcement community. According to The Officer Down Memorial Page, there were a total of 143 in the line of duty deaths in 2006. Of that number, 10 officers died as a result of a heart attack while on the job. The average age was 39.4 years.

In the 10 deaths this year, the officer was engaged in:

- Special Response Team training
- Physical Fitness Training (2)
- K-9 training
- ASP/defensive tactics training
- Tactical Shooting exercise
- Foot pursuit
- Following a stolen vehicle
- Diving in a lake to recover evidence
- Call for service involving a weapon.

In the past 10 years, 135 officers have died from a heart attack while engaged in their duties (ibid.). Heart disease claims the lives of over 2,000 officers each year (Blum, 2000, 12). Is there something that can be done to prevent these deaths? The implementation of physical fitness and wellness programs could help reduce these numbers.

First and foremost, the author is not a fitness expert, nor is this paper advocating for a law enforcement community of body builders. The above numbers are shocking, specifically the average age of the officer at the time of death. It is hoped that others will have the same reaction after seeing this data and question whether changes are needed.

The benefits of exercise are well known. However, data from the Center for Disease Control indicates that most adults do not engage in regular exercise. Wellness programs can help guide the officer toward a healthier lifestyle. Annual physicals and screenings may prevent or detect a medical condition before it worsens. Information on proper nutrition, smoking cessation, and exercise routines could also be addressed. In addition to reducing stress, physical activity can decrease the risk of heart disease, obesity and cancer (United States Department of Health and Human Services, <http://aspe.hhs.gov/health/reports/physicalactivity/>).

Officer safety and survival is another area of interest. An officer needs to be ready for the unexpected every minute of their tour. A situation could turn from bad to worse in an instant. Mental and physical preparedness is crucial to officer survival. Most officers share a common goal; to return home safely every night. Total wellness may increase the officer's confidence in their ability to perform their duties. Strenuous activities such as foot pursuits and hands-on altercations may be performed more effectively and efficiently. The potential benefits of fitness could lead to a more enjoyable work and personal life.

Delimitations

The purpose of this study is to determine whether police departments are providing fitness and wellness programs. First, this study will examine the prevalence of physical fitness and wellness programs among police departments in Virginia. Secondly, it is hoped to learn how these programs benefit (actual or perceived) both the officer and the department. Finally, the study will use this information to propose programs that could be beneficial in terms of improving officer wellness.

This study will only focus on police departments in Virginia. Data was not collected from law enforcement agencies such as sheriffs departments, corrections, or federal agencies. Although stress will be addressed, this study will not focus on topics such as causes of stress, critical stress management, or post traumatic stress disorder (PTSD).

Client

The Chesterfield County Police Department can point with pride to its origins in 1900. The department is a professionally accredited organization with an authorized strength of 596. Over the years, the police department has adopted philosophies supporting the initiative to provide a “FIRST CHOICE” community to citizens (Chesterfield County Police website, <http://www.co.chesterfield.va.us/publicsafety/police/2005AnnualReport/beginning.asp>). The Chesterfield County Mission and Vision Statements are provided below:

Mission Statement

The mission of the Chesterfield County Police Department is to provide a professional and unbiased response to the needs of the community. It is the Department's goal to establish a partnership with the citizens in achieving a "First Choice Community through excellence in public service" (Chesterfield Police Strategic Plan FY2007-2011, 3).

Vision Statement

It is the vision of the Chesterfield County Police Department to continue to provide quality service to the community as a nationally recognized leader among law enforcement agencies, utilizing state-of-the-art information and policing technologies, attracting and maintaining professional employees, consistently improving our quality of training, and demonstrating innovation and operational flexibility (ibid.).

The departments' organizational structure (APPENDIX A) consists of the Office of the Chief of Police. Under the Chief of Police, there are two Deputy Chiefs; one is in charge of the Operations Division, while the other Deputy Chief is in charge of Support Services Division. The Deputy Chief in charge of Operations supervises the Uniform Operations Bureau, which includes Patrol Officers and the Investigations Bureau, which includes Detectives. The Deputy Chief in charge of the Support Services Division supervises the Administrative Support Bureau and the Operation Support Bureau. The organization also has the Office of Professional Standards, otherwise known as the Internal Affairs Division. This department investigates citizen complaints against officers. The department also has Watch Commanders, who are Captains and assume control of department operations when the Chief and Deputy Chiefs are not working. Finally, the organization has a Department of Media Relations. They act as liaison between the department and the media (ibid.).

The Chesterfield police department handled a total of 218,247 calls/assignments in 2005 (Chesterfield Police Strategic Plan FY2007-2011, 13). As of 2005, the department had 468 police officers. The 2005 population was 291,000 (ibid.).

The department is fortunate to have a strong partnership with the community and their volunteers. Volunteers are a valued commodity within the Chesterfield County Police Department. According to the Chesterfield Police 2005 Annual Report, volunteers contributed more than 32,000 hours of their time. More than 190 men and women devote their skills and time to groups such as:

Chesterfield County Auxiliary Police Unit - Their mission is to provide logistical and personnel support for all units in the police department. All members are sworn police officers and exercise full police powers in Chesterfield County. This unit is comprised of volunteers who assist the department by performing regular patrol duties, as well as special assignments. Among the duties performed are riding with regular officers, patrolling assigned areas with other special police officers, providing assistance for department call-outs for events, such as civil unrest, natural disasters and children and missing-person searches, and assisting with events such as parades and funerals. This enables the department to dedicate regular paid manpower to perform other duties. These officers dedicated 10,888 hours of volunteer assistance.

The Motorist Assistance Team – This team is comprised of nine volunteers whose mission it is to aid citizens who experience vehicle trouble on county roadways. They are praised by citizens and officers for their assistance with traffic and disabled motorists. Team members contributed 3,142 volunteer hours in 2005 and received a 2005 Achievement Award from the National Association of Counties.

Crime Solvers – Crime Solvers is responsible for the day-to-day operation of an anonymous tip-reporting program encompassing both Chesterfield County and the city of Colonial Heights. This program enables concerned citizens to anonymously report criminal activity any time, day or night, and to receive rewards should their tips lead to convictions. The Crime Solvers scholastic program operates in both middle and high schools throughout the county. Crime Solvers recorded 958 tips in 2005.

Office volunteers also conduct research and provide clerical support to police and detectives in the department's Crime Prevention, Crimes Against Property and Police Training sections (ibid., <http://www.co.chesterfield.va.us/PublicSafety/Police/default.asp>).

Recent results of a citizen satisfaction survey polled throughout Chesterfield County revealed citizens feel Chesterfield is a safe and secure environment in which to live (Chesterfield Police Strategic Plan FY2007-2011, 21). The county may need to work harder in the coming years to maintain customer satisfaction. The population continues to rise at a steady rate. Although the police department is growing, it may not keep pace with the population. Increases in population may ultimately result in more calls for service, increased traffic accidents, higher crimes rates, and slower response times. These factors may have a direct impact on how the citizens perceive the police department. The police department may need to work a little harder to remain a "first choice community."

CHAPTER II (Research of the Literature)

“All parts of the body which have a function, if used in moderation and exercised in labours in which each is accustomed, become thereby healthy, well-developed and age more slowly, but if unused and left idle they become liable to disease, defective in growth, and age quickly.”

-Hippocrates, the Father of Medicine (460-377 BC)

Imagine a fellow officer requesting immediate assistance with a combative subject. As you pull into the apartment complex, you see the officer and suspect fighting outside an apartment on the third floor. You exit your vehicle and sprint across the parking lot. After scaling two flights of stairs, you have to stop to catch your breath. Your fellow officer is still fighting with the suspect. You finally reach the third floor, still gasping for breath. The suspect now charges at you. Do you have the physical capacity to defend yourself from his attack? Although this is a hypothetical situation, the potential for this scenario is very real.

What does it mean to be “physically fit”? If this question was posed to 10 people, all 10 may answer differently. The lack of consensus may be due to the complexity of the issue. The Center for Disease Control and Prevention (CDC) views physical fitness as, "...a set of attributes that people have or achieve that relates to the ability to perform physical activity" (United States Department of Health and Human Services, 1996). In other words, it is more than being able to run a long distance or lift a lot of weight at the gym. Being fit is not defined only by what kind of activity you do, how long you do it, or

at what level of intensity. While these are important measures of fitness, they only address single areas (United States Department of Health and Human Services, 2006).

Overall fitness is made up of five main components (ibid.); (1) cardiorespiratory endurance, (2) muscular strength, (3) muscular endurance, (4) body composition, and (5) flexibility. In order to attain total fitness, all five components need to be addressed;

- Cardiorespiratory endurance is the ability of the body's circulatory and respiratory systems to supply fuel during sustained physical activity (ibid.). This component could prove crucial during foot pursuits, climbing stairs, or running to assist a fellow officer. Activities such as jogging, walking, swimming, and bicycling fall into this category. "Keeping your heart rate safely elevated for sustained periods of time will improve endurance levels. The activity you choose does not have to be strenuous to improve your cardiorespiratory endurance" (ibid.).
- Muscular strength is the ability of the muscle to exert force during an activity. The key to making your muscles stronger is working them against resistance, whether that be from weights or gravity. Weight training may aid in gaining muscle strength (ibid.).
- Muscular endurance is the ability of the muscle to continue to perform without fatigue. Muscle endurance can be achieved through exercises such as push-ups, walking, jogging, bicycling, or dancing (ibid.).
- Body composition refers to the relative amount of muscle, fat, bone, and other vital parts of the body. Body composition is important to consider for health and managing your weight (ibid.). The use of body mass index (BMI) will be discussed later in this section.
- Flexibility is the range of motion around a joint. Good flexibility in the joints can help prevent injuries through all stages of life. A basic stretching program could prove beneficial (ibid.).

Based on this information, it seems that total fitness might not be realized if one of the above components is missing. The question now becomes, "How do you achieve optimal fitness?"

The CDC (2006) recommends that adults strive to meet either of the following physical activity recommendations:

- Engaging in moderate-intensity physical activities for at least 30 minutes on 5 or more days of the week. Moderate-intensity exercises produce a slight increase in breathing or heart rate and generally burn 3.5 to 7 calories per minute.
- Engaging in vigorous-intensity physical activity 3 or more days per week for 20 or more minutes per occasion. Vigorous-intensity exercises produce a large increase in breathing or heart rate, and generally burn more than 7 calories a minute.

Benefits of Physical Activity and Fitness

The CDC recommendations for physical activity do not appear to be that difficult to meet. Health benefits may be achieved by taking a 30 minute walk around the neighborhood each night. Research has shown that almost all individuals can benefit from regular exercise.

Regular physical activity and fitness are critically important for the health and well being of people of all ages. Even among frail and very old adults, mobility and functioning can be improved through physical activity. Regular physical activity has been shown to reduce the morbidity and mortality from many chronic diseases. Millions of Americans suffer from chronic illnesses that can be prevented or improved through regular physical activity. Therefore, physical fitness should be a priority for Americans of all ages (United States Department of Health & Human Services, 2002).

Studies have shown that physical activity can reduce the risk of developing or dying from heart disease, diabetes, colon cancer, and high blood pressure (ibid.). The benefits of physical fitness have been well documented. By the 1970's, organizations such as the American Heart Association began issuing physical activity recommendations to the public (United States Department of Health & Human Services, 1996).

Despite all the findings and recommendations, it does not appear as though the message is getting through to the general public. This opinion is based on several statistical findings. In 2004, heart disease was the leading cause of death in the United States (Minino, Heron, and Kochanek, 2006). A report issued by the Surgeon General (United States Department of Health & Human Services, 1996) indicates,

Despite common knowledge that exercise is healthful, more than 60 percent of American adults are not regularly active, and 25 percent of the adult population are not active at all. Moreover, although many people have enthusiastically embarked on vigorous exercise programs at one time or another, most do not sustain their participation.

The lack of activity may explain the high rates of obesity. Nearly 50 million adults between the ages of 20 and 74 are obese (United States Department of Health & Human Services, 2002). Overall, more than 108 million adults, or 61 percent of the adult population are either overweight or obese (*ibid.*). Diabetes, which is associated with obesity and physical inactivity, affects 17 million people (*ibid.*).

The Cost of Illness

The increasing prevalence of chronic medical conditions and diseases related to physical inactivity are associated with two types of costs (United States Department of Health & Human Services, 2002). First, there are health care costs. These costs are attributed to preventive, diagnostic, and treatment services. Second, there are costs associated with lost wages and productivity due to illness and disability (*ibid.*).

