

Weight Management and Obesity Symposium

The Epidemic of Obesity: Challenges and Opportunities for Kaiser Permanente



William Caplan, MD
Weight Management
and Obesity Symposium
Editor

The editors welcome William Caplan, MD, Kaiser Permanente (KP) Care Management Institute (CMI) Director of Clinical Development, and Helen S Pettay, KP CMI Communications Director and The Permanente Journal CMI Liaison, as our guest editors for this two-issue symposium on weight management and obesity. The material for this symposium is taken from transcripts of the CMI and Centers for Disease Control cosponsored symposia held on June 27-28, 2002, and November 7-8, 2002, in Denver, CO. We are also including material taken from transcripts from the Northwest Permanente, PC, Physicians and Surgeons-sponsored symposium in Portland, OR, December 11, 2002.

Through an innovative collaborative partnership, Dr Caplan and William Dietz, MD, PhD, Director of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control, lead an exploration into "a challenging public health 'issue of epidemic proportion' that has great import to both Kaiser Permanente and the health of our nation."

Obesity in the United States is accelerating at an unprecedented rate. The prevalence of obesity among adults in this country, now at 30%, has doubled in the past 20 years.¹ Similarly, overweight in children and adolescents, now at approximately 15%, has tripled in this same period.² Overall prevalence of obesity is expected to double again in the next 30 years and to increase most rapidly in the subset of the population at the 99th percentile of body mass index (BMI).³ Approximately one of 20 adults is now a candidate for bariatric surgery.¹ If unaltered, this trend will mean that millions more people with extreme obesity (BMI greater than 40) will require treatment. Among adults, obesity has the same impact on health status as aging 20 years.⁴ Obesity adversely affects health-related quality of life even more than does smoking.⁴ Comorbid conditions and risk factors, such as hypertension, dyslipidemia, gallbladder disease, and sleep apnea, are commonly found in the obese population.⁵ Obese adults have 100% increased incidence of sudden death in addition to substantially increased overall mortality.⁵ Perhaps the most disturbing consequence of the obesity epidemic is increasing prevalence of cardiovascular risk factors in overweight children and adolescents. In the Bogalusa Heart Study,⁶ about 60% of overweight children between the ages of five and ten years have one cardiovascular risk factor (eg, hypertension, dyslipidemia), and about 20% have two or more risk factors. Type II diabetes is now commonly diagnosed among overweight adolescents.

Is it any wonder that the World Health Organization has concluded that obesity is the major unmet public health problem worldwide?⁷

These health risks are also accompanied by major economic consequences. Indirect and direct costs attributed to obesity in the United States are estimated at more than \$100 billion per year⁸ and account for approximately 5.5% to 7% of total health care expenditures annually.⁹ Studies done by the Kaiser Permanente (KP) Division of Research in Northern California and by the Centers for Health Research in the KP Northwest Region have documented the increased health care expenditures associated with increasing BMI. For example, total cost of care for a cohort of KP members with a BMI of 35 or more was 44% greater than total cost of care for a cohort with a BMI ranging from 20 to 24.9.¹⁰

Slowing the epidemic increase in prevalence of overweight and obesity will be extremely challenging; our approaches must be grounded in understanding the causes of this epidemic. Biologically, humans evolved in an environment of inconstant food supply and a high level of required physical activity.¹¹ Thus, physiologic processes evolved to ensure consumption of food when available and conservation of energy when activity was not required.

Today, we live in an environment where food is available at low cost and where physical activity has been engineered out of daily life. When a positive energy balance as little as 10 kcal per day leads to a one-pound weight gain per year,¹² the challenge of overcoming these physiologic processes is depressingly obvious.

Lifelong cognitive efforts are required to overcome these physiologic drivers. Humans find it difficult to evolve these new cognitive abilities fast enough to

Among adults, obesity has the same impact on health status as aging 20 years.

outpace the increasingly rapid adaptation of “fast food,” to name only one societal influence. “Super-sized” french fries, available at McDonald’s® restaurants since 1998, are considered to be only “large-sized” today. In fact, 1500 kcal can now be purchased for a few dollars at most fast-food establishments. At the same time, public policy and market forces have reduced availability of fruits and vegetables while increasing accessibility of energy-dense foods.

