

Obesity in the Kaiser Permanente Patient Population and Positive Outcomes of Online Weight-Management Programs

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Abstract

We review what is known about the effects of obesity in the Kaiser Permanente (KP) population and discuss outcomes for two nationally available effective online programs, HealthMedia Balance® (Balance) and 10,000 Steps®. Obese KP patients often have health problems related to overweight and report difficulties with self-care, yet with the proper support, they can avail themselves of effective treatment to manage both obesity and associated conditions that affect quality of life. Clinicians should be aware of potential problems with functional status and self-care in their obese patients, provide brief assessment and advice, and refer obese patients to effective national and regional weight-management programs.

Obesity at Kaiser Permanente: Prevalence, Effects on Quality of Life, and Costs

Nationally representative statistics¹ indicate the prevalence of obesity (body mass index [BMI] > 30 kg/m²) in adults to be 32.2% and the prevalence of extreme obesity (BMI > 40 kg/m²) to be 4.8%. Seventeen percent of children in the United States are now overweight, triple the prevalence in 1975. In the Kaiser Permanente (KP) Northwest and Colorado Regions that have established BMI data in the electronic record, the prevalence of obesity in adults and the prevalence of overweight in children are similar to that seen in national statistics. Extrapolating to the KP population from US

data, we can estimate that approximately two million adult KP patients are obese and more than 350,000 are extremely obese, making obesity the most common chronic condition affecting adult patients and more common than diabetes, coronary disease, and depression combined. In both national¹ and KP-based surveys, African-American and Latina women are disproportionately affected by obesity (unpublished data, Nancy Gordon, DSc, personal communication 2006).^a Given the high prevalence of overweight among youth and adolescents nationally, it is likely that the clinical problem of obesity and related disease will be with us for years to come.

Obesity is associated with an in-

creased prevalence of many chronic health conditions, including diabetes, coronary artery disease, cerebrovascular disease, certain malignancies, and depression. Similar findings are observed in KP settings. More than 40% of KP patients with asthma, chronic pain, and congestive heart failure are obese. The 2003 KP Care Management Institute (CMI) measurement report data revealed that 57% of those with diabetes are obese and 15% are severely obese (unpublished data). Fifty-three percent of obese and 62% of severely obese patients report the presence of three or more comorbid chronic conditions. Depression is also more common in obese patients with chronic diseases. Not surprisingly, the high prevalence of chronic conditions result in lower quality of life and worse functional status in obese patients. The 2005 CMI Self-Care Shared Decision-Making survey revealed that functional status is impaired, with only 18% of severely obese patients and 29% of obese patients with chronic conditions reporting high functional status (unpublished data).

Obesity is costly to the health care system, and the proportion of health care dollars spent on obesity-related

Depression is also more common in obese patients with chronic diseases.

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... behavioral weight management may actually be cost-saving from the perspective of the health plan.

chronic medical conditions is increasing. Because of the increased population prevalence of obesity and more aggressive treatments of obesity-related comorbidities such as dyslipidemia and hypertension, the overall health care costs attributed to obesity in patients with private health insurance has increased from 2.0% in 1987 to 11.6% in 2002.² Obese individuals spend 36% more on health care services and 77% more on medications than people of normal weight and incur costs greater than those of smokers or problem drinkers.³ KP researchers have observed similar findings.⁴⁻⁷ The costs of care for obese KP Northern California (KPNC) patients with a BMI of 30 to 40 kg/m² are 25% higher than for patients of normal weight, and costs of care for patients with a BMI of 40 to 50 kg/m² (extreme obesity) are 78% higher.⁴ Over an eight-year period, obese KP Northwest (KPNW) patients also have increased health care costs and use. The number of primary care visits was 39% higher and the number of inpatient days was 49% higher in obese patients as compared with patients of normal weight.⁵ Pharmacy costs for obese patients were double those for patients of normal weight, and particularly noteworthy was a finding of a threefold increase in costs of cardiovascular medications and a 13-fold increase in costs of diabetes medications.⁵ Weight gains of ≥ 20 pounds are associated with medical care cost increases of $> \$500$ over the following three years.⁶ Data from CMI indicate that costs of health care for patients with chronic conditions such as diabetes or congestive heart failure complicated by obesity increased 30% to 50% as compared with patients with either of those chronic conditions not complicated by obesity (unpublished data).