In 2002, the total cost of overweight and obesity alone was estimated to be \$117 billion. Obese individuals spend approximately 36 percent more than the general

population on health services and 77 percent more on medications (ibid.). Additional figures include:

- Heart Disease - \$183 billion
- Cancer - \$157 billion
- Diabetes - \$100 billion

Police Officer Health

The physical and psychological demands of police work can be significant. Over a period of time, factors such as stress, long hours, lack of sleep and poor eating habits may eventually take its toll on an officer. If you add a lack of physical activity to the equation, the onset of problems might be realized sooner.

Studies conducted by Bonneau and Brown (1995, 158) showed fitness levels of police officers declined as years of service increased. The same study showed, “only 17 percent of the participants performed regular physical activity at least three times a week. The greatest decline in fitness levels occurred among males between the age of 20 and 30” (159). In a survey of officers from a Texas police department, Leal (2006, 17) found that only 57 percent of the officers engaged in physical exercise.

Life expectancy has reached an all-time high. In 2003, life expectancy was reported at 77.6 years (Minino et al., 2006). In contrast, a 40 year study of police officers showed the average age of death to be 66 years (Violanti, Vena, & Petralia, 1998, 367). Improved levels of fitness may lead to an increase in the life expectancy of police officers. Wellness programs that include a physical fitness component might assist officers in combating the high risk factors common among police officers.

A study by Violanti et al. (1998) examined mortality data of City of Buffalo, New York police officers. The cohort consisted of 2,693 officers who worked a minimum of 5 years between December 31, 1979 and December 31, 1990. The age and time-specific person-years at risk of dying were calculated for each police officer. The results concluded:

Mortality from all causes of death combined for police officers was significantly higher than expected. Significantly increased mortality was also seen for all malignant neoplasms combined, cirrhosis of the liver, and suicide. A higher than expected mortality rate for all malignant neoplasms is primarily accounted for in elevated rates for esophageal, colon, and kidney cancers. Mortality for cancers of the rectum, liver, and pancreas was also elevated but not significantly. Rates for kidney cancer and Hodgkin's disease were significantly elevated.

All cause mortality was significantly higher for age categories 50–69 and 70–94. The younger the starting age, the higher the rate of mortality. There was a significantly elevated rate of mortality for those employed for a duration of 10–19 years.

In addition to significantly elevated total all-cause mortality for police, there was significantly high mortality for those employed for only 10–19 years duration. Those in the 1- to 9-year and 10- to 19-year categories had a significantly elevated rate of mortality for all malignant neoplasms. In the 10- to 19-year category, significantly elevated rates were noted in cancers of the bladder, lymphatic and hematopoietic tissue, and leukemia. Brain cancer was elevated in the 10 to 19-year and 30+ years categories. Arteriosclerotic heart disease was significantly elevated in the 10- to 19-years-of-service category. Mortality for cirrhosis of the liver was significantly higher in the 30+ year group. (ibid., 367-368)

A study by Shell (2005, 27) examined officers body mass index. The results showed that 80 percent of the respondents were overweight with approximately one-third identified in the obese category. As shown earlier, heart disease is linked to obesity. Despite all the current health information, police officers are twice as likely to develop heart disease (McCraty, Tomasino, Atkinson, and Sundram, 1999, 1).

Autonomic nervous system assessment based on heart rate variability analysis of 24-hour ECG recordings revealed that 11% of the officers tested were at high risk for cardiovascular disease and premature mortality. This is more than twice the ratio of at-risk individuals expected to be found in the general population, and is consistent with epidemiological data indicating that police officers as a group have over twice the average incidence of cardiovascular disease (ibid.).

The shortened life expectancy of a police officer may be explained by the high rates of heart disease, cancer, obesity, and inactivity discussed in this section.

The Use of Fitness Standards and Programs

Each officer is responsible for managing their health. However, police departments may consider sharing in this responsibility. Leal (2006, 14) notes, "In most departments after officers are hired there are few, if any, fitness requirements for the officer, even as they are expected to perform demanding physical tasks." Each state mandates the training/certification requirements for their officers. From personal knowledge, physical fitness training is not required in Virginia. In order to gain certification, recruits need to complete 1,370 training objectives mandated by the Department of Criminal Justice Services (DCJS). However, physical fitness standards are considered optional and therefore not required for certification. Through a conversation with a DCJS staff member, it was learned that almost every certified training academy incorporates physical fitness into their basic academy training (personal communication, November 9, 2006). Although this is encouraging, the health benefits obtained in the academy may quickly disappear after graduation. In their study, Copay and Charles (2001, 427) note,

Despite their best efforts, the results of the fitness programs of basic academies will be short lived if the officers do not maintain some fitness standards and/or programs after graduation from the academy. Stamford *et al.* (1978) noted that recruits leaving the police academy had significantly improved their fitness levels; however, after one year of active duty, their cardiorespiratory fitness and body fatness had reverted to their pre-academy levels and they had a significant loss of muscle strength. Similarly, Boyce *et al.* (1992) studied the results of yearly physical fitness tests and noted that, even though police officers had maintained their muscular strength, endurance, and flexibility, their cardiorespiratory endurance was back to their pre-academy level after one year and body fat surpassed their entry level after three years.

It appears that some officers may be in the best shape of their career upon leaving the academy. If fitness levels decrease with years of service, this may raise some safety concerns. Departments may want to examine whether their officer's can safely and effectively deal with the criminals they encounter. A comparison of officer fitness to inmate fitness produced some disturbing results (ibid.).

If offenders' fitness level is used as a criterion, police officers do not meet the requirement. Collingwood (1974), for example, showed inmates to be in better physical condition than police officers. Inmates had a higher working capacity and cardiovascular endurance, and a lower body weight, fat, diastolic blood pressure, and serum cholesterol. Our Canadian police colleagues do not fare much better. The average body fat of a Canadian police officer is 23 percent while that of an incarcerated criminal is 8-12 percent (Sweeney, 1992). Also, Rhodes and Farenholtz (1992) constructed a physical abilities test for law enforcement and used Canadian prisoners' mean score on the test as the standard of performance. Only 55 percent of the officers tested passed the test.

Agencies may be hesitant to implement a wellness program due to budgetary restrictions. However, the results of the Charles and Copay study could be used to support such programs. It seems that if an agency dedicates the time and resources to train their officer's in a particular topic (i.e., physical fitness); it must have been deemed important. If these skills are lost after one year, is this time and money well spent? A wellness program could be used as a maintenance program, allowing the officer to retain the skills obtained during the initial training period.

The Bedford, Texas Police Department has a mandatory fitness program. This program was implemented on March 8, 2004. Since its inception, the police department has seen a reduction in absenteeism, injuries, and other turnover (Leal, 2006, 16).

A study by Connaughton, Hausenblas, Dannecker, and Lovins (2000, A-37) compared departmental results of a mandatory, university police department physical

fitness assessment program to normative data. Data was analyzed from 14 batteries of fitness assessments that were performed each April and October from 1992 to 1999. Compared to the normative data, the results for all age ranges showed higher scores in; flexibility, body composition, push-up test, and abdominal curl-up test.

WELLNESS PROGRAMS

The meaning of wellness may differ from person to person. Church (1993, 1) defines wellness as, “being in good health, having a sound mind in a sound body and control over all bodily functions.”

“Wellness Programs focus on the benefits to the employee and the organization of health and fitness. These programs provide information on training and fitness and encourage employees to actively pursue health and fitness through knowledge and activity” (Jones, 1992, 10). Wellness programs may benefit law enforcement by preventing or eliminating the health risks discussed in the previous sections.

Purpose

Depending on agency objectives, wellness programs can be designed to address a variety of health issues. “Worksite wellness programs provide services designed to help employees reduce specific risks such as high blood pressure, cholesterol, cigarette smoking, and obesity, and to maintain and improve overall health by increasing physical exercise, improving nutrition, and addressing stress” (Erfurt, Powell, Foote, and Heirich,

1992, 6). The literature has shown wellness programs to be beneficial in areas such as employee health, productivity, morale, and absenteeism.

Background

Employers have had a vested interest in employee health concerns dating back to the 1920's (Schirmer, 1925, 59). These concerns laid the foundation for Employee Assistance Programs (EAP). Health screening, employee assistance, and health education programs that promoted positive management and labor relations, a decrease in infectious disease, and assistance to employees with personal problems were common throughout the 1950's (Fuchs and Richards, 1985, 3). The popularity of these programs continued to increase over the years, specifically during much of the 1980's and 1990's as health care costs continued to rise. This resulted in a greater focus on health promotion. "In their infancy, wellness programs focused primarily on a single risk factor, cardiovascular disease, that was cutting short the careers (and many cases, lives) of male executives at Fortune 500 companies" (Karch, 2005, 32). Eventually, wellness programs expanded to target more areas.

By the 1990's, wellness programs had begun to focus not just on disease prevention but also on health promotion. Both are important and necessary, but the distinction has critical cost implications. By trying to encourage participation in activities that can help people live healthier lives and effectively manage existing risks (or, better yet, reduce the number of risk factors), health promotion programs stand to drive various economic benefits – including reduced absenteeism and higher productivity – that can position a company to survive and prosper in the 21st century (ibid.).

Prevalence

From a business standpoint, healthy employees may have a significant impact on the success of the company. Wellness programs are one method of protecting a company's assets and from recent figures it appears businesses are taking notice.

Gebhardt and Crump (2005) note,

In the past 15 years, American business and industry have increased their awareness of the importance of physical fitness and wellness in the workplace. The exponential growth of worksite health promotion programs has partially resulted from the belief that an organization should take some responsibility for the welfare of its most valuable resource, the worker.

A recent Bureau of Labor Statistics report indicates worker access to wellness programs, and fitness centers increased from 17 percent of workers in 1999, to 23 percent in 2005 (Stoltzfus, 2006). These programs offered help in areas such as stress management, nutrition education, and smoking cessation.

Components of a Wellness Program

Church (1993, 11) identified five major components within Wellness Programs:

1. Physical Fitness
2. Stress Management
3. Psychological – Mental Health
4. Nutrition and Dietary Related Issues
5. Alcohol and Chemical Dependency.

Each component is related to a specific aspect of law enforcement. Police officers need to be physically fit in order to protect themselves and the public. Stress management and mental health care are necessary for coping with the demands of the job. Nutrition and

dietary issues have a direct impact on physical fitness. Alcohol and chemical dependency may manifest if all of these components are not addressed, specifically stress management.

In a study by Belloc and Breslow, 7000 people from Alameda County, California were questioned about seven basic health practices. The practices included maintenance of an ideal body weight, regular consumption of breakfast, avoidance of snacks, vigorous physical activity, seven to eight hours of sleep daily, abstinence from tobacco, and moderate consumption of alcohol. Based on the results, they found that people who followed six or more of the seven health practices were likely to live 10 to 11 years longer compared to those who practiced fewer than three (Speakwell website, <http://www.speakwell.com/well/2005summer/facts.php>).

Physical Fitness

Physical fitness is vital to an officer's survival. The effects of stress and poor nutrition can negatively impact physical fitness. As discussed earlier in this Chapter, physical fitness can be determined through five health measures; cardiovascular endurance, muscular strength, muscular endurance, body composition, and flexibility. A study of 1,504 police trainees across the state of North Carolina examined the effectiveness of an occupation based health and fitness program. The wellness and fitness program included for hours of lecture, 12 hours of testing, and 27 hours of supervised physical activity. The lecture portion emphasized health, nutrition, and fitness. As compared with controls, subjects at the experimental site improved

significantly in cardiovascular fitness, general muscular strength, flexibility, and lowered their body fat (Harrell et al, 1996, 377).

In addition to improving overall health, a physical fitness program may assist with an officer's ability to do their job more effectively and efficiently. The ultimate goal is to produce a healthier officer.

Stress Management and Mental Health

The effects of stress are well documented. Police work tends to be regarded as inherently stressful due to the personal risk of exposure to confrontation and violence, along with the day-to-day involvement in a variety of traumatic incidents. Stress can be caused by organizational issues, lack of control over the workload, lack of consultation and communication, and inadequate support (Collins and Gibbs, 2003, 256). Stress has been linked to health problems such as heart disease, ulcers, and high blood pressure.

Stress may manifest itself in many ways. Sadly, police officers have high rates of suicide, divorce, and alcoholism (Violanti, 1996, 78). A tremendous amount of research has been conducted on Post Traumatic Stress Disorder (PTSD), specifically in light of the September 11, 2001 attack. If a separate EAP exists for these matters, a wellness program could still be used to address this topic. Classes could be offered on relaxation techniques such as deep breathing exercises. If an EAP exists, it may also be beneficial to provide an overview of the program, to include all available resources.

