

Obesity Weight Management and Bariatric Surgery Case Management Programs

A Review of Literature

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ABSTRACT

Purpose/objectives: The proportion of Americans with clinically severe obesity has vast implications for the nation's healthcare system since this population have twice as many chronic medical conditions as people with normal weight. Through the use of review of literature, this article (a) describes the types of weight loss programs; (b) reviews the results from studies on effectiveness of bariatric surgery; and (c) identifies recommendations for obesity and bariatric surgery case management programs.

Primary practice settings: Disease management companies appear to be concentrating on general weight loss strategies associated with wellness and other condition-specific disease management products, whereas larger national healthcare companies with at-risk and insurance products offer specific bariatric surgery management products. Case management programs within healthcare systems, health management organizations, and insurance companies are frequently faced with the management of individuals with morbid obesity and, increasingly, those who are requesting or have undergone bariatric surgery.

Findings/conclusions: Research shows that morbid obesity is a disease that remains generally unresponsive to diet and drug therapy but appears to respond well to bariatric surgery. Research findings suggest that surgical treatment is more effective than pharmacological treatment of weight loss and the control of some comorbidities associated with obesity. The number of Americans having weight loss surgery increased by 804% between 1998 and 2004, which appears to be a driver for the recent development of obesity disease management and bariatric surgery case management programs.

Implications for case management practice: Although the immaturity and lack of studies citing outcomes of obesity disease and case management programs limit the identification of best practices based on outcomes, emerging practices can be identified and recommendations for case management can be formulated. In addition to primary prevention and treatment programs for obesity, this article describes program activities in detail for the following key areas: (1) identification and engagement; (2) coaching, education, and support; (3) collaboration among treating providers; (4) preparation, management, and follow-up when bariatric surgery is indicated; (5) aggressive follow-up until personal goals are achieved; and (6) outcome measurement.

Key words: *bariatric surgery, obesity disease management, obesity case management*

As many as 66% of adult Americans were either overweight or obese in 2004 according to a study published by the John Hopkins Bloomberg School of Public Health (2007). About 5% of the U.S. population is morbidly obese (with a body mass index [BMI] of more than 40 kg/m²), a disease that remains generally unresponsive to diet and drug therapy in terms of long-term outcome but appears to respond well to bariatric surgery (Buchwald et al., 2004). Although increases in the rate of obesity have leveled off, the Centers for Disease Control and Prevention (CDC, 2007) reports that more than one-third of U.S. adults (more than 72 million people) were classified as obese in

2005–2006. By 2030, the number of overweight adults is projected to be 2.16 billion, with 1.12 billion obese individuals if recent trends continue, representing more than 86% of adults (Kelly, Yang, Chen, Reynolds, & He, 2008).

The high prevalence of obesity is associated with an increase in the prevalence of obesity comorbidities

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such as diabetes and hypertension (Buchwald et al., 2004). According to the New Jersey Bariatric Work Group, New Jersey Department of Health and Senior Services (2005), medical conditions related to obesity include "...high blood pressure, type-2 diabetes (insulin resistant/adult onset), high blood cholesterol level, coronary heart disease, gall bladder disease, asthma, sleep apnea, osteoarthritis, infertility, idiopathic intracranial hypertension, lower extremity venous stasis disease, gastroesophageal reflux, and urinary stress incontinence" (p. 1). According to the CDC (2007), obesity is associated with approximately 112,000 deaths each year.

The RAND Corporation (2007) warns that the rapid growth of the proportion of Americans with clinically severe obesity has vast implications for the nation's healthcare system because they have twice as many chronic medical conditions.

"If the historical obesity trends continue through 2020 without other changes in behavior or medical technology, the proportion of individuals reporting fair or poor health would increase by about 12% for men and 14% for women, compared with 2000. Up to one-fifth of healthcare expenditures would be devoted to treating the consequences of obesity ... and rising disability rates could offset past reductions in disability ... the nursing home population would likely grow 10–25 percent more than the historical disability trends predict" (RAND Corporation, 2007, p. 3).