Reduced levels of physical activity contribute to increased prevalence of obesity at least as much as the factors already mentioned.¹³ Twenty-seven percent of US adults engage in no daily, leisure-time physical activity.¹⁴ In the United Kingdom during the period extending from 1980 through 1990, daily core consumption decreased by a mean 750 calories per day—but mean daily energy expenditure declined by 800 calories per day, thus leading to a positive energy balance of 50 kcal per day, an amount sufficient to cause increasing levels of obesity in the British population.¹⁵ As Shiriki Kumanyika stated, “We are unable to undereat sufficiently to compensate for being inactive.”^{16:p299}

Strategies to address the epidemic of obesity must encompass a range of behavioral, social, and environmental factors. We must take a broad-based approach to the public health crisis of obesity by collaborating with experts from academia, medicine, other health care delivery systems, research, and the federal government. The Weight Management and Obesity Symposium contained in this and the next issue of *The Permanente Journal* therefore reflects the current range of clinical and public health perspectives on obesity.

The content of these articles is derived from a series of forums that included experts from both within and outside KP. Formal presentations are supplemented by a wide variety of viewpoints, expressed in the *Discussion* sections. The overall intent is to translate clinical research and experience into practical, implementable interventions and effective social and environmental solutions. Practical tools and an evidence-based clinical algorithm designed to help implement these interventions will be discussed in a subsequent issue of *The Permanente Journal*.

We have much to be proud of in KP for the many programs already instituted. We hope that this symposium will add support and guidance that will boost our efforts to reverse the obesity epidemic. ❖

Acknowledgments

Sara C Pimental, MLLS, assisted with bibliographic retrieval.
Marianne Dequina, AA, assisted with preparing the manuscript.

References

1. Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999-2000. *JAMA* 2002 Oct 9;288(14):1723-7.
2. Ogden CL, Flegal KM, Carroll MD, Johnson CL. Prevalence and trends in overweight among US children and adolescents, 1999-2000. *JAMA* 2002 Oct 9;288(14):1728-32.
3. Freedman DS, Khan LK, Serdula MK, Galuska DA, Dietz WH. Trends and correlates of class 3 obesity in the United States from 1990 through 2000. *JAMA* 2002 Oct 9;288(14):1758-61.
4. Sturm R. The effects of obesity, smoking, and drinking on medical problems and costs. Obesity outranks both smoking and drinking in its deleterious effects on health and health costs. *Health Aff (Millwood)* 2002 Mar-Apr;21(2):245-53.
5. National Heart, Lung, and Blood Institute. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: the evidence report. Bethesda (MD): National Heart, Lung, and Blood Institute; 1998. (NIH Publication No. 98-4083) Available from: www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf (accessed March 19, 2003).
6. Freedman DS, Dietz WH, Srinivasan SR, Berenson GS. The relation of overweight to cardiovascular risk factors among children and adolescents: the Bogalusa Heart Study. *Pediatrics* 1999 Jun;103(6 Pt 1):1175-82.
7. World Health Organization. Obesity: preventing and managing the global epidemic: report of a WHO consultation on obesity, Geneva June 3-5, 1997. Geneva: World Health Organization, Division of Noncommunicable Disease, Programme of Nutrition, Family and Reproductive Health; 1998.
8. Wolf AM. What is the economic case for treating obesity? *Obes Res* 1998 Apr;6 Suppl 1:2S-7S.
9. Thompson D, Wolf AM. The medical-care cost burden of obesity. *Obes Rev* 2001 Aug;2(3):189-97.
10. Quesenberry CP Jr, Caan B, Jacobson A. Obesity, health services use, and health care costs among members of a health maintenance organization. *Arch Intern Med* 1998 Mar 9;158(5):466-72.
11. Peters JC, Wyatt HR, Donahoo WT, Hill JO. From instinct to intellect: the challenge of maintaining healthy weight in the modern world. *Obes Rev* 2002 May;3(2):69-74.
12. Nielsen SJ, Popkin BM. Patterns and trends in food portion sizes, 1977-1998. *JAMA* 2003 Jan 22-29;289(4):450-3.
13. Blair SN, Nichaman M. The public health problem of increasing prevalence rates of obesity and what should be done about it [editorial]. *Mayo Clin Proc* 2002 Feb;77(2):109-13.
14. Mokdad AH, Bowman BA, Ford ES, Vinicor F, Marks JS, Koplan JP. The continuing epidemics of obesity and diabetes in the United States. *JAMA* 2001 Sep 12;286(10):1195-200.
15. James WP. A public health approach to the problem of obesity. *Int J Obes Relat Metab Disord* 1995 Sep;19 Suppl 3:S37-45.
16. Kumanyika SK. Minisymposium on obesity: overview and some strategic considerations. *Annu Rev Public Health* 2001;22:293-308.

Strategies to address the epidemic of obesity must encompass a range of behavioral, social, and environmental factors.