Nutrition and Dietary Related Issues

Nutrition and Dietary issues are a key component of wellness. Diet has been linked to health risks such as heart disease, high blood pressure, diabetes, and obesity. Despite this evidence, people continue to ignore or disregard the research. Heart disease continues to be the leading cause of death. More than 108 million adults or 61 percent of the adult population are either overweight or obese (United States Department of Health and Human Services, 2002). By providing nutritional and dietary information, a wellness program may assist individuals in developing healthier change eating habits. It is important to continue the education process to ensure long-term results. Behavior change is essential to prevent relapse from newly acquired healthy lifestyle changes (Erfurt, 1992, 23).

Nutrition and Dietary education is essential to law enforcement. Due to the demands of the job, police officers may not get the opportunity to set aside 30 minutes of their shift to eat a healthy meal. Meals may have to be consumed quickly, or skipped altogether. Stress could affect eating habits as well. An officer could turn to food as a coping mechanism, or may not eat at all. Educating officers about the importance of nutrition can lead to improved health.

The Austin Texas Police Department developed and implemented a nutrition education program. The program was added to their wellness program in order to provide another aspect of health care. Briley, Montgomery and Blewett (1992, 1382) conducted a study to evaluate the effectiveness of the program. The study involved 28 participants who took nutrition counseling, nutrition and eating behavior seminars and

monitoring programs for weight and blood lipid levels. Six seminars on nutrition and eating behaviors were presented to the employee and their “food provider” (i.e., spouse); each seminar was offered twice to accommodate work schedules. Employees were able to attend the seminars during regular work hours (ibid.). Each employee met with a registered dietician for six 30-minute individual counseling sessions. Participants were encouraged to keep a journal of food intake, body weight, and exercise records. Blood cholesterol levels were completed on each participant throughout the study (ibid.).

At the end of the 12-month study, each participant had significantly lowered their cholesterol levels and body weight. The study concluded that, “a comprehensive wellness program that integrates nutrition, health counseling, and physical examinations over an extended period can help persons employed in high-stress occupations lose weight and lower their blood cholesterol levels” (ibid.).

The Austin Texas Police Department incorporated this program for very specific reasons. The department identified an increasing rate of obesity among their officers; the public image of the police department was suffering and absenteeism had increased (Briley, Montgomery and Blewett, 1990, 65). Based on the results of the study, the department developed criteria which must be met by each officer. If an employee fails an annual health review, he or she may enter the wellness program or face termination. Individuals who meet the 12-month criteria receive a commendation that is placed in their file (ibid.).

Alcohol and Chemical Dependency

Addiction to alcohol and drugs places the officer, department, and public in serious danger. Addiction can also negatively impact the other components discussed in this section. As with mental health issues, organizations generally handle this topic through an employee assistance program. A wellness program can still offer assistance by providing the officer with a list of available resources. Church (1993, 32) believes this portion of a Wellness Program is the hardest to develop.

Faced with saving valuable employees and with saving the image of the department, employee concern may fall by the wayside. Employees are a valuable resource to any department. A tremendous expense has gone into training each employee, in addition to the knowledge they possess from their experiences. Ignoring addictions can lead to the loss of this resource at a greater cost to an agency, then the cost of treatment.

Cost and Return on Investment

Wellness Programs are not “one size fits all”. A Wellness Program should be designed to address the needs and objectives of the department. A review of the literature did not uncover a “set” price. The more comprehensive the program, the more cost involved. What the literature did reveal however is that companies have seen a significant return on their investment.

The C. Everett Koop National Health Award is given annually to an organization that reduced medical costs and improved employee health through a wellness program (O’Rourke and Sullivan, 2003, 35). In 2001, Citibank was honored for their health management program. The program was designed to lower health-related risks and costs for high-risk participants (ibid.). Citibank used health awareness education, behavior change, risk reduction components, and on-site medical clinics (ibid.). All of these

efforts led to healthier behavior in regards to dietary intake, exercise, stress, and smoking. In the end, “Citibank documented a financial return on investment from lowered medical expenses of \$4.50 for every dollar spent on their health program” (ibid.).

Motorola has a program that focuses on education, prevention, flu vaccinations, cancer screenings, smoking cessation programs, back care, stress management, and nutrition programs. Although the cost of health care continues to rise, “participating Motorola employees see only a 2.5 percent increase compared with 18 percent annual increases for non-participants. For every dollar invested in its wellness programs, the company found that it saves \$3.93 in medical expenses” (ibid., 36).

Realizing that budgets vary by department, it is important to view Wellness Programs as a method of protecting the company’s assets. Based on the examples above, it appears investing in a Wellness Program is money well spent.

Developing a Wellness Program

When developing a Wellness Program, it may be beneficial to determine the current health status of the employees. The use of employee health appraisals could be helpful in determining the risk factors present in the organization. Wellness components can be designed around the results. This step basically asks the question, “What needs to improve?”

The next step involves addressing the problems. Having the full support of the administration is crucial. Presenting the problems to management with an explanation of

how it effects the department may help gain their support. It is also important to stress that developing a Wellness Program will require time, effort, and money.

Set short and long term goals based on the department's objectives and needs. It may be useful to form a Wellness Committee to assist in this process. The committee could consist of both management and employees. This may help build both trust and support in the program.

The ultimate goal is to maximize participation. Communicate the goals and objectives to the employees. Employees may be confused about the purpose, or wonder if there is a hidden agenda. Express the departments concerns openly and honestly. By explaining the potential benefits, employees may be more accepting of the program.

Acceptance of the program will depend on how the information is communicated.

Positively framed messages emphasize the benefits and advantages of performing an advocated behavior. Conversely, negatively framed messages emphasize the harmful effects and disadvantages of not performing the advocated behavior. As such, negatively framed messages focus on adverse consequences and benefits forgone. (Arona, Stoner and Arona, 2006, 2000).

This study also found that positively framed messages produced greater intention to engage in regular exercise when exercising was perceived to be prevention-oriented (ibid.).

The final stage involves evaluating the program. Compare health assessments against the initial data. Survey the participants; their feedback may provide the best information. It is important to remember that progress takes time. Accurate record keeping is essential in the evaluation process. Records could also serve as a way of maintaining support, and increasing participation. If data is not being collected, it will be extremely difficult to evaluate the program.

Incentives

A co-worker who was teaching a General Instructor School was observed wearing a large button with the letters “W.I.I.F.M.”. Before getting the chance, someone else questioned what the letters stood for. She responded, “What’s In It For Me.” She explained that most adult learners will pose this question when faced with a new process, or training procedure. She was trying to stress to the prospective instructors the importance of communicating objectives in the classroom. Incentives can serve to answer this question as well.

An incentive is an anticipated positive or desirable reward designed to influence the performance of an individual or group. Dr. David Honeycutt, President of the Wellness Councils of America offers this perspective, “...incentives are about getting people to do things they would not otherwise do! Like it or not, people frequently don’t do what will help them stay healthy and live longer. Changing this situation is what wellness is fundamentally about.”

To commemorate their 50th Anniversary in 1996, the Centers for Disease Control and Prevention (CDC) developed the Director’s Physical Activity Challenge. Their goals were two-fold: (1) to support and encourage CDC employees to move toward the recommendation to accumulate 30 minutes or more of moderate-intensity physical activity on most, preferably all, days of the week, and (2) to create a CDC worksite environment that promotes and supports healthy behaviors among its employees (Absolute Advantage, 2005, 4).

The challenge was a 50-day commitment. The program was built around an incentive system that rewarded participants with low-cost material prizes for accomplishing their predetermined goals. A total of 3,740 employees entered the program. Competition among major organizational units was encouraged. Plaques were awarded to units that had at least 50 percent of their employees participating (ibid., 5). Upon completion of the challenge the results indicated: 64 percent of eligible employees participated, 80 percent of participants met their individual goals, and a total of 145 teams participated (ibid.). Some additional key points from this example include: low-cost incentives are feasible, team-based wellness incentives are also feasible to implement, a large percentage of participants made significant health behavior changes, and incentives are an effective tool in catalyzing short-term health behavior change (ibid.).

As the CDC example illustrates, incentives can be used to promote behavior change in the workplace. In terms of a Wellness Program, incentives can be used to accomplish many different things such as (ibid., 6):

- Promoting learning,
- Encouraging participation in programs,
- Encouraging improvement in fitness test scores,
- Encouraging compliance with professional health advice,
- Encouraging initiation and maintenance of specific health behaviors,
- Encouraging accomplishment of personal health enhancement objectives.

Regardless of whether the incentives are tangible or intangible, they can still be effective.

Intangible incentives offer a psychological value to the individual such as a sense of

belonging, self-mastery, or recognition. Tangible incentives could be in the form of money, time off, or merchandise goods.

The City of Peoria, Arizona Police Department includes incentives within their Employee Wellness Program. Physical fitness assessments are conducted yearly; the program is scored using The Cooper Standards. Officers who score in the 70th percentile are awarded a physical fitness pin. Officers can also earn up to three days personal leave based on their scores (City of Peoria Police Department, 2005).

The Peoria Police Department provides an excellent example of the use of incentives. Incentives are an effective way of increasing employee participation. More importantly, incentives do not have to be extravagant in nature. Creativity can be used to develop incentives based upon budget. Preferred parking spots, inclusion in a company newsletter, certificates of achievement, t-shirts, and water bottles are a few examples of little or no-cost incentives.

Legal Considerations

Depending on the nature of the program and the incentives, there are some legal requirements that should be taken into consideration when designing a Wellness Program. These legal guidelines will apply to voluntary and mandatory Wellness Programs. The Civil Rights Act of 1964 and 1991, the Americans with Disabilities Act (ADA) and the Age Discrimination in Employment Act (ADEA) prohibit programs, standards and tests that discriminate against protected classes. Legislation also requires that programs, standards, and tests be job related and scientifically valid. Issues

regarding disability-related inquiries and medical examinations are addressed under the ADA. The ADA prohibits employers from inquiring about employees' medical conditions unless such inquiries are "job-related and consistent with business necessity." However, there are some exceptions. "...employers may conduct voluntary medical examinations and activities, including taking voluntary medical histories, that are part of an employee health program without having to show that they are job-related and consistent with business necessity" (Alvarez and Soltis, 2006).

When a Wellness Program is linked to an employer-sponsored group health benefits plan, Alvarez and Soltis offered the following advice for employers,

Take into account certain requirements under ERISA, the Internal Revenue Code (Code) and the Public Health Service Act (PHSA). All three laws were amended by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) to provide for improved portability and continuity of health coverage. HIPAA also added code sections which prohibit discrimination in health coverage based on health status. These non-discrimination provisions, however, do not prevent a group health plan or insurance issuer from establishing discounts or rebates or modifying otherwise applicable co-payments or deductibles in return for adherence to programs of health promotion and disease prevention (ibid.).

In addition to federal legislation, employers must be mindful of any state laws governing these issues. For example, a law that took effect in Rhode Island on January 1, 2007 made it only the third state, joining New Mexico and Maryland, to mandate, under certain circumstances, employer health plan coverage of programs intended to help employees quit smoking (Deschenaux, 2007).

Whether a program is voluntary or mandatory, it is important to remember that any employee information collected remain confidential and maintained separate from their personnel folder.

Wellness Works

The Palo Alto (California) Police Department launched their Wellness Program in April 2004. The program was designed to, “educate, motivate, and assist officers in achieving and maintaining optimal health so they could be more effective” (Report to City Council, 2006). The goal was to reduce sick leave usage and worker’s compensation injuries (ibid.). The program is available to sworn employees on a voluntary basis. Employees participating in the program must complete a health screening every twelve months. The health screening consists of blood pressure and pulse, lipid profile, height/weight; waist-hip ratio, body composition analysis, fitness testing (3 minute step test), and a strength, flexibility, cardiovascular and endurance test. Participating employees are given one hour of on-duty time to exercise. The department authorizes certain exercises under the Wellness Program, mainly cardiovascular and free weights.

On April 1, 2004, the Police Department conducted its first Wellness Profile Comprehensive Assessment. Seventy-four sworn employees participated in the initial assessment. Based on the results, several officers were encouraged to see their personal physicians regarding a potentially serious health situation that they were previously unaware of (ibid.). In April 2005, employees participated in a second comprehensive assessment. A comparison between the two assessments produced the following results (ibid.):

Nutrition – High nutrition risk factors for the participating officers decreased. Overall, there was a 14 percent increase in good nutrition.

Cancer Risk – Officers who participated in this program reduced their risk of cancer from 78 to 58 percent. According to medical professionals, this 20 percent decrease is a significant reduction, especially for police officers.

Body Fat – Of those considered “overweight” during the first year of the program, 63 percent of the participants had higher fat ratios than recommended. This number dropped to 58 percent during the second year of the program. This five percent decrease was directly related to exercise.

Cholesterol – Overall, cholesterol improved during the second year. The decrease in body fat and the increase in HDL levels were two of the primary reasons the on-duty work out program was initiated.

Economic Impact of Major Health Risks – Risk factors include, but are not limited to, smoking, sedentary lifestyle, being overweight by more than 20 percent, high blood pressure, and high cholesterol. A comparison of the figures indicated the risk factors that would result in higher medical claims decreased in four out of five risk level categories.

Aerobic Fitness – The number of officers that were aerobically unfit was reduced from 13 percent to 4 percent. Staff from the Wellness Program felt this was due to the follow-up assessments which increased the officers’ awareness of the impact of exercise, the counseling intervention, adherence to the exercise guidelines, and the on-duty workouts, which facilitated the officer actually committing to doing the exercise.

Prior to the inception of the Wellness Program, the participating officers used 897 hours of sick leave (during the first and second quarters of 2003). During the first and second quarters of 2004, participating officers used 794 hours of sick leave. During the same time period in 2005, officers used 518 hours of sick leave. This represents a 42 percent

decrease in sick time with participating officers. The reduction in sick leave reduces the cost of medical benefits as well as overtime costs. In terms of Worker's Compensation injuries, claims among participating officers dropped from two to zero (ibid.).

The City of San Mateo (California) Police Department offers a voluntary Wellness Program to their officers. The program includes the following benefits:

- Each patrol shift consists on 70 minutes of on-duty time to improve muscular strength and endurance in the department's state-of-the-art weight room.
- Corporate membership rates for all employees to 24-Hour Fitness and YMCA.
- Regular, confidential fitness evaluations by an Exercise Physiologist/Dietician.
- Individual exercise program.
- Access to a personal trainer who will design a program geared towards the individual.

Through the use of their Wellness Program, the San Mateo Police Department has been able to minimize the incidence of preventable high cost medical conditions and sick leave, enhance the department's community image, and maintain high morale with employees (San Mateo Police Department, 2006).

A report from the National Coalition for Promoting Physical Activity (<http://www.ncppa.org/state.asp>) highlighted the efforts of The Lufkin (Texas) Police Department. Several years ago C.G. Maclin, Lufkin's City Manager, was given the opportunity to start a wellness program for city employees. Employees who meet the parameters defining a healthy lifestyle measured by blood pressure and cholesterol tests and no tobacco have their health insurance annual deductible lowered from \$500 to \$200. In addition, employees receive free PSA/mammogram testing and \$300 each year for an

annual physical. The program has proven to be a success. Lufkin's insurance operating budget (the city is self-funded) has gone from \$400,000 in the red 12 years ago to \$2.6 million in the black (ibid.).

Based on these results, Maclin and his staff were approved to develop a physical fitness program for the city's fire and police departments. The program was operational for 1.5 years before finally being offered to all city employees. The main goals outlining the Lufkin Wellness Program are (ibid.):

- Promote and encourage a healthy lifestyle;
- Improve the health, fitness, and quality of life of the participants;
- Encourage maximum participation by employees;
- Reduce the number and severity of work-related injuries; and
- Enhance recovery from illness or injury.

Prior to enrollment, the employee must complete a free physician's physical and pass timed endurance tests each quarter including a 1.5 mile run or 3 mile walk, push-ups or pull-ups, and sit-ups. For those who maintain the fitness level required, he or she receives: a complimentary health club membership; elimination of his or her annual insurance deductible; and 12 hours of "physical fitness comp time" each quarter with a maximum 36 hour comp-time bank.

The City of Lufkin Police Department has seen a decrease in sick leave and a reduction in worker's compensation claims. Approximately 35 percent of fire and police department employees participate in the Wellness Program (ibid.).

Conclusion

A well-designed, comprehensive Wellness Program can produce significant results. The examples above clearly show that wellness benefits both the department and the officer. The research indicates that Wellness Programs can result in improved officer health, a decrease in risk factors, reduced sick leave, increased productivity, increased morale, enhanced public image, lower health-care costs, and a decrease in work-related injuries.

The beginning of this chapter highlighted the health risks common among police officers. The research shows that several police agencies across the country have had success in improving their officer's health and well-being through the use of a Wellness Program.

The research in the following chapter will examine the availability of physical fitness and Wellness Programs among police departments throughout Virginia. The results of the research will be used to determine what, if any, changes could be offered to improve officer wellness.

CHAPTER III (Methodology)

Research Question

Are Wellness Programs available to police officers throughout Virginia?

Subjects

This study will include all city, county, and town police departments as defined by the Virginia Department of Criminal Justice Services.

Sample

The sample for this study consists of 150 law enforcement agencies identified as police departments by the Virginia Department of Criminal Justice Services. The departments were identified using the Department of Criminal Justice Services Agency Directory.

Law enforcement agencies such as sheriff's departments, corrections, and federal agencies were not included in this research. The rationale was to survey agencies that share a similar work environment. For example, some federal agencies are required to perform physical fitness training during their shift. Police departments respond to in-progress calls for service and therefore, generally do not have the opportunity to workout on duty. Although some sheriff's departments function as the chief law enforcement agency in their jurisdiction, they were excluded due to the difficulty in identifying them as such.

Variables

The dependent variable used for this study is the provision of Wellness Programs to police officers.

The independent variables considered in the study include department size, location (town, city, county), population, and budget.

Research Design

Survey research will be used for this study. Departmental questionnaires will collect the information used to address the research question. For the purposes of this research, each department's point of contact will be the respondent. Generally, this person will be the Colonel/Chief of Police. The respondent is the unit of analysis on questions dealing with their opinions and the department is the unit of analysis on all other questions.

Survey research was decided upon as the best method of obtaining the data. It is a cost-effective and efficient means of collecting data across a large geographical area. A self-administered questionnaire will be used to collect the data from department leaders who are familiar with their agency's policies and services.

Questionnaire Development

The questionnaire was based on the observed benefits of wellness in the literature as a guide. It concentrated on the availability of Wellness programs and physical fitness programs to police officers. Physical fitness was addressed separately, as it is considered a major component of Wellness Programs.

The questionnaire begins by asking about the department's policies regarding physical fitness, the availability of fitness facilities, and the ability to workout on-duty. The questionnaire continues through a series of questions pertaining to the availability of wellness programs, whether these programs are mandatory, and finally whether incentives are offered for participation.

The final questions assess the respondent's opinion about fitness standards and whether their department would support such standards. The purpose of these questions is to gain insight into the respondent's perceptions and attitudes reference the research topic. The questionnaire concludes with a section for additional comments

Survey Instrument and Distribution

As shown in Appendix B, each agency was provided with the required consent form. The questionnaire, Appendix C, consisted of eight questions. Each agency was asked to answer the following questions:

- Does your agency have a policy regulating fitness standards? (Other than requiring that officers be fit for duty)
- Does your agency have a mandatory fitness program? If so, how is this policy overseen/regulated?
- Does your agency provide any on-duty time to exercise? If so, how much time is allotted?
- Does your agency have a fitness facility or contribute towards a gym membership?
- Does your agency have a wellness program? Is participation voluntary or mandatory?

- Does your agency offer any incentives (time off, monetary awards) for participation in a wellness program or for maintaining physical fitness standards?
- Do you believe mandatory physical fitness standards should be implemented in law enforcement?
- Would your department support the implementation of mandatory physical fitness standards?

A section for additional comments was provided for at the end the questionnaire. The respondents were encouraged to openly express any opinions regarding this topic.

Upon approval of the IRB and Colonel Baker, questionnaires were distributed to 150 police departments identified through DCJS. Contact information was obtained for each department from DCJS. Questionnaires were distributed to each contact person via e-mail. In most instances, the contact person was the Colonel/Chief of Police. Although no response date was specified, a total of six weeks was allotted for departments to respond. Data from questionnaires received after December 15, 2006 was not analyzed.

Analysis of Data

A combination of quantitative and qualitative data will be analyzed. Quantitative data will be used to access the availability of wellness programs. The qualitative anecdotal responses will provide insight into the respondent's opinions regarding fitness.

Conclusion

The intent of this research is to determine the availability of wellness programs to police officers throughout Virginia. It is hoped that the research can be used to determine whether wellness programs could be offered to more police officers.

The findings of the questionnaire will be presented in the following chapter.

Chapter Five will provide a summary of conclusions along with recommendations.

CHAPTER IV (Findings)

Findings

Of the 150 questionnaires sent, 20 were returned as undeliverable. Of the remaining 130 questionnaires, 26 departments responded, creating a 20 percent return rate. All questionnaires were filled out completely. Therefore, none of the questionnaires had to be discarded, and all responses could be analyzed.

Responses were received from the following sources: Colonel/Chief of Police (15), Assistant Chief (1), Lieutenant (6), Sergeant (1), Master Police Officer/Wellness Coordinator (1), and not identified (2). Responses were received from Town (10), City (10), and County (3) Police Departments.

The size of the reporting departments ranged from 3 to 1,350 officers. Population in the jurisdictions ranged from 813 to nearly 1 million. Land mass ranged from .74 to 740 square miles. A complete list of department demographics can be found in Appendix D.

The results of each question are listed below. The findings will be subjectively discussed based on individual responses and observations from the literature.

Table 1.1 – Policy Regulating Fitness

Does your agency have a policy regulating fitness standards? (Other than requiring that officer be fit for duty.)

	Response Rate	Response Percentage
Yes	7	27%
No	19	73%

Question #1 examined whether departmental policy regulated the fitness of their employees. As shown in Table 1.1 (page 42), other than telling officers that they need to be fit, 73% of the responding departments do not have policies regulating officer fitness. However, one of these departments indicated that City policy requires their officer's maintain a proportional height to weight ratio. Of the departments regulating fitness (27%), one indicated that officers are required to participate in annual fitness testing; however the officer does not have to meet any standard. Another department used a similar practice. Their officers complete a Physical Readiness Test (PRT) on a pass/fail basis. The test is completed annually, and there is no time limit imposed. A third policy indicated that The Condition of Employment for new officers mandates their physical condition upon employment is a baseline which must be maintained. One department's policy linked fitness to their promotional process. This department requires all sworn personnel to take part in annual LawFit testing. LawFit is given as part of the promotional process and a score of 160 out of a possible 300 is required and must be maintained.

Of the seven departments with a policy regulating fitness, the demographic breakdown is

as follows:

- Town Departments (3) – average number of officers, 24
- City Departments (2) – average number of officers, 39
- County Departments (2) – average number of officers, 734

The smallest department consisted of 12 officers, the largest employed 1,350.

Table 1.2 – Mandatory Fitness

Does your agency have a mandatory fitness program? If so, how is it regulated?

	Response Rate	Response Percentage
Yes	3	11.5%
No	23	88.5%

Question #2 examined the prevalence of mandatory fitness programs. As shown in Table 1.2, above, mandatory fitness programs were used by only 11.5% of the responding departments. The question also asked how the mandatory programs were regulated. One of the departments indicated they have a mandatory assessment. Another department requires their officer's to record their workout information on a daily form. The LawFit program developed by George Mason University is given annually by one department.

Although 88.5% of the departments do not have a mandatory program, one of the departments indicated they offer a voluntary program. This program is overseen by a coordinator, and each district station has a coordinator.

Among the departments mandating fitness is:

- Town Departments (2) – average number of officers, 20
- City Departments (1) – 38 officers

Table 1.3 – On-duty exercise time

Does your agency provide any on-duty time to exercise? If so, how much time is allotted?

	Response Rate	Response Percentage
Yes	9	34.6%
No	17	65.4%

Question #3 examined whether departments provided any on-duty time for an officer to exercise. As shown in Table 1.3 (page 44), 65.4% of the departments indicated they do not provide on-duty time to exercise. Of the departments that provided on-duty time for exercise, nine allowed one hour per day. One department only granted this option to members of specialized units (SWAT and K-9). Another department allowed unlimited hours, and another did not specify time allowance.

Jurisdictions providing this benefit were as follows:

- Town Departments (3) – average number of officers, 69
- City Departments (5) – average number of officers, 252
- County Departments (1) – 1,350 officers

Table 1.4 – Access to Fitness Facilities

Does your agency have a fitness facility or contribute towards a gym membership?