U.S. obesity-associated medical expenditures in 1998 reached as high as \$78 billion (CDC, 2007) and, more recently, has been estimated at \$117 billion in direct and indirect costs (Kelly et al., 2008).

The National Institutes of Health, National Heart, Lung, and Blood Institute (NIH NHLBI, 1998) classifies overweight and obesity by BMI as evidenced in Table 1.

Experts will agree that the first line of treatment of obesity is through prevention. Preventing weight gain as a person ages requires increasing physical activity, eating less, or both. Typical models to address prevention are public health campaigns and adoption of simple lifestyle changes (Neisner, Histon, Goeldner, & Moon, 2003). Although prevention remains a priority for the management of overweight or obesity, avoidance of weight regain following weight loss and prevention of further weight increases in obese individuals unable to lose weight are also important goals in creating a framework for managing this condition.

In July 2004, the Agency for Healthcare Research and Quality (AHRQ, 2004) published a review of obesity research and concluded that "surgical treatment is more effective than nonsurgical

TABLE 1
Classification of Overweight and Obesity by Body Mass Index

Classification	Obesity Class	Body Mass Index, kg/m ²
Underweight		<18.5
Normal		18.5–24.9
Overweight		25.0–29.9
Obesity	I	30.0–34.9
Obesity	II	35.0–39.9
Extreme obesity	III	≥40.0

From *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* [Electronic version, NIH Publication No. 98-4083], by National Institutes of Health, National Heart, Lung, and Blood Institute, 1998, p. xiv.

treatment for weight loss and the control of some co-morbidities in patients with a body mass index of 40 mg/m² or greater" (p. 5). Effective weight loss has been achieved in patients with morbid obesity who have also experienced complete resolution or improvement for conditions such as diabetes, hyperlipidemia, hypertension, and obstructive sleep apnea (Encinosa, Bernard, & Steiner, 2005; RAND Corporation, 2005).

In individuals with severe obesity, bariatric surgery resulted in a weight loss of 45–65 pounds, which was maintained up to 10 years (RAND Corporation, 2005). Although more than 20% of individuals who undergo bariatric surgery experience complications, the overall death rate from the procedures is less than 1% (RAND Corporation, 2005). All types of bariatric surgery require clinical follow-up, commitment by patients to adopt diet and lifestyle changes, and the ongoing use of nutritional supplement to maintain weight loss and avoid adverse health consequences.

On the basis of the prevalence of obesity and the associated comorbidities, the question around safe and cost-effective intervention remains paramount. The purpose of this article is to explore the current trends in obesity management and the most effective programs for preparing individuals for bariatric surgery and follow-up to achieve the best results and outcomes.

TYPES OF WEIGHT LOSS PROGRAMS

Most weight loss programs employ one or more of the following interventions:

- Low-calorie diets
- Increase in physical activity

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- Combined reduced calorie diet and increase in physical activity
- Behavioral therapy
- Pharmacotherapy
- Surgical interventions

The general goals of weight loss and management are as follows (NIH NHLBI, 1998):

1. to prevent further weight gain;
2. to reduce body weight; and
3. to maintain a lower body weight over the long term.

The NIH guidelines further identify that the initial goal of weight loss therapy is to reduce body weight by approximately 10% in 6 months or a weight loss of 1–2 pounds per week for up to 6 months.

Although weight loss strategies primarily include diet, the optimal dietary specification that facilitates lasting and safe weight loss is not known (American Diabetes Association, 2005). It is unlikely that one diet is the best for all overweight and obese persons, but most recommendations emphasize balance among the food groups, combined with physical activity. The U.S. Preventive Services Task Force (USPSTF) emphasizes that the most effective interventions combine nutrition education, diet, and exercise counseling with behavioral strategies to help patients acquire the skills and supports needed to change eating patterns and to become physically active (CDC, 2007).

