

Healthy Weight for Life: A Comprehensive Weight Management Program

Introduction

The obesity/overweight rates in America have doubled in the last 20 years from 33% in 1991 to 65% in 2010 (www.cdc.gov, 2011). The obesity/overweight rates for the US military closely resemble those of the civilian population at approximately 61% for men and 39% for women (Armed Forces, 2009). These unhealthy weight conditions cost the Department of Defense \$1.1B in direct health care costs and \$167M due to productivity loss annually (Dall et al., 2007). In order to decrease the rate of obesity and overweight amongst the military community and to reduce the associated cost of care, Mountain Home Air Force Base (MHAFB) implemented a comprehensive six week weight management program called Healthy Weight for Life (HWfL). The objectives of HWfL are to educate individuals on healthy eating, physical fitness and provide support in order to reduce percent body fat and increase fat free mass. This is accomplished through four medical appointments conducted in a group setting with some individualized counseling. Body composition measurements are taken via Bod Pod before and after the six week program to measure the percent body fat lost and pounds of fat free mass gained. On average, patients who completed the HWfL program lost 4.6% body fat and gained 6.2 pounds of fat free mass after six weeks.

Methods

The HWfL program was created to better meet the demand for weight loss and weight management within the beneficiary population at MHAFB. HWfL eliminated redundant programs while simultaneously provided greater resources and support to those seeking a healthy weight. This was accomplished through a benchmark collaboration between the Military Treatment Facility (MTF), the Health and Wellness Center (HAWC), and the Force Support Squadron's Fitness Center.

Patients in the HWfL program are referred by their Primary Care Managers (PCMs) to the HWfL lead physician. If the patient agrees to participate in the program, they are temporarily assigned to the HWfL lead physician to simplify Medical Expense and Performance Reporting (MEPR) hours annotation within the Armed Forces Health Longitudinal Technology Application (AHLTA) and to expedite any additional care the patient may need while on the program. Each patient goes through an extensive pre-screening process to ensure they are healthy enough for physical activity. This includes a brief interview, a screening for cardiac exclusionary conditions like acute myocardial infarction, unstable angina, pulmonary embolism,

arrhythmia, acute congestive heart failure, aortic aneurysm, and severe aortic stenosis. A battery of labs is also drawn to check thyroid stimulating hormone, complete blood count, complete metabolic panel, lipid levels, vitamin D, Hg A1C, and testosterone. Additional appointments are scheduled if there is concern for obstructive sleep apnea or the need for enrollment in the Behavioral Health Optimum Program (BHOP) due to depression associated with the patient's weight. Once cleared for participation in the HWfL program, patients are directed to the HAWC for their first body composition measurement via Bod Pod model #2007A.

The HWfL program consists of four medical appointments over a six week period. The first appointment is a two hour class that covers exercise/fitness, nutrition, and motivation/goal setting. The three sections are taught by Subject Matter Experts (SMEs) consisting of the HAWC Exercise Physiologist, nutrition specialists from Nutritional Medicine, and the HAWC Health Educator. During the class, patients are given a beginner, intermediate, or advanced workout program that consists of at least 30 minutes of cardio training 3-5 days per week and weight training 2 days per week. Patients are also prescribed an individual daily caloric intake amount based on their resting metabolic rate as determined by their initial Bod Pod measurement. They are then taught how to keep a food log and instructed to keep one throughout the six week program.

The second medical appointment is held one week after the first. During this one and a half hour appointment the patients get the opportunity to ask questions of and hear the success stories from the previous HWfL group. The patients are then taught how to use the cardio and weightlifting machines within the fitness center by fitness center staff that are Certified Personal Trainers.

The third medical appointment is conducted a week after the second appointment. During this one and a half hour appointment the HAWC Exercise Physiologist leads the patients through a group workout and answers any questions the patients might have about exercising. While the group is exercising, individual patients are taken aside and their food logs for the previous two weeks are reviewed by the HAWC Health Educator or Nutritional Medicine. Patients are then given one-on-one counseling on what they are doing well and what needs improvement in terms of their nutrition. Personal barriers are also discussed and possible solutions are created jointly with the patients.