	Response Rate	Response Percentage
Supplies Facility	17	65.4%
Contributes to Membership	4	15.4%
No Facility or Contribution	5	19.2%

Question #4 examined whether departments provide officers with exercise facilities or contribute to gym memberships. Tables 1.4, above, shows 65.4% of the departments supply their own exercise facility. One of these departments noted they have police officers that have received “wellness instructor” certification through the Cooper Institute and the ICS Division of Wellness. These officers are able to assist their department members in designing fitness regimens based upon their needs and ability.

Another 15.4% of departments contribute or pay for a membership. Two of these departments pay for a membership at the YMCA, another contributes \$300.00, and the other provides a discounted membership at the YMCA.

A total of five (19.2%) departments neither supply a facility nor contribute to a membership;

- Town Departments (3) – average number of officers, 4
- City Departments (2) – average number of officers, 114 officers.

It should be noted that one of the City Departments was in the process of building a fitness facility for their employees.

Table 1.5 – Wellness Programs

Does your agency have a wellness program? Is participation voluntary or mandatory?

	Response Rate	Response Percentage
Yes	14	53.8%
No	12	46.2%
Voluntary	14	100%
Mandatory	0	0%

As shown above in Table 1.5, a total of 53.8% of the departments reported they have a Wellness Program. None of the departments mandate their officer's take part in the program, with one minor exception. One of the departments mandate participation during the basic academy; participation is voluntary thereafter. The results also showed that 46.2% of the departments do not have a Wellness Program available for their officer's. The breakdown of the agencies is as follows:

- Town Departments (8) – average number of officers, 21

- City Departments (3) – average number of officers, 90

A total of 15 agencies reported the availability of a Wellness Program. The agencies offering a program are:

- Town Departments (3) – average number of officers, 61
- City Departments (8) – average number of officers, 177
- County Departments (3) – average number of officers, 634

In an effort to gather additional information, a series of follow-up phone calls and e-mails was conducted on the departments offering a Wellness Program. The departments were asked the same three questions;

- (1) What services are offered through the Wellness Program?
- (2) How has the program benefited the officers participating in the program?
- (3) How has the department benefited from the program?

Information was received from three departments; a County Department with 433 officers, a City Department with 244 officers, and a City Department with 80 officers. The departments reported that data is not collected and analyzed which would allow them to determine any benefit to the officer or department. The Wellness Services offered by the departments includes an annual physical. Additional information would be needed in order to make any observations regarding the potential value of the existing programs.

Table 1.6 – Incentive Programs

Does your agency offer any incentives (time off, monetary awards) for participation in a wellness program or for maintaining physical fitness standards?

	Response Rate	Response Percentage
Yes	6	23%
No	20	77%

Table 1.6, above, indicates whether a department offers any incentives for an officer to take part in a wellness program or for maintaining physical fitness standards. The results indicate that 77% of departments do not offer incentives to their officers. Of the 23% of departments offering incentives:

- Two departments did not indicate the type,
- One department allows on-duty time to exercise,
- One department offers eight hours of annual leave every six months,
- One department presents annual awards to various winners in the LawFit program. This department is considering giving points towards annual raises for those officers who can document participation in the program.
- One department uses the F.I.T. Program (fitness incentive tracking program). This program assists eligible employees and retirees in creating a consistent workout program to build healthy new habits for staying active on a regular basis. Employees and retirees who workout 36 or more times in a six month period (at an approved location), will receive a \$100 incentive. There is a maximum of \$200 per calendar year.

The departments offering incentives consisted of:

- Town Departments (2) – average number of officers, 56
- City Departments (3) – average number of officers, 313
- County Departments (1) – 1,350 officers

It should be noted that one of the City Departments accounted for 817 officers. The two remaining departments employed 85 and 38 officers.

Table 1.7 – Opinion regarding mandatory programs

Do you believe physical fitness standards should be implemented in law enforcement?

	Response Rate	Response Percentage
Yes	20	77%
No	3	11.5%
Uncertain	3	11.5%

Question # 7 asked the opinion of the department member completing the questionnaire. The purpose of the question was to determine the individual's opinion regarding the implementation of physical fitness standards. Table 1.7, above, shows that 77 % of the respondents believe physical fitness standards should be implemented in law enforcement. The following comments were included in the responses:

- Yes, but the (standards) would be hard to achieve. Depends on how high the bar is set.
- Yes, if implemented fairly, keeping age in mind. Older officers have limitations.
- Yes, but the employee should be compensated in some way.
- Yes, but it must be validated against the knowledge, skill requirements and abilities of the position.
- Absolutely, however the part of allowing personnel to participate on duty has always been a difficult part of the implementation.
- Yes, at every level, from recruit to the Chief of Police.
- Yes, but the problem is creating the standard and how do we work with officers who have been injured and could do the job but can't meet the standard? If we have to provide time on duty for everyone to exercise, who's left to answer calls? Do we pay comp. time for off duty officers to exercise so they can meet the standard?
- Required physical fitness programs would reduce sick time and work related injuries, and improve the overall health of officers.

11.5% of the respondents were uncertain, and another 11.5% believed physical fitness standards should not be implemented. The opinions of a Chief and Assistant Chief were included among the responses:

- No, it is difficult enough to find anyone qualified for positions in most departments. This would eliminate even more candidates.
- There is a giant disconnect between the ideal of fitness and the reality of performance. Creating and maintaining fitness programs with all the resulting issues is a huge outlay of time and resources for a minimal gain.

The responses indicating a lack of support for mandatory fitness standards were received from:

- Town Departments (2) – average number of officers, 8
- City Departments (1) – 129 officers

Table 1.8 – Department support of mandatory standards

Would your department support the implementation of mandatory physical fitness standards?

	Response Rate	Response Percentage
Yes	11	42%
No	6	23%
Uncertain	3	11.5%
Depends	6	23%

Question #8 was used to gather opinions regarding departmental support of mandated physical fitness standards. Table 1.8, above, shows 42% of the departments would support mandatory physical fitness standards. 23% of the responses indicated their department would not support mandated standards. 11.5% of the departments were uncertain, and 23% indicated their decision would be based upon the mandated standards.

The following departments indicated they would support the implementation of mandatory standards:

- Town Departments (5) – average number of officers, 30
- City Departments (6) – average number of officers, 87

In contrast, the departments indicating they would not support mandatory standards consist of:

- Town Departments (3) – average number of officers, 7
- City Departments (2) – average number of officers, 473
- County Departments (1) – 1,370 officers

The questionnaire also provided a section for any additional comments the respondent wished to include. The comments, Appendix E, provided some interesting insight into the respondent's feelings toward the research topic.

Conclusion

After reviewing the responses to the questionnaires, several subjective observations were made. Current research shows the use of fitness and Wellness Programs to be beneficial in improving officer health. The purpose of this research was to gauge not only the prevalence of these programs, but also department leader's perceptions regarding fitness issues. Based on the responses, officer fitness and wellness is being addressed by departments. This opinion is based upon the reported availability of fitness facilities and Wellness Programs. However, the benefits of these programs cannot be accurately measured due to the limited data available. If departments are not tracking the progress of the officer, it becomes difficult to evaluate the true benefits of the

program. The fact that three departments were unable to identify how their program has benefited either their officer's or their agency helps support this opinion.

Research has shown the use of incentives to be successful in increasing employee participation in Wellness Programs. The use of incentives was indicated among the department responses. The reported incentives included the ability to workout on-duty, annual leave, and monetary awards. Department size did not appear to be related to the use of incentives as departments as small as 29 officers reported their use.

The responses to the questions regarding the implementation and support of mandated standards generated numerous opinions. Overall, the majority (20) of the respondents were of the opinion that fitness standards should be implemented in law enforcement. A total of 11 of the respondents indicated their department would support mandatory physical fitness standards.

Although qualitative data is difficult to analyze, it has serious implications for future research on this topic. Of the 26 responses received, 15 came directly from the Colonel/Chief of Police; an additional response was received from an Assistant Chief. It appears that department leaders may be open to more structured programs that could potentially improve the health and wellness of officers across the state.

Several respondents were undecided on the issue of mandatory standards. Concerns over how the standards would be implemented and enforced, fairness, and the impact on budget were expressed in the comments. If these concerns were addressed on a department by department basis, it may be possible to gain additional support on this issue.

Based upon the responses to the questionnaire, it seems that the importance of officer health is recognized by the departments. However, there also appears to be potential for improvement. The goal of this research is to provide police departments with information that might be used to implement or improve programs that could ultimately improve officer health, specifically wellness programs.

Limitations of the Study

The limitations of the study will be discussed in this section. Physical fitness is a major component of wellness. For this reason, the questionnaire sought information regarding the use and opinions of physical fitness programs and standards. The purpose was to examine the use of fitness programs in the absence of wellness programs. In hindsight, the questions could have been posed differently to avoid any confusion for the respondents.

Selection was identified as a Threat to Internal Validity. The questionnaires were distributed to the selected departments through email. Participation in this study was not mandatory. Responses were received from individuals who were willing to volunteer their time. The use of email as a distribution method could have had an effect on the return rate. The potential exists that a significant number of questionnaires were never received. Another concern is that the email was forwarded (by respondent) to another member of the department and never completed.

Although the findings may be generalized across police departments in Virginia, the same cannot be said of law enforcement agencies such as sheriff's departments, and

federal agencies. This study did not address some issues which may be beneficial for future research. A greater sampling of department budget could be beneficial for future research. The limited information provided could not be used to determine a correlation between budget and availability of wellness programs. This information might dispel a belief that smaller departments with limited budgets cannot provide these programs.

Further research regarding the comprehensiveness of a department's Wellness Program may be useful. Based on Church's (1993) work, it was determined that five components are crucial in order to effect positive change. Additional information from the individual departments indicating the existence of a Wellness Program may be needed to accurately evaluate the program's effectiveness.

Finally, a survey of officers regarding experiences and perceptions of their Wellness Program could be useful. This information might be used to reshape or improve the effectiveness of the program, based on participant's opinions.

CHAPTER V

(Conclusion)

The importance of an officer's physical and mental fitness cannot be stressed enough. Of the 143 in the line of duty deaths in 2006, 10 officers died as a result of a heart attack while on the job (The Officer Down Memorial Page). The majority of these deaths occurred while the officer was engaged in a highly physical or stressful situation. Police officers have a high incidence of heart disease, high blood pressure, and some forms of cancer. A study by Violanti (1996) showed that police officers tend to have a shorter life expectancy compared to the general population.

Research released by the Center for Disease Control reported that approximately 108 million adults are either overweight or obese. This could be due to the fact that reports indicate more than 60 percent of American adults are not regularly active. The health benefits of exercise have been well documented. Exercise has been shown to decrease the risks of heart disease, diabetes, and obesity.

Wellness Programs encourage employees to actively pursue health and fitness through knowledge and activity. Wellness Programs have been shown to increase employee productivity and moral, decrease the use of sick leave, and reduce the number of work-related injuries. These programs can be used to address topics such as diet/nutrition, smoking cessation, weight loss, and stress management. The popularity of Wellness Programs continues to grow. A recent Bureau of Labor Statistics report indicates worker access to wellness programs, and fitness centers increased from 17 percent of workers in 1999, to 23 percent in 2005 (Stolzfus, 2006).

In her research, Church (1993) identified five components within a comprehensive Wellness Program:

- Physical Fitness
- Stress Management
- Psychological – Mental Health
- Nutrition and Dietary Related Issues
- Alcohol and Chemical Dependency

A study of 1,504 police trainees across the state of North Carolina examined the effectiveness of an occupation based health and fitness program. Included among the program were lectures on health, nutrition, and fitness. The results of the study showed the police trainees had improved in cardiovascular fitness, general muscular strength, flexibility, and lowered their body fat (Harrell et al., 1996, 377).

The research revealed that companies are realizing a substantial return on investment. Citibank documented a financial return on investment from lowered medical expenses of \$4.50 for every dollar spent on their health program (O'Rourke and Sullivan, 2003, 35).

Wellness Programs are not "one size fits all". Companies must determine where and what needs attention. The program should be designed around the needs of the employees. The use of committees may be helpful in designing a program. It is critical to have support from management, without support the program will fail. Once the program is in place, constantly evaluate progress. Document everything that may help in forming a conclusion to the actual benefits received.

The use of incentives has shown to be useful in increasing participation in wellness programs. Incentives can be used to accomplish things such as:

- Promoting learning,
- Encouraging participation in programs,
- Encouraging improvement in fitness test scores,
- Encouraging compliance with professional health advice,
- Encouraging initiation and maintenance of specific health behaviors,
- Encouraging accomplishment of personal health enhancement objectives.

Incentives do not have to be lucrative cash awards in order to be effective. For example, intangible incentives offer psychological value to the individual such as a sense of belonging, or recognition among peers.

When designing and implementing a wellness program, certain legal matters must be taken into consideration. Prior to implementing a wellness program, it may be useful to check the requirements against the following federal legislation:

- The Civil Rights Act of 1964 and 1991,
- The Americans with Disabilities Act (ADA),
- The Age Discrimination in Employment Act (ADEA),
- Health Insurance Portability and Accountability Act of 1996 (HIPPA).

Policies and regulations need to be examined to ensure they do not violate employee rights. In addition to federal legislation, individual states are beginning to adopt their own laws that govern these programs.

The literature review provided numerous examples of police departments across the country that has seen excellent results from their wellness program. It is important to note, the most successful program integrated the five components identified by Church

(1993). The departments were able to identify the benefits of their programs because they collected data on every participant. The mere presence of a wellness program does not guarantee that it is effective. It is imperative that the program compile data that can be used to determine whether the goals and objectives are being met. Information that proves the validity of the program may also serve as a method of promoting and encouraging participation.

The research portion of this study produced some useful observations. The presence of Wellness Programs was identified among police departments in Virginia. However, more research is needed to accurately comment on the effectiveness of the existing programs. Based on the responses to the questionnaires, it seems that officer fitness and wellness is of concern to the participating departments. More importantly, it appears that support may exist for the implementation of structured standards. The results laid the groundwork for future research in this area.

The current literature clearly shows that fitness and wellness programs can produce positive results for the officer and the department. It is hoped that this information will be used in an effort to improve the overall wellness of police officers.

Recommendations

Based on the literature, several recommendations could help improve the Wellness Program currently offered by the Chesterfield County Police Department. The following sections will provide detailed recommendations which could greatly benefit

both the officers and the department. The recommendations address the components needed to attain wellness.

Implementation: Tactics and Strategies

By the nature of their occupation, Chesterfield County police officers are susceptible to the health risks previously mentioned in the literature review section of this paper. The Chesterfield County Police Department may wish to consider taking a more active role in ensuring their officer's are physically capable of performing their duties.

After reviewing the literature and departmental questionnaires, there are some short and long-term recommendations that could help improve the fitness of Chesterfield County police officers. Some of the recommendations are very simplistic, while others would require dedication and financial investment from the department. If the recommendations were implemented, the results could be well worth the effort.

Short-Term Recommendations

The Chesterfield County Police Department currently offers a Wellness Program to their officer's. The program is offered through the county. According to Chesterfield Police Policy, the purpose of the program is to "encourage good health among sworn and other authorized employees by the early detection of disease and/or illness and to reduce overall costs associated with employee absences from work due to illness or injury."

Participation in the program is voluntary. Participants electing to participate will receive biennial medical screening and tests. The tests consist of a physical examination and

blood screening. The cost of the exam is covered by the Police Department. The results and recommendations of the exam are confidential and only disclosed to the officer. The officer is encouraged to review the findings with their personal physician.

According to Lieutenant D. Pritchard, Wellness Coordinator, only two officers participated in the Wellness Program during 2006; the police department has nearly 500 sworn officers (personal conversation, December 5, 2006). Information that could measure the overall benefit (reduced sick time/injuries) to the officer and the department did not exist.

The Chesterfield County Human Resources Department was contacted in hopes of gathering county-wide data reference the Wellness Program. An attempt was made to determine whether the program has succeeded in reducing sick time and/or injuries across county departments. Surprisingly, this type of information is not determined. The county lists the Wellness Program among the employee benefits package, yet it does not appear as though anyone truly knows what the benefit is.

Serious changes are needed to the Wellness Program. Although the program is offered through the county, the police department can expand upon the existing model. The police department has the ability and resources to design a program that is more in line with the needs of their officer's. The recommendations call for a comprehensive program that addresses the five components identified by Church (1993); physical fitness, dietary/nutritional issues, stress management, mental health, and alcohol and dependency issues. The department adequately addresses two of the five components through the employee assistance program (EAP). Officers can receive assistance with mental health

and alcohol/dependency issues through the EAP. The remaining components addressed here will focus on physical fitness, dietary/nutritional issues, and stress management. The new program would be referred to as The Chesterfield Police Wellness and Fitness Program. Under the new program, Wellness and Fitness are separate components.

The Wellness Component

This aspect of the program would mirror the current Wellness Program with respect to the physical examination. The cost of the exam is covered by the department. In order to participate in the Fitness component, officers will be required to complete a physical examination. Prior to taking part in the fitness assessment, the officer will need to submit a doctor's report indicating resting heart rate, blood pressure, cholesterol levels, and body weight. The policy governing the program will indicate that all test results will be kept confidential. The results will be used to monitor the progress of the officer and assist with evaluating the effectiveness of the program. All information will be maintained by the Department Wellness Coordinator in Support Services.

The Fitness Component

Through my research, it was learned that roughly 10 years ago, Chesterfield had a mandatory fitness assessment, although participation was voluntary. The assessment took place during annual in-service training; therefore it was mandatory the officer be present. Officers electing to participate were tested in sit-ups, push-ups, and a 1.5 mile run/walk. Eventually, the department eliminated the fitness assessment. After several

conversations with various department members, it was still undetermined why the department abandoned the training. During a personal conversation with Captain Moser, it was learned that he had unsuccessfully recommended the department implement mandatory participation in a fitness program (personal conversation, January 12, 2007). Captain Moser was the Academy Training Sergeant during this time. Based on the conversation, it seemed as though the legality of these programs was still in question. This may explain why the department did not explore the matter further.

In an effort to improve officer health, this recommendation is based on the implementation of an incentive-based physical fitness program. This program will be offered on a voluntary basis. While the optimal plan would be a mandatory program requiring everyone (Colonel to the line officer) to participate, at the present time this type of program would be difficult to implement in Chesterfield for a number of reasons. In their FY2007-2011 Strategic Plan, the Chesterfield Police Department identifies their lack of adequate personnel as a weakness (Chesterfield Police Strategic Plan FY2007-2011, 25). A mandatory physical fitness assessment would require a yearly assessment of every officer. This would create the need for an additional training day so each officer can be tested. With the current shortage of officers, this would create additional manpower issues; specifically among patrol officers.

Program Design

The voluntary program suggested here is based in part on The LawFit Program designed by Dr. David L. Bever, a professor of health education at George Mason University.

In response to a growing concern for the disabling illnesses and injuries suffered by their personnel, Police Departments and Sheriff's Departments in Virginia began to address the issue of officer health and safety in the late 1980's. In November of 1989, Dr. Bever developed the LawFit Program for law enforcement personnel (LawFit Website, <http://www.lawfit.gmu.edu>).

The program will contain a battery of 5 tests. These tests will assess the officer's cardiorespiratory efficiency, muscular strength, muscular endurance, and agility. The tests used in the assessment will include:

- 1 minute timed sit-up test
- Push-ups (no time limit)
- Bench Press – 1 rep maximum
- 1.5 mile run/walk
- 200 yard agility course

Test Protocol

The policy governing the program will clearly explain how the tests will be administered. This ensures that every officer has the opportunity to prepare for the tests in advance. The protocol for each test is described below.

One-Minute Sit-Ups – The sit-ups will be performed on a padded floor mat. The officer's knees will be flexed and a spotter will anchor his/her feet in place. The officer will cross the arms and place their fingertips on the shoulders. A sit-up will be completed when the officer sits up and touches the top of the knees with their elbows, and then returns to the mat. The officer completes as many as possible in one minute. The buttocks must stay in contact with the mat and the hands must remain on the shoulders. The officer can rest in the up position.

Push-Ups – The officer will start in the up position. A spotter will place their fist under the officer's chest. For the push-up to count, the officer must touch the spotter's fist with their chest. There is no time limit; the officer completes as many push-ups possible. The officer can rest in the up position. The test is over when any portion of the leg touches the ground.

Bench Press – The officer will take the bar out of the rack and lower it to his/her chest (at or slightly below nipple level). The officer will pause the weight at chest level then drive the weight upward until the arms are fully extended. Once the arms are locked out, the officer will rack the weight. During the lift the officer should keep both feet flat on the floor and his/her buttocks must remain in contact with the bench.

1.5 Mile Run/Walk – This timed test will be completed on the pre-measured route used for applicant testing.

200 Yard Agility Test – This timed test course consists of running, jumping, climbing, crawling, identifying a suspect from an earlier description, a dummy drag, and a trigger- pull exercise. Appendix F, illustrates the layout of the LawFit obstacle course (www.lawfit.gmu.edu).

Scoring

Utilizing data from fitness tests of over 4000 police officers, Dr. Bever developed fitness profiles based on age and gender (ibid.). Appendix G, includes the five scoring

categories (Excellent, Good, Average, Below Average, Poor) developed for the bench press, push-ups, sit-ups, 1.5 mile run, and work performance test.

The recommended program will utilize three of the five categories; Average, Good, and Excellent. Dr. Bever explained these categories represent the 50th, 70th, and 90th percentiles (personal conversation, December 11, 2006). Each category will be assigned a point value; 1 point for Average, 3 points for Good and 5 points for Excellent. The incentives will be earned based upon the point total the officer receives upon completion of the five test batteries.

Incentives

The ultimate goal of this program is to improve the overall health and fitness levels of Chesterfield County Police Officers. Incorporating incentives may help maximize participation in this program.

Based upon the results of their fitness tests, officers will have the ability to earn up to three incentives:

Fitness Ribbon – In order to earn the fitness ribbon, an officer must earn a minimum of 5 points in their test battery. This would require the officer to score “Average” in each fitness test. The officer will be authorized to wear this ribbon for a period of one year. Officers must earn this ribbon each year.

9 Hours Annual Leave – Officers that score a minimum of 15 points will earn 9 hours annual leave, in addition to the fitness ribbon. This requires officer to score in the 70th percentile.

\$250.00 Cash Award – The third level requires officers to achieve a perfect score of 25 on the fitness test. If successful, the officer will earn all three incentives.

All officers taking part in the fitness testing will receive some small incentive simply for participating (i.e., t-shirt or water bottle). In reality, some officers will not earn any of the incentives. Something as simple as a water bottle could go a long way towards encouraging future participation.

The physical fitness program will be overseen by the Training Division. Tests will be administered during the first three weeks in January. Officers will be required to schedule a testing date in advance. Results of the medical examination must be on file prior to taking the fitness test.

Requiring physical examinations serves many purposes: (1) to medically clear the officer for participation in strenuous activity, (2) to obtain baseline medical information that can be used to track health improvements in the officers, and (3) the information will be used to evaluate the effectiveness of the Wellness and Fitness Program.

If an officer perceives him/her self as “healthy”, they may not see the value in having a yearly physical. However, the results of a physical may uncover some unknown risk factors. The Long Beach (California) Police Department’s Wellness Program provides an excellent example (Long Beach Police Department, http://www.post.ca.gov/library/p_ch/flagships/long_beach.asp):

This is a story involving a 37 year-old officer who was into power lifting and had an unusual diet. He drank a gallon of whole milk everyday and went home to BBQ a steak every night after work at 9:00 PM; all this was to get his mass up, as he was bench-pressing 425 lbs. and weighed 230 lbs. He took the wellness test and was shocked that he was almost 19% body fat and his cholesterol was very elevated. He had no idea that his diet was damaging his body. He changed his diet and took up cycling and running. He’s now at 185 lbs., his cholesterol is under 200, and his

body fat is at 12%. Although his bench press is now down to 400 lbs, he feels much better and is a more well-rounded, healthier officer.

Officer S. Lasiter, Long Beach Wellness Coordinator, shared some additional findings from their 2004 assessment. A total of 321 officers were found to have high levels of cholesterol (above 200); nine officers scored between 280-300, and two male officers had levels over 300. A total of 94 officers were found to have hypertensive levels of blood pressure. Lastly, the results of body fat percentages showed that 100 officers were considered obese. A majority of these officers were unaware of their conditions. Lasiter added, "These officers were a heart attack waiting to happen" (personal communication, March 3, 2007).

The results from The Long Beach Police Department clearly indicate the importance of a health assessment. Identifying the risks that are present among officers will also assist in shaping the program as it grows. The purpose of the Chesterfield Police Wellness and Fitness Program is to improve officer health. Knowing where to focus efforts will ensure the correct programs and services are being offered.

Nutritional and Dietary Issues

This component should be addressed from the beginning of an officer's career. It would be helpful to include a nutrition class in the basic academy curriculum. Educating recruits about the overall health risks associated with police work could prove beneficial throughout their career. In an effort to reach incumbent officers, this information could be presented in an in-service class, the department newsletter (The Blotter), or a

webpage. The Police Department could easily add another link to their current webpage to provide this information. These mediums also serve to promote the Wellness Program, hopefully raising interest and participation.

Stress Management

Research has shown a correlation between stress and risk factors such as high blood pressure and heart disease. This issue is covered in the basic academy curriculum; however, I cannot recall any follow-up training in this area. This training can be addressed using the same methods discussed in Nutrition and Dietary Issues.

Cost

The costs associated with The Chesterfield Police Wellness and Fitness Program can be funded through the existing Operating Budget. The following figures are based on a total of 500 officers. The estimated cost of purchasing the fitness ribbons is \$2,500, based on \$5.00 per ribbon. The cash incentive would produce the greatest expense. A total of \$125,000 would have to be budgeted to cover this incentive. Another \$2,500 would be budgeted for t-shirts or water bottles for those participating in the program. The program would cost the department a total of \$130,000.

The department currently possesses all of the fitness equipment needed for this program. In fact, the department has resources which are not being used. There are at least two officers that have received LawFit Fitness Leadership Certification. The purpose of this three-day training is to provide officer's with a variety of assessment tools

and training strategies to plan and implement effective health maintenance programs for their personnel. Fitness leaders receive detailed instruction concerning fitness assessment, weight training, flexibility and stretching, aerobic fitness, nutrition, and stress management. LawFit charges \$300.00 for this training. The officer's training and knowledge would be beneficial in every facet of The Chesterfield Police Fitness and Wellness Program. Currently this knowledge serves no purpose to the department.

Long Term Recommendations

Hopefully, participation in the program will continue to grow. To ensure success, the department may wish to create a Wellness Coordinator position at the Training Academy. For many reasons, it would be beneficial to fill this position with a registered nurse. The nurse would be responsible for maintaining all Wellness records. They would also be able to collect valuable information such as blood pressure, resting heart rate and body fat measurements on the officers prior to physical fitness testing. This information is needed to evaluate the effectiveness of the program. The nurse would be able to provide some minimal medical advice that could assist officers throughout the program.

The department would also be able to utilize the nurse for training purposes. In addition to in-service training, basic academy topics such as First Aid/CPR, exposure control, and communicable diseases can all be taught by the nurse. Lastly, the nurse would be available to assess or assist with any injuries received during academy training.

It is hoped that the department will give serious consideration to the recommendations made in this chapter. Although there are some additional details that

would need to be discussed, the potential for success is high. At the very least, the recommendations warrant further research and/or discussion. I believe The Chesterfield Police Fitness and Wellness Program would be a significant benefit to both the officer and the department.

Dissemination

The release and dissemination of any information, relative to Chesterfield County, must first be approved by the Chief of Police. Prior to disseminating the findings and recommendations throughout the department, they must first be approved by Colonel Baker.

Within the next few months the author plans on preparing a brief presentation for the Colonel. A request for a brief meeting to present the findings and recommendations will be submitted. Hopefully, the Colonel will express an interest in implementing the proposed Fitness and Wellness Program.

If the Colonel approves dissemination of the findings and recommendations, the research will be shared with several departments that participated in this study. The departments had previously requested a copy of this research. In addition, the research will be offered to the Department of Criminal Justice Services. This agency is responsible for the development of training standards.

However, if the Colonel denies a request to disseminate the findings and recommendations, then his decision will stand.

APPENDIX B

Physical Fitness and Wellness Program Questionnaire Informed Consent

The purpose of this study is to examine physical fitness standards and/or the use of wellness programs within the law enforcement community. This study is being conducted as research to satisfy a thesis requirement as part of the University of Richmond Public Safety University graduate program. Your participation in this project involves completing the following questionnaire. The questionnaire will ask a variety of questions regarding physical fitness standards and/or the use of a Wellness program. The questionnaire should take you approximately 15-20 minutes to complete.

The principal investigator of this study is Sean M. Greenway, Chesterfield County Police Department, Chesterfield Virginia (xxx-xxx-xxxx), sean.greenway@richmond.edu). I am being supervised by Dr. Russell Leonard, University of Continuing Studies. Should you have any questions or concerns, please contact him at xxx-xxx-xxxx or Leonard@alongside.com. If you have any questions concerning your rights as a research participant, you may contact Kathy Hoke, Chair of the University of Richmond's Institutional Review Board for the Protection of Research Participants, at 804-289-8417 or khoke@richmond.edu.

Your participation in this project is voluntary and you are free to withdraw your consent at any time without penalty. The results of this study will be reported in group form; therefore neither your name nor your department name will be used in connection with this study. The results of the questionnaire will be made available to the respective departments involved and to anyone requesting the data at the conclusion of the research.

The complete body of research will be presented to members of the Chesterfield County Police Department and recommendations will be made based on my findings.

In order to ensure confidentiality, I will not ask you to sign a document indicating that you agree to participate. However, by completing this questionnaire you give consent to participate in the study. If you have any questions or concerns, please contact Sean Greenway (xxx-xxx-xxxx), sean.greenway@richmond.edu) or Dr. Russell Leonard (xxx-xxx-xxxx, Leonard@alongside.com).

APPENDIX C

Physical Fitness and Wellness Program Questionnaire

Upon completion of this questionnaire, please forward your responses to sean.greenway@richmond.edu.

- 1) Does your agency have a policy regulating fitness standards? (Other than requiring that officers be fit for duty.)
- 2) Does your agency have a mandatory fitness program? If so, how is this policy overseen/regulated?
- 3) Does your agency provide any on-duty time to exercise? If so, how much time is allotted?
- 4) Does your agency have a fitness facility or contribute towards a gym membership?
- 5) Does your agency have a Wellness program? Is participation voluntary or mandatory?
- 6) Does your agency offer any incentives (time off, monetary awards) for participation in a Wellness program or for maintaining physical fitness standards?
- 7) Do you believe mandatory physical fitness standards should be implemented in law enforcement?
- 8) Would your department support the implementation of mandatory physical fitness standards?

Comments:

APPENDIX D

Department	Type	Officers	Land Area (sq. miles)	Population	Budget (Millions)
A	Not Identified	3	1.8	3,000	Not Available
B	Town	4	.74	813	Not Available
C	Town	5	.91	1,557	Not Available
D	Not Identified	5	1	2,000	Not Available
E	Town	9	5.1	2,964	Not Available
F	Town	12	4	4,176	Not Available
G	Town	28	6.89	6,339	\$2.0
H	Town	29	3.17	7,782	Not Available
I	City	30	6.6	5,700	Not Available
J	Town	31	7.3	9,500	Not Available
K	City	35	9.8	15,859	\$2.4
L	City	38	8	6,600	Not Available
M	City	40	9.2	14,000	\$2.8
N	Town	70	4.2	21,730	\$7.0
O	Town	74	12	33,500	\$8.7
P	City	80	17.4	41,170	\$4.3
Q	Town	82	19.6	41,000	\$5.2
R	City	85	6.3	22,407	\$10.4
S	City	90	14.31	27,000	Not Available
T	City	100	10.4	20,732	\$6.2
U	County	119	740	91,000	\$9.9
V	City	129	43	46,083	Not Available
W	City	244	42	93,631	Not Available
X	County	450	446	300,000	\$40.0
Y	City	817	248	438,415	\$74.0
Z	County	1,350	395	1,000,000	\$163.4

APPENDIX E

Additional comments included with the questionnaire:

Department A:

"Our department does not have mandatory physical fitness requirements, but 40% of officers routinely work out 3 to 5 days a week. Those in the 40% miss far less time from work than those who do not work out. As a new agency department head I am considering some type of physical fitness program where those who participate would either be reimbursed for the time or gym membership." - Chief of Police

Department C:

"I have 6 full time employees and a budget that will not support a benefit or reward for fitness, but I do feel it is important. I encourage officers to be and remain physically fit largely due to the health problems associated with law enforcement. I do not have the resources to allow time for physical fitness on duty time." - Chief of Police

Department H:

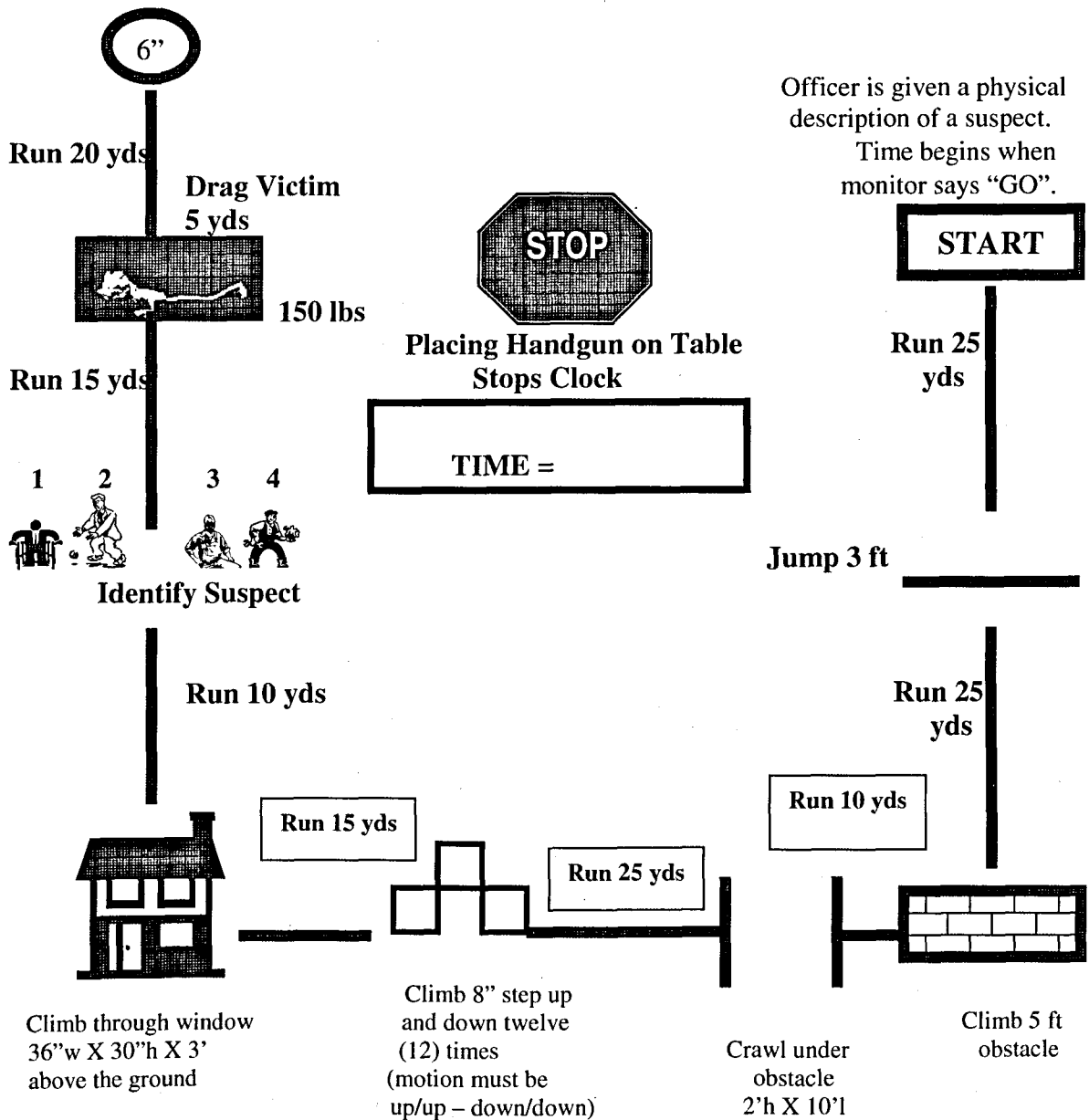
"Required physical fitness programs would reduce sick time and work related injuries, and improve the overall health of officers." - Chief of Police

Department K:

"I believe in officers maintaining a certain level of fitness but believe they should be compensated for time spent or given on-duty time, or receive some type of incentive." - Chief of Police

Department V:

"They (fitness standards) are a distraction and cause endless grief, disruption, and grievances. Look at the performance evaluations of every overweight officer in every department in Virginia. I would predict that practically every one of those evaluations rate the officer as performing acceptably. If the officer is performing well (and this is based on the evaluation skills of numerous supervisors from every department in Virginia so there has to be some validity to it), then why should weight be of concern? There is a giant disconnect between the ideal of fitness and the reality of performance. My personal practice as a chief is this: encourage fitness, but forget fitness programs that involve expenditure of city funds. Send officers to the doctor regularly for a physical or when fitness for duty becomes a concern. Have the doctor decide if they are fit for the job (provide the doctor with performance documentation). If the doctor says they are not fit, mandate that they become fit within a reasonable period of time (at their own expense). If they do not become fit, retire or terminate them. Current business practices can easily deal with the extremely unfit. Creating and maintaining fitness programs with all their resulting issues is a huge outlay of time and resources for a minimal gain. I would rather spend that time and money on other issues that impact citizens more directly." - Chief of Police