Kaiser Permanente (Crosson, 2008) proposes a clinical approach for treatment interventions in the prevention and treatment of obesity that includes the following:

- Office-based approaches
 - Measurement of BMI
 - Effective patient–clinician communication and partnership
 - Brief primary care intervention and referral for behavioral change support
- Direct-to-member approaches

- Health education and Web-based programs
- Throughout the lifespan and obesity spectrum
- Pharmacotherapy
- Bariatric surgery. (p. 15)

While the number of articles and research related to obesity and its association with comorbidities is abundant, the resources on implementing effective weight loss programs and specific interventions are not as conclusive. The exception to this observation is the robust research on techniques and outcomes relative to bariatric surgery. Although diet and exercise are the recommendation of experts to achieve weight loss goals, outcomes related to specific behavior change strategies and application of specific programmatic interventions are less prevalent.

Wing (2003) does, however, highlight progress in behavioral interventions on the basis of a diabetes prevention program clinical trial. The program involves a core curriculum of 16 sessions over 16–24 weeks, with participants losing on average 7% of their body weight in 6 months; the program was twice as effective as medication in achieving weight loss. The program included the assignment of a case manager and was based on social learning theory. Interventions included structured meal plans, frequent contacts, and the recent addition of the use of the Internet with Web-based education and e-mail therapy. Wing (2003) also noted that in a sample of more than 3,500 individuals with successful weight loss, common success themes were as follows: a low-calorie diet; expending large amounts of energy in voluntary physical activity (through a combination of walking, cycling, weight lifting, or aerobics); regular consumption of breakfast; and low levels of television viewing.

BARIATRIC SURGERY

AHRQ (2005) reported that the number of Americans having weight loss surgery more than quadrupled between 1998 and 2002 and by 2004 had increased by 804% (Zhao & Encinosa, 2007). Even with this dramatic increase, only a fraction of the medically eligible people have actually had the procedure, with only 0.6% of an estimated 11.5 million patients with morbid obesity undergoing the surgery in 2002. This statistic combined with the negative effects and increased costs with obesity seems to be a driver for the recent development of obesity disease management and bariatric surgery case management programs. Disease management companies appear to be concentrating on general weight loss strategies associated with wellness and other condition-specific disease management products, whereas larger national healthcare companies with at-risk and insurance

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products offer specific bariatric surgery management products.

Effectiveness

In their meta-analysis of obesity treatment, Maggard et al. (2005) report that at 24 months after bariatric surgery, the incidence of hypertension, diabetes, and lipid abnormalities was markedly lower in a surgery group than in a matched cohort of 845 participants each. At 8 years, the effect of the surgery on the reduction of diabetes risk was significant but the effect on the reduction in risk of hypertension did not continue. The study also found a significant improvement in quality of life (QoL) among patients who had obesity surgery but not among those in the nonsurgical cohort. Conclusions from the analysis were that bariatric surgery is more effective than nonsurgical treatment for weight loss and control of some comorbid conditions in patients with a BMI of 40 kg/m² or more.

Buchwald et al. (2004) found in their meta-analysis of research on bariatric surgery that bariatric surgery in individuals with morbid obesity reverses, eliminates, or significantly ameliorates diabetes, hyperlipidemia, hypertension, and obstructive sleep apnea. In fact, resolution of diabetes often occurred days following bariatric surgery, even before marked weight loss was achieved.

Most studies reporting on the effectiveness of bariatric surgery report on follow-up for no more than 2 years. Those studies that do include a follow-up period of more than 2 years are mostly uncontrolled case studies (Shah, Simha, & Garg, 2006). Nevertheless, on the basis of a review of published research, there are data to suggest gradual weight gain and return of comorbidities over the long term. The significance and drivers that lead to regaining the weight have yet to be thoroughly examined.

Surgery Criteria

The California Association of Health Plans (CAHP, 2006) consensus guidelines on bariatric surgery include the following criteria for the utilization of bariatric surgery:

1. BMI \geq 40 or BMI \geq 35 in association with major medical comorbidities.
2. Screened for mental or behavioral disorders that may interfere with postoperative outcomes (e.g., eating disorders, depression, and substance abuse) and referral to the appropriate specialists for evaluation and/or treatment program as needed.
3. Counseled and advised to stop using tobacco products, including smoking 4 weeks prior to surgery.
4. No absolute contraindication to major abdominal surgery.
5. Obesity of long-standing (see “Special Populations” section for additional considerations).
6. