

LIFESTEPS® Versus “Weighing the Options” Criteria

An Evaluation of a Nonclinical Weight Management Program

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Because nearly one third of adults in the United States are obese and obesity is an independent risk factor for many chronic diseases, the urgency for evaluating the many nonclinical programs is evident.

BACKGROUND

Nearly one-third of all adults in the US are obese.¹⁻³ Moreover, the prevalence of this disease is increasing.^{3,4} Although the federal government's health goals for the year 2000⁵ call for no more than 20% of adults to be obese, the prevalence of obesity has increased 8% between the second National Health and Nutrition Examination Survey (NHANES II, 1976 to 1980) and phase I of NHANES III (1988 to 1991).² Obesity is an independent risk factor for numerous chronic diseases, including hypertension, non-insulin-dependent diabetes mellitus, cardiovascular disease, and osteoarthritis.^{1,3,6-11} In addition, the economic burden of this disease is staggering. Health-care costs of obesity approach \$100 billion a year, excluding psychosocial costs (eg, binge-eating disorders, clinical depression, lowered self-esteem).^{1,12}

Although individuals who complete weight-loss programs may



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lose approximately 10% of their body weight in the short term, about two thirds of this weight loss is regained within 1 year and almost all of it by 5 years.^{1,3} Concerns regarding the rising incidence of overweight and obesity in the United States and the lack of success of most weight-management programs led the Institute of Medicine (IOM) to develop criteria to evaluate various programs and approaches for the prevention and treatment of obesity.¹ The IOM hopes that their criteria will be used to evaluate and, if necessary, improve existing weight-loss programs and serve as a basis for collecting data on the success.

Recognizing that even small weight losses can reduce obese individuals' risks of developing chronic diseases, the IOM recommends that the success of obesity treatment programs be refocused from weight loss to weight management.¹ The latter means "achieving the best weight possible in the context of overall health."¹ In light of the IOM recommendations, Dairy Council, Inc. decided to evaluate its weight-management program against "Weighing the Options" criteria of the IOM.

LIFESTEPS emphasizes the process of losing weight and helps participants develop healthful eating and lifestyle habits that could last a lifetime.

Dairy Council, Inc. offers the LIFESTEPS Weight-Management Program¹³ through health professionals and health educators who receive a comprehensive training by Dairy Council staff. LIFESTEPS was developed by National Dairy Council®. Unlike most programs that focus simply on weight loss, LIFESTEPS emphasizes the process of losing weight and helps participants develop healthful eating and lifestyle habits that could last a lifetime.¹³ The design consists of two

preprogram sessions, 16 weekly sessions, and an optional 11-week maintenance component.

Recently, a telephone survey was conducted among LIFESTEPS participants at seven sites in southeastern Pennsylvania and southern New Jersey 1 to 2½ years after participation in the program. In this report, the findings from the survey are compared with the IOM's criteria for evaluating nonclinical weight-management programs.

SURVEY OF PARTICIPANTS

Participants in LIFESTEPS programs at seven hospitals/medical centers in the southeastern Pennsylvania and southern New Jersey area voluntarily responded to a telephone survey of 37 questions. The limitations of telephone surveys, *eg*, self-reported weight information, are recognized.¹⁴ Nevertheless, telephone surveys provide important data on health and health trends frequently used by academia, government, private institutions, and the media.¹⁴ The survey was developed by an independent research consultant and was conducted by C & W Research Inc., Upper Darby, PA. In all, 123 adults aged 29 to 79 years, who had completed the program 1 to 2½ years earlier, participated in the survey. The racial/ethnic makeup of the respondents was 93% white, 4% black, 1% Native American, and 1% other.

The survey questions concerned previous weight-loss attempts, pre- and postprogram weights as well as current weight, and how useful/helpful in terms of weight management were monitoring food intake and activity, physical activity, choosing a diet from all food groups, understanding standard serving sizes, and creating a "low-calorie" home environment. Other questions dealt with emotion-based eating, handling family and friends, coping with lapses and relapses, changes in physical activity and food choices resulting from participation in the program, and personal information (*eg*, age, race/ethnic background). These questions reflect areas addressed in the LIFESTEPS program.

The survey findings were compared with the IOM's three major criteria to evaluate nonclinical weight-loss programs.

The survey findings were compared with the IOM's three major criteria to evaluate nonclinical weight-loss programs: (1) match between the program and the individual, (2) soundness and safety of the program, and (3) outcome.