APPENDIX G

LawFit Fitness Profiles

Bench Press

Gender Age	M 20- 29	F 20-29	M 30-39	F 30-39	M 40- 49	F 40-49	M 50+	F** 50+
Excellent	158	95	152	94	143	78	120	
Good	129	83	124	80	113	65	97	
Average	113	70	109	66	98	58	77	69
Below Average	97	62	94	60	85	45	69	
Poor < or =	83	47	80	52	74	41	66	

Sit-Ups

Gender Age	Male 20- 29	Female 20-29	Male 30- 39	Female 30-39	Male 40- 49	Female 40-49	Male 50+	Female** 50+
Excellent	57	55	54	51	51	50	44	
Good	51	49	48	46	44	37	40	
Average	47	44	43	42	39	34	36	36
Below Average	43	39	37	38	34	25	28	
Poor < or =	36	31	32	27	28	19	17	

Push-Ups

Gender Age	M 20-29	F 20-29	M 30- 39	F 30-39	M 40-49	F 40-49	M 50+	F** 50+
Excellent	74	50	72	45	73	40	47	
Good	60	40	60	40	54	33	40	
Average	50	31	50	30	43	24	36	24
Below Average	42	25	41	25	35	17	26	
Poor < or =	31	16	30	10	25	9	16	

Run

Gender Age	M 20-29	F 20-29	M 30-39	F 30-39	M 40-49	F 40-49	M 50+	F** 50+
Excellent	9:33	10:40	9:58	10:50	10:17	11:45	10:49	
Good	10:28	12:00	10:52	12:14	11:18	12:35	12:08	
Average	11:13	12:51	11:51	13:14	12:30	14:03	14:14	16:05
Below Average	12:04	13:49	12:51	14:16	13:40	15:37	15:27	
Poor < or =	13:34	14:59	14:45	15:58	15:28	18:36	17:47	

Ability Course

Gender Age	M 20- 29	F 20-29	M 30- 39	F 30-39	M 40- 49	F 40-49	M 50+	F** 50+
Excellent	:53	1:02	:55	1:06	:57	1:10	:58	
Good	:58	1:10	1:00	1:11	1:02	1:21	1:07	
Average	1:02	1:14	1:04	1:17	1:06	1:32	1:14	1:39
Below Average	1:05	1:22	1:08	1:27	1:10	1:39	1:21	
Poor > or =	1:12	1:32	1:12	1:43	1:19	1:51	1:45	

REFERENCES

- Absolute Advantage. (2005). Designing Wellness Incentives. *Absolute Advantage: The Workplace Wellness Magazine*, 4(7), 1-46.
- Arora, R., Stoner, C., & Arora, A. (2006). Using framing and credibility to incorporate exercise and fitness in individual's lifestyle. *Journal of Consumer Marketing*, 23(4), 199-207.
- Blum, J. (2000, August). Physical Training for Law Enforcement...A New Approach? *The Law Enforcement Trainer Magazine*, 12-17.
- Boni, N. (2004). Exercise and physical fitness: The impact on work outcomes, cognition, and psychological well-being for police. *Australasian Centre for Policing Research*, (No. 10-2004), 1-8.
- Bonneau, J., & Brown, J. (1995). Physical ability, fitness and police work. *Journal of Clinical Forensic Medicine*, 2, 157-164.
- Briley, M. E., Montgomery, D. H., & Blewett, J. (1990, January). Dietary intakes of police department employees in a wellness program. *Journal of the American Dietetic Association*, 90(1), 65-68.
- Briley, M. E., Montgomery, D. H., & Blewett, J. (1992, November). Worksite nutrition education can lower total cholesterol levels and promote weight loss among police department employees. *Journal of the American Dietetic Association*, 92(11), 1382-1384.
- Cardinal Criminal Justice Academy. (September 21, 2000). *Issues Related to Mandating Category 9 - Physical Training Standards For Entry Level Law Enforcement Training*. Paper presented at the Executive Board Meeting of the Cardinal Criminal Justice Academy.

Chesterfield County Police Department. (2005). *Chesterfield Police 2005 Annual Report*.

Chesterfield, VA: Chesterfield County Police Department.

Chesterfield County Police Department. (2006). *Strategic Plan FY2007-2011* (pp. 1-29).

Chesterfield, VA: Chesterfield County Police Department.

Church, R. L. (1993). *A descriptive analysis of wellness programs within state police agencies and a comparative analysis of other state police wellness programs and the Texas department of public safety*. MPA Applied Research Project, Southwest Texas State University.

Church, R. L., & Robertson, N. (1999). How state police agencies are addressing the issue of wellness. *Policing: An International Journal of Police Strategies & Management*, 22(3), 304-312.

City of San Mateo Police Department. (2006). In. Retrieved from The City of San Mateo Police Department: <http://www.ci.sanmateo.ca.us/dept/police/wellness.html>

Collingwood, PhD, T. R., Hoffman, R., & Smith, J. (March 2004). Underlying Physical Fitness Factors for Performing Police Officer Physical Tasks. *The Police Chief*, 71(3).

Collins, P. A., & Gibbs, A. C. (2003). Stress in police officers: A study of the origins, prevalence and severity of stress-related symptoms within a county police force. *Occupational Medicine*, 53, 256-264.

Connaughton, D. P., Hausenblas, H. A., Dannecker, E. A., & Lovins, T. R. (March 2000). An Examination of 7 Years of Biannual University Police Department Fitness Assessment Data. *Research Quarterly for Exercise and Sport*, 71.1, pA-37.

Copay, A. G., & Charles, M. T. (1998). Police academy fitness training at the Police Training Institute, University of Illinois. *Policing: An International Journal of Police Strategies & Management*, 21(3), 416-431.

Department of Criminal Justice Services. (n.d.). *Compulsory Minimum Training Standards for Law Enforcement*. Retrieved September 1, 2006, from Commonwealth of Virginia Department of Criminal Justice Services: <http://www.dcjs.virginia.gov/index.cfm>

Department of Health and Human Services. (2006). In (Physical Activity for Everyone). Retrieved September 3, 2006, from Centers for Disease Control and Prevention: <http://www.cdc.gov/nccdphp/dnpa/physical/index.htm>

Erfurt, J., Powell, D. R., Foote, A., & Heirich, M. A. (1992). The Most Successful Wellness Programs Are Comprehensive and Integrated. *Employee Assistance*, 5(2), 20-28.

Finn, P., & EsselmanTomz, J. (December 1996). Developing a Law Enforcement Stress Program for Officers and Their Families. *National Institute of Justice - Issues and Practices* (pp. 1-223). Washington, DC: United States Department of Justice.

Fuchs, J. A., & Richards, J. E. (1985). The evolving concept of worksetting health promotion. *Health Values: Achieving High Level Wellness*, 9(4), 3-6.

Gebhardt, D. L., & Crump, C. E. (2005). Employee Fitness and Wellness Programs in the Workplace. *Human Performance Systems, Inc.* Hyattsville, MD: Human Performance Systems.

Harrell, J. S., Johnston, L. F., Griggs, T. R., Schaefer, P., Carr, E. G., McMurray, R. G., et al. (1996, August). An occupation based physical activity intervention program:

- Improving fitness and decreasing obesity. *American Association of Occupational Health Nurses*, 44(8), 377-384.
- Jaramillo, F., Nixon, R., & Sams, D. (December 2004). The effect of law enforcement stress on organizational commitment. *Policing: An International Journal of Police Strategies & Management*, 28(2), 321-336.
- Jones, G. R. (1992). Health and Fitness Programs. *FBI Law Enforcement Bulletin*, (July), 6-11.
- Kanner, J. S. (March 1991). Preventing disability losses in emergency services. *Risk Management*, 38(3), 48-51.
- Karch, R. C. (2005, October). A "big tent" approach to wellness: Bringing EAP's, safety programs, and other resources to bear on employee health can make wellness programs much more effective in managing the health risks of workers and their dependents. *The Journal of Employee Assistance*, 35(4), 32-35.
- Keith, D. (June 19, 2006). *Palo Alto Police Department Wellness Program*. Report presented at the meeting of Palo Alto, California City Council.
- Lawfit. (2006). In. Retrieved from LawFit: <http://www.lawfit.gmu.edu>
- Leal, H. (April 2006). Benefits of Physical Fitness for Police Officers. *Texas Police Journal*, (April 2006), 14-19.
- Lee, PhD, J. C., & Mallory, PhD, S. M. (Fall 2004). A Guide For Implementing A Physical Fitness Maintenance Training Program In A Criminal Justice Agency. *Smart Online Journal*, 1(1), 15-19. Retrieved October 12, 2006, from The Smart Journal: <http://www.thesmartjournal.com/smart-police%20fitness.pdf>

Long Beach California Police Department. (2006). In. Retrieved from Long Beach

California Police Department:

http://www.post.ca.gov/library/p_ch/flagships/long_beach.asp

McCraty, R., Tomasino, D., Atkinson, M., & Sundram, J. (1999). *Impact of the HeartMath self-management skills program on physiological and psychological stress in police officers*. (99-075). Boulder Creek, CA: HeartMath Research Center, Institute of HeartMath.

Minino, A. M., Heron, M., & Kochanek, K. D. (November 24, 2006). *Deaths: Final Data for 2004*. Hyattsville, MD: U.S. Department of Health & Human Services, National Center for Health Statistics.

Nick, J. (n.d.). Exercise Protects Your Health: Moving is More Important Than What You Weigh. Retrieved October 17, 2006, from Prevention.com:

<http://www.prevention.com/articles/0,5778,5/-2-92-752-602801,00.html>

O'Rourke, M., & Sullivan, L. (November 2003). Corporate Wellness: A Healthy Return on Employee Investment. *Risk Management Magazine*, 34-38.

Palo Alto Police Department. (June 19, 2006). *Palo Alto Police Department Wellness Program*. Paper presented at the meeting of City Council.

Peoria Police Department. (2006). Policy 3.12 Employee Wellness Program. In *Peoria Police Department Policy and Procedure Manual*. Retrieved from http://www.peoriaaz.com/PoliceDepartment/administration/docs/policy_manual/3.12_EmployeeWellnessProgram.pdf

Rohm Young, D., & Steinhardt, M. A. (December 1993). The importance of physical fitness versus physical activity for coronary artery disease risk factors: A cross-sectional analysis. *Research Quarterly for Exercise and Sport*, 64(4), 377-384.

Schirmer, C. A. (1925). Health programs in business concerns. *American Physical Education Review*, 30, 59-64.

Shell, D. E. (May 2005). Physical fitness: Tips for the law enforcement executive. *The FBI Law Enforcement Bulletin*, 74.5, 27-31.

Speakwell. (Summer 2005). In. Retrieved from Speakwell Newsletter:
<http://www.speakwell.com/well/2005summer/facts.php>

Stoltzfus, E. (2006, October). Access to employer-provided health promotion benefits increasing. *Managing Benefits Plans*, (06-10), 8.

Strandberg, K. W. (n.d.). *Health and Fitness for Law Enforcement*. Retrieved September 1, 2006, from Sports Art Fitness: http://www.sportsartfitness.com/fitness_law.php

The Officer Down Memorial Page. (2006). In. Retrieved from <http://www.odmp.org/>

U.S. Department of Health and Human Services. (1996). *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: United States Department of Health and Human Services, Centers for Disease Control, National Center for Chronic Disease Prevention and Health Promotion.

United States Department of Health & Human Services. (June 20, 2002). *Physical Activity Fundamental to Preventing Disease*. Retrieved December 21, 2006, from <http://aspe.hhs.gov/health/reports/physicalactivity/>

Violanti, J. M., Vena, J. E., & Petralia, S. (1998). Mortality of a Police Cohort: 1950-1990. *American Journal of Industrial Medicine*, 33, 366-373.

Violanti, PhD, J. M. (n.d.). *Dying from the Job: The Mortality Risk for Police Officers*. Retrieved October 5, 2006, from Law Enforcement Wellness Association, Inc.: http://www.cophealth.com/articles_dying_b.html

BIOGRAPHY

Sean M. Greenway is a Senior Officer with the Chesterfield Police Department. Prior to completing his Master's Degree in Human Resource Management at the University of Richmond, he earned his B.S. in Criminal Justice at Hilbert College. Sean has worked in the field of law enforcement since 1998.