Less information is available about

how weight-management services impact the cost of health care. However, preliminary results in the KP setting appear to indicate that behavioral weight management may actually be cost-saving from the perspective of the health plan. A study from KPNW⁸ indicates that modest weight loss of 5%, attained by participation in a KP health education program, resulted in cost savings from the perspective of the health care system of more than \$400 per patient per year.⁸ Despite regain of weight in many of the study subjects, health care cost reductions were sustained throughout five years of observation.

Kaiser Permanente's Model for Weight Management

The KP model for weight management is based on recommendations from the US Preventive Services Task Force⁹ and best communication practices developed in the KPNC Health Education Department. On the basis of evidence of effectiveness for behavioral weight-management programs for obese patients, the US Preventive Services Task Force 2003 obesity screening guidelines recommend routine assessment of BMI. When BMI is found to be > 30 kg/m², clinicians should recommend participation in formal weight-management programs. Modest weight loss of 5% to 7% is associated with significant health benefits, including diabetes prevention, improved blood sugars in established diabetes, improved levels of blood pressure control, and decreased dyslipidemia, and is considered a good initial goal for weight-loss efforts.

The KP model of care relies on clinical assessment of BMI, brief positive conversations between patient and clinician, agreement

on a next-step behavior change or program referral, and arrangement of follow-up. Although time is limited during office visits, our experience is that effective conversations can take fewer than five minutes. These motivating conversations are critical, as individuals who are given clinician advice to manage their weight are two to ten times more likely to report a behavior change or weight-loss attempt than those who report not being given this advice.¹⁰

Outside the office-visit setting, patients can access weight-management information, message boards, and regional and national program listings at www.kp.org/weight.

Although physician advice is essential, it is often insufficient to result in the long-term behavior changes necessary to promote weight loss and maintenance. Data from a recent CMI survey of patients with chronic medical conditions shed light on this issue. Obese patients with chronic conditions report that they know the lifestyle changes they need to make but that they have difficulty following these recommendations and actually making the changes needed to better manage their chronic illness. They are much less likely than normal-weight patients with chronic conditions to report regular activity, maintaining healthy eating patterns such as eating adequate fruits and vegetables, or adhering to a low-fat diet. Critically, the CMI Self-Care Shared Decision-Making survey also revealed that obese patients with chronic conditions report lower self-confidence in the ability to follow their physicians' recommendations, particularly under times of stress. Structured behavioral programs offer appropriate support to patients struggling with self-care or self-efficacy problems

	Behavioral weight management	Activity programs	Pharmacotherapy programs	Bariatric preparation programs	Pediatric/teen program	Other
Colorado	+	+	*	+	+	Spanish-language program
Georgia	+	+	#	+	+	Single-session introductory class; "Art of Cooking Healthy" class
Hawaii	+	+	#	+	+	"Overcoming Emotional Eating" class
Mid-Atlantic States	+			+	+	Emphasis on community-clinician partnerships
Northern California	+	+	#	+	+	Weight-maintenance newsletter; Spanish-language classes; diet class targeted to African Americans
Northwest	+			+		Phone-based triage counseling available
Ohio	+			+		Emphasis on community-clinician partnerships
Southern California	+		# *	+	+	Medically supervised weight-management programs that use meal-replacement products

* Formal programs using pharmacotherapy are available in Colorado and Southern California.

Georgia, Hawaii, Northern California, and Southern California have limited coverage for pharmacotherapy when certain conditions are met. Data from Care Management Institute WMI Web site; accessed January 21, 2006.

and maximize the probability of weight loss and maintenance.

Weight-Management Programs Available to KP Patients

KP patients are fortunate to have a wide variety of regional and national programs available. Most KP regions have behavioral weight-management and activity promotion programs in health education settings. Some regions offer obesity pharmacotherapy or intensive meal-replacement programs outside the primary care setting (Table 1). Online and community-based programs broaden the reach of these regional programs by their wide availability, convenience, and low cost compared with standard behavioral group programs or individual counseling. All KP patients receive discounts for community and worksite Weight Watchers programs and the 10,000 Step Program and free access to online healthy lifestyle

programs, including Balance. KP patients also have access to weight-management information and tools included in the online KP health encyclopedia. The discounted community- and worksite-based Weight Watchers group programs have been evaluated more comprehensively than other commercial weight-loss programs.¹¹

Evaluation: KP Healthy Lifestyles: HealthMedia Balance Program

Balance is an online weight-management program that uses tailored messages to provide customized motivational behavior-change advice to support weight loss. Messages are tailored on the basis of data that participants provide during completion of a baseline questionnaire. For instance, if a participant indicates a personal or family history of hypertension, the program will advise the participant of the beneficial effects of weight loss on

blood pressure. Development of a personalized action plan, e-mail reminder prompts, and the option for naming a support person to facilitate behavior change. Because of its online format, the program is available in every KP region and community

Description of Methods for the Care Management Institute Self-Care Shared Decision-Making Study

At Kaiser Permanente, 4108 patients with chronic conditions such as asthma, heart disease, diabetes, heart failure, and chronic pain completed a survey on how well they can manage their own condition(s), how satisfied they are with their health care, and about their quality of life and functional status. Persons with chronic conditions were identified during 2002 using administrative data sources and surveyed during the fall of 2003. Weight and height were self-reported in the survey. Chi-square estimates were computed to determine a level of significance. Of the 97% of respondents who reported their weight and height, 38% were obese (body mass index [BMI] ≥ 30 kg/m²) and 8% were extremely obese (BMI ≥ 40 kg/m²).

and is delivered free to patients.

Since August 2004, more than 65,000 KP patients have participated in the Balance weight-management program, and six-month outcome data are available for 7% of initial participants. Eighty-one percent of participants are female, 53% are obese, and 13% are extremely obese, indicating that program participants are more likely to be obese and more likely to be female than in a typical KP population. At six months after program entry, 26.0% of obese participants (BMI = 30–39 kg/m²) have lost >5% of their starting body weight and 8.6% have lost more than 10% of their initial body weight. Fourteen percent of participants with a BMI >40 kg/m² have experienced a weight loss of ≥10%. During program participation, 43% of participants reported improving their physical activity and 51% reported improving their eating habits. Seventy-eight percent of participants rated their satisfaction with their result as excellent or good. Data from more than 3000

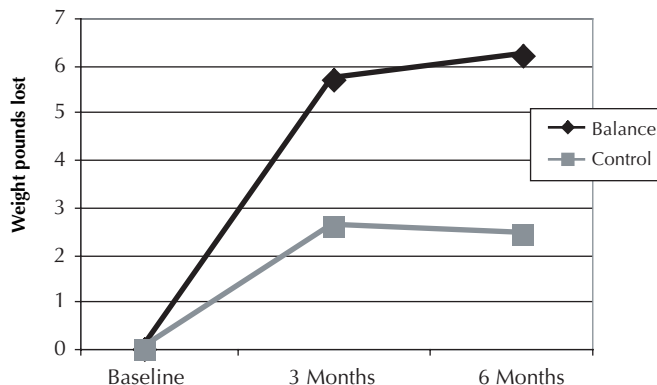


Figure 1. Weight loss at three months and six months after entry into the HealthMedia Balance program.¹²

participants with diabetes and 16,000 participants with hypertension show similar weight loss and satisfaction outcomes (unpublished data from HealthMedia, April 2006).

The effectiveness of this intervention was studied in a multicenter, randomized, controlled trial performed in four KP Regions involving 2800 patients. This study compared participation in Balance to a control in-

tervention of self-selected weight-management information in the KP online health encyclopedia. At six months, participants in the Balance intervention significantly lost more weight on average (6.2 pounds) than did participants in the control intervention (2.4 pounds) (Figure 1).¹² Participants in the Balance intervention also reported a significantly lower number of office visits and higher



Participant Comments on Balance

My name is Sheri Olivas. I was about to turn 40 and decided I needed to do more for my health. I was looking at the new Thrive site on Kaiser Permanente's Web page and followed a few links to the Healthy Lifestyles page.

The first thing I did was to take the Nourish questionnaire. I learned what I was not eating right—and what I could do to change it. So a few weeks ago I started actively making better food choices. And I began drinking nothing other than water—no more soda pop or sugared beverages. Funny, but the more I drank water, the more I was thirsty. I have never been very thirsty and was a huge soda drinker.

That was going so well that the next week I took the Balance questionnaire and discovered I was over my ideal BMI [body mass index] and needed to lose 27 pounds. I took that to heart and started walking on the treadmill during my lunch hour. I started with just 30 minutes and only managed three days the first week. Over the next few weeks I was

able to increase to a 45-minute weight loss program on the treadmill.

After four weeks I did my measurements and weight again. I was surprised to find I had already lost five pounds and two inches off my waist and three inches off my hips. Now I know this doesn't sound like much, but I have tried lots of diets, Herbalife, Slim-Fast, etc ... and never had much as far as results. I might lose a little weight, but then I gained more back. I have been overweight since 1999 when I developed Hashimoto's thyroiditis and have gained more over the last few years. This is the first time I have had fast and easy results. And I feel better. I think it is wonderful that Kaiser Permanente is offering these options to its patients and employees.

Sincerely,

Sheri Olivas, RN
Medical/Surgical Arena Nurse at Kaiser Sunnyside Medical Center,
Clackamas, Oregon

Source: http://internal.kpnw.org/insidekpnw/center/spotlight/stories/thrive_sheri_olivas.html

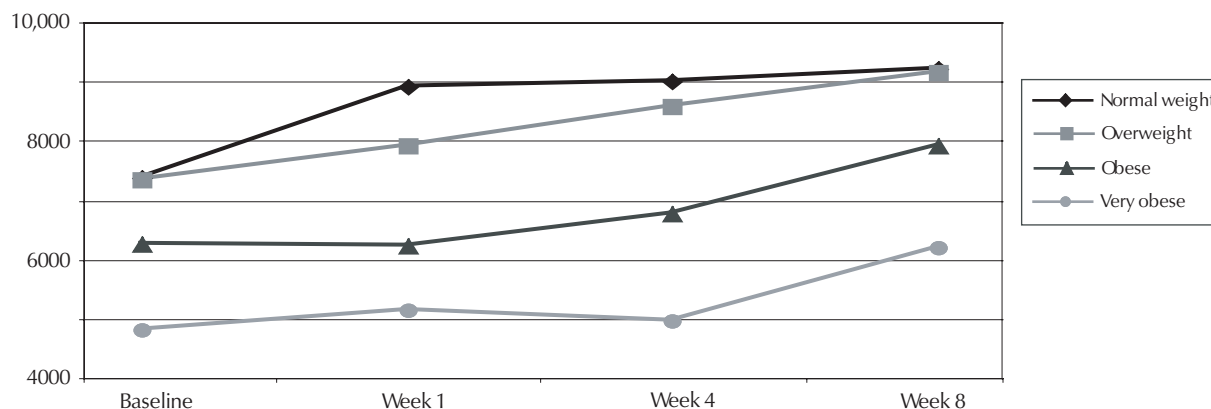


Figure 2. Daily steps taken by participants who completed the 10,000 Steps Program.

satisfaction with KP (unpublished data from the randomized control trial data collected by HealthMedia). Although follow-up rates in this study were low (20%), telephone calls to nonrespondents indicate that they achieved weight-loss levels similar to those of respondents.

Evaluation of the 10,000 Steps Program

Improved daily activity is a key activity to prevent weight gain and is critical to maintaining weight loss. The 10,000 Steps[®] Program^b is a physical activity pedometer program promoting increased daily steps as a route to improved fitness and weight control. After enrollment, participants are mailed a pedometer and gain access to online support resources, tips on healthy living, and electronic ways of tracking their progress. As of August 2006 more than 20,000 KP patients had participated in this program. The average age of participants

is 49 years and the average BMI at the start of program participation is 32 kg/m². The average increase in participants' daily step count was 1749 steps, nearly a mile per day. Obese and severely obese participants were found to take fewer steps daily but to have higher relative increases in daily steps as compared with normal-weight participants. Daily steps in normal-weight participants increased by 9.8% and in obese participants and severely obese participants by 18.8% and 20.9%, respectively (Figure 2). Small daily lifestyle changes such as this are critical to helping participants balance their daily "energy in-energy out" equation, thereby preventing weight gain or assisting with weight loss and weight-loss maintenance.¹³ Although detailed weight-loss outcomes from this program are not available, 16% of participants report that the main benefit has been that they "fit into clothes better,"

whereas 31% report their main benefit being that they are "more fit" after program participation.

Conclusions

Obesity is common in the KP environment and adversely affects quality of life and health care costs. Regional and national weight-management programs support obese patients' self-care and confidence in their ability to make lifestyle changes to better manage their health. On the basis of the data presented here, KP physicians can confidently refer their patients to the many effective KP weight-management programs. ♦

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Where to go for more information about weight management at Kaiser Permanente

- Member and public site for weight management resources: kp.org/weight
- Care Management Institute Weight Management Initiative site on the Kaiser Permanente Intranet: <http://cl.kp.org/pkc/national/topics/cmi/wmi/index.htm>

^a Nancy Gordon, DSc, researcher with the Division of Research, Northern California.

^b HealthMedia Balance® and 10,000 Steps® are registered trademarks of HealthMedia and HealthPartners, Inc, respectively.

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An Opportunity

To have lived through a revolution, to have seen a new birth of science,
a new dispensation of health, recognized medical schools,
remodeled hospitals, a new outlook for humanity,
is an opportunity not given to every generation.

—Sir William Osler, MD, 1849-1919, physician, professor of medicine, and author