MATCH BETWEEN THE PROGRAM AND THE CONSUMER

To maximize the chances of achieving long-term weight loss, there must be a good match between the program and the individual wanting to lose weight.¹ The IOM recommends that each program identify those individuals who best belong in the program.¹ The next step is to help individuals decide if this is the best program for them given their goals and characteristics.¹

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Consistent with the IOM's recommendations, the LIFESTEPS program¹³ takes several steps during two preprogram sessions to identify participants who would benefit from the program (Table 1). In the first preprogram session, potential participants are screened to determine their commitment to losing weight. Individuals who answer "yes" to a series of questions are considered to be ready to continue to the second preprogram session.

In the second preprogram session, information about previous weight loss attempts is obtained from potential participants to help determine their readiness to lose

weight and a realistic weight goal.¹³

The state of health and weight loss goal of the potential client should be obtained before enrollment in the program, according to the IOM.¹ LIFESTEPS meets these criteria by asking potential participants to provide information regarding their medical history and weight goals.¹³ Based on this information, some individuals are encouraged not to participate in the program and/or are required to obtain a physician's written consent before enrolling.¹³ The program requires participants to sign a participant release form and recommends consulting their physician before enrolling in the program (Table 1).

SOUNDNESS AND SAFETY OF THE PROGRAM

LIFESTEPS is founded on sound biological and behavioral principles and is safe for its participants based on the IOM's criteria (Table 2). All programs in the survey area are conducted by health professionals who received comprehensive training.

A combination of diet and physical activity is recognized as the optimal approach for long-term weight control.

The program is designed for a safe weight loss of ½ to 1 pound a week by encouraging gradual changes in eating habits and physical activity patterns.¹³ Diet and physical activity patterns are evaluated throughout the LIFESTEPS program. The program does not have a set diet to follow.¹³ Rather, participants learn to manage their calorie intake by looking at what, how much, how often, and why they eat.¹³ Participants are encouraged to reduce their energy intake by consuming the recommended number of servings of foods from the five food groups and limiting alcohol intake, foods of minimal nutritional value, and fats and sim-

Table 1
Match between Program and Consumer: Weighing the Options Versus LIFESTEPS®

Institute of Medicine nonclinical program	LIFESTEPS®
Decides what clients are appropriate for program	Program recommendations and preprogram screening process
Provides information in text or other instructional materials on who can and who should not use program	Preprogram orientation brochure
Obtains information on state of health and weight-loss goals of potential clients	Initial interview during screening
For individuals with obesity-related comorbidities or other health problems contact with health-care provider encouraged	Must get medical release form signed by health-care provider
Require medical supervision for weight loss for lactating women, children, and adolescents; and those with significant medical or psychological problems	Discourages entry
Discourages entry into programs for weight loss for pregnant women and individuals who are underweight or anorectic	Entry not permitted

ple sugars. The program recommends 1400 kcal/day for women and 1600 kcal/day for men, coupled with physical activity. Energy intakes below this level are discouraged because they may not meet nutrient requirements.

OUTCOME OF THE PROGRAM

As measured against the IOM's criteria, the programs at the seven sites surveyed are successful. According to the IOM, weight-management programs should be judged on their success in achieving long-term weight loss, improving health practices and obesity-related comorbidities, and absence of adverse effects that might arise from the program.¹ Similar criteria to measure outcome is part of the LIFESTEPS program (Table 3).

According to the IOM, long-term weight loss can still be achieved even though some weight is regained, provided that the net weight loss is 5% or more.

For the 88 participants for whom information on initial body weight

was obtained, 83% (73) lost 5% or more of their initial body weight, 16% (14) lost less than 5% of initial body weight, 1% (1) had no weight change, and no participants gained weight at the end of the LIFESTEPS program (Fig. 1). According to the IOM,¹ long-term weight loss can still be achieved even though some weight is regained, provided that the net weight loss is 5% or more. This was clearly demonstrated by the survey results. Although a number of individuals had regained weight when surveyed 1 to 2½ years later, 52% (46) of the 88 participants were successful at maintaining their loss of 5% or more of initial body weight (this includes 16 participants who continued to lose weight). Eighteen percent (16) maintained a loss less than 5% of their initial body weight, 17% (15) were at their initial weight, and 13% (11) gained weight (Fig. 1).

At the end of the program, the average weight loss for the 88 participants was 17 pounds. One to 2½ years later, an average weight loss of 11.5 pounds was maintained.