The fourth and final appointment is conducted approximately six weeks after the first appointment. Before attending this appointment, the patients are instructed to have a second Bod Pod measurement conducted within two to three days of the appointment. During the appointment, the patients are given an opportunity to share with a new HWfL group their success stories, feedback about the program is collected, a review of the Bod Pod results are

discussed one-on-one with each patient, and the before and after Bod Pod data on percent body fat and pounds of fat free mass is recorded. The patients are then released from the HWfL program and encouraged to continue with the healthy lifestyle changes they have made.

Data from the HWfL program is limited to the before and after Bod Pod body composition measurements, the total number of patients who started the program and the total number of patients that completed the entire six week program. This data is collected every six weeks at the start and conclusion of each HWfL group.

Results

There have been a total of 30 patients who have started the HWfL program since its implementation in July 2011. Of those 30 patients, 10 have completed the six week program with 9 currently half way through the program. On average, the patients who completed the HWfL program lost 4.6% body fat and gained 6.2 pounds of fat free mass in a six week period. This data was calculated by taking the average percent body fat of the 10 patients before the program and comparing it to the percent body fat after the program. The same comparison was done with the pounds of fat free mass before and after HWfL. This data is disseminated to the 366th Fighter Wing via quarterly Population Health Working Group (PHWG), Aerospace Medical Counsel (AMC), and Community Action Information Board (CAIB) meetings.

The average loss of 4.6% body fat and the gain of 6.2 pounds of fat free mass in patients who completed the program clearly met the objectives of the HWfL initiative. Additionally, two of the ten patients that completed the program reduced their percent body fat from an overweight percentage to a healthy percentage. That is a combined medical cost savings of \$2822 per year due to the healthier weight of both individuals (Dall et al., 2007). Furthermore, each patient that completed the program committed to continuing the healthy lifestyle changes the program taught them, which will result in further fat loss and fat free mass gained. With time, each patient has the potential to reach a healthy weight which would equate to over \$14K in medical cost savings per year for just the 10 patients that have completed the program thus far.

There were a number of obstacles to overcome throughout the implementation of the HWfL initiative. The first obstacle was the coordination and cooperation of the different agencies involved in the program. This was accomplished through several meetings/brainstorming sessions with the MTF (Nutritional Medicine and the Medical Operations Squadron), the HAWC, and the Fitness Center. During these meetings a second obstacle was identified; accomplishing MEPRs coding in AHLTA with patients from multiple PCMs. The solution was to identify a lead physician and temporarily transfer all the HWfL

patients under his care during the six week program. The final obstacle was/is increasing the number of patients who complete the six week program. This obstacle is being tackled by making all the appointments actual medical appointments making it easier for the patients to get time off from work and to give the program a greater sense of importance. The program appointments were also limited to only four. Motivation is also used to encourage completion by having patients who completed the HWfL program come and share their success with the new HWfL group. These actions have increased the number of patients who completed the six week program, but greater improvement is still needed.

Conclusion

The HWfL initiative is a successful program that tackles one of the biggest health problems facing the United States and its military communities using the latest evidence based practices. The benchmark cooperation between three different agencies (MTF, HAWC, and fitness center) ensures the patients are getting the best possible education and treatment, with reduced redundancy and greater combined resources. Because the staff and fiscal resources needed to conduct the HWfL program are shared between the three agencies, sustainability is almost guaranteed even in these difficult fiscal times. Also, the return on investment is substantial with an average medical cost savings of \$1411 per year, per patient that is brought down to a healthy weight. Finally, the HWfL program can be easily replicated on any military installation with a clinic or MTF, HAWC, and fitness center. Implementation of the HWfL initiative across the Air Force could potentially save millions of dollars in medical costs and lost productivity.

References

- Dall, T.M., Zhang, Y., Chen, Y.J. et al. (2007). Cost associated with being overweight and with obesity, high alcohol consumption, and tobacco use within the military health system's TRICARE Prime-enrolled population. *American Journal of Health Promotion*, 22, 120-139.
- Armed Forces Health Surveillance Center. (2009). Diagnoses of overweight/obesity, active component, U.S. Armed Forces, 1998-2008. *Medical Surveillance Monthly Report*, 16[1], 2-7.

Obesity and overweight for professionals: Data and statistics. (2011). *The Center for Disease Control Website*. Retrieved November 7th, 2011 from:
<http://www.cdc.gov/obesity/data/trends.html>.