Weight-management programs should also be judged on how well they improve health practices such as food choices and physical activity.¹ When questioned about how their food choices had changed from

Table 2
Soundness and Safety of Programs: Weighing the Options
Versus LIFESTEPS®

Institute of Medicine nonclinical program	LIFESTEPS®
Takes steps to ensure that program is safe and sound	✓
Encourage individuals to know their current medical and health conditions	Must provide medical history and, if necessary, have medical release form signed
Encourages individuals who have one or more risk factors to be under care of health-care provider	✓
Develops simple checklists for clients to highlight importance of routinely monitoring health status	Must sign participant release form
Informs about the known and hypothetical risks of program	Must sign participant release form
Provide information about the qualifications and training of staff	Taught by trained health professional or health educator
Height and weight of clients taken and calculation of body mass index and waist-to-hip ratio determined	Height and weight taken and body mass index determined
Encourages physical and psychological health assessment by health-care provider	Initial interview questionnaire determines physical health and readiness to enter the program
Administer psychological assessment such as Dieting Readiness Test	Initial interview questionnaire determines readiness to enter the program
Diet and physical activity assessed	✓

before starting the program until the time of the survey, 79% of the 123 participants surveyed said they were making more healthful food choices; 15% said their food choices were about the same; and 6% said their food choices were less healthful.

Physical activity plays a central role in the LIFESTEPS weight-management program. Consistent with the IOM's recommendations, the program encourages participants to develop a realistic goal for increasing their activity. Participants select

Table 3
Outcome of Programs: Weighing the Options Versus LIFESTEPS®

Institute of Medicine nonclinical program	LIFESTEPS®
Judged primarily on success in achieving long-term weight loss, including small losses that are maintained	✓
Judged on ability to empower clients to eat a healthful diet and become more active, reduce obesity-related comorbidities, improve objective and subjective measures of quality of life, and make desired changes in health-related knowledge and attitudes	✓
Provides information and guidance on improving health behaviors and discusses potential risks of dieting including those from their programs	✓
Encourages clients to contact health-care provider for monitoring and disposition of any obesity-related comorbidities	Signed medical release form required from health-care provider
Evaluate outcomes	✓

One to 2½ years later an average weight loss of 11.5 pounds was maintained.

activities that they enjoy and can fit into their schedules, gradually increasing activity to 45 minutes 3 or 4 times a week. Nearly all survey respondents (96%) said that becoming more physically active was helpful in managing their weight. When questioned about how their overall level of physical activity had changed from that before participating in the program until the time of the survey, 53% said they were more active, 35% said their physical activity was about the same, and 12% were less active. Thus, the program at the sites surveyed was effective in improving over half of the participants' health practices.

IOM'S CRITERIA VERSUS LIFESTEPS WEIGHT-MANAGEMENT PROGRAM

Success, as defined by the IOM, includes long-term weight loss (ie, 5% or more of initial body weight maintained for 1 year or more) and improved health practices (eg, more healthful eating habits, increased physical activity). The positive outcome of the LIFESTEPS program can be attributed to the good match between the program and participants and the steps taken to ensure that the program is safe and sound. One to 2½ years after completing the program, 52% of the participants surveyed had maintained a weight loss of 5% or more, 79% said that they were making more healthful food choices, and 53% said that they had

Dietitians and health educators can use the IOM's criteria to evaluate weight management programs that they administer, or to identify a program that will best meet their client's needs.

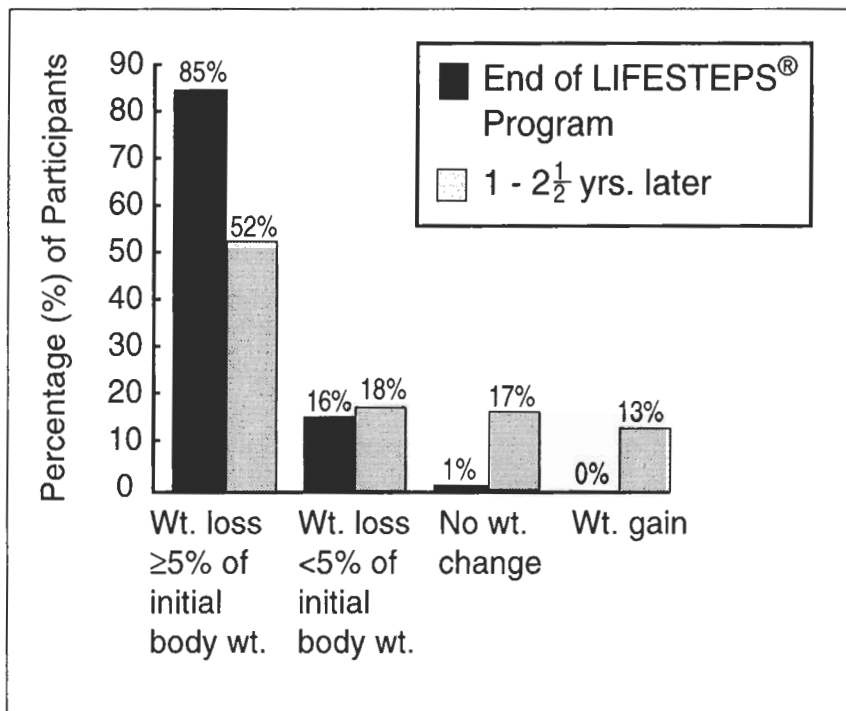


Figure 1. Body-weight change at the end of the LIFESTEPS® Program and 1 to 2½ years later.

increased their level of physical activity.

APPLICATION

The IOM's criteria to evaluate weight management programs can be used to identify successful programs and improve programs that fall short of expectations. Dietitians and health educators can use the IOM's criteria to evaluate weight management programs that they administer, or to identify a program that will best meet their clients'

weight-management needs. The availability of more effective programs may help to improve clients' success and reverse the grim outcome statistics associated with many weight-loss programs.

REFERENCES

1. Institute of Medicine, Food and Nutrition Board, Committee to Develop Criteria for Evaluating the Outcomes of Approaches to Prevent and Treat Obesity. Thomas PR (ed). *Weighing the Options. Criteria for Evaluating Weight-Management Programs*. Washington, DC: National Academy Press, 1995.
2. Kuczmarski RJ, Flegal KM, Campbell SM,

Johnson CL. Increasing prevalence of overweight among US adults: The National Health and Nutrition Examination Surveys, 1960 to 1991. *JAMA* 1994;272:205-11.

3. National Institutes of Health. *Methods for Voluntary Weight Loss and Control*. Technology Assessment Conference Statement, March 30 to April 1, 1992. Bethesda, MD: US Department of Health and Human Services, Public Health Service, National Institutes of Health, 1992.
4. McGinnis JM, Lee PR. Healthy People 2000 at midyear. *JAMA* 1995;273:1123-9.
5. US Department of Health and Human Services. *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*. DHHS (PHS) Publ. No. 91-50212. Washington, DC: US Government Printing Office, 1991.
6. Lachance PA. Scientific status summary: Human obesity. *Food Technol* 1994;48:127-38.
7. National High Blood Pressure Education Program, National Institutes of Health, National Heart, Lung, and Blood Institute. *The Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure*. NIH Publ. No. 93-1088, January 1993.
8. Colditz GA, Willett WC, Rotnitzky A, Manson JE. Weight gain as a risk factor for clinical diabetes mellitus in women. *Ann Intern Med* 1995;122:481-6.
9. National Heart, Lung, and Blood Institute. *Obesity and Cardiovascular disease*. Data Fact Sheet. Bethesda, MD: NHLBI Education Programs, Information Center; March 1993.
10. Denke MA, Sempos CT, Grundy SM. Excess body weight: An unrecognized contributor to high blood cholesterol levels in white American men. *Arch Intern Med* 1993;153:1093-1103.
11. Willett CW, Manson JE, Stampfer MJ, Colditz GA, Rosner B, Speizer FE, Hennekens CH. Weight, weight change, and coronary heart disease in women. Risk within the "normal" weight range. *JAMA* 1995;273:461-5.
12. Wolf AM, Colditz GA. The cost of obesity: The US perspective. *PharmacoEconomics* 1994; 5(Suppl 1):34-7.
13. National Dairy Council ©. *Lifestyles: Weight Management*. 1990, 2nd ed; 1992, addendum. Rosemont, IL: National Dairy Council, 1990.
14. Christakis G, Miller-Kovach K. Maintenance of Weight Goal among Weight Watchers Lifetime Members. *Nutr Today* 1995;31:29-31.
15. US Departments of Agriculture and Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans*. 4th ed, Home and Garden Bulletin No. 232. 1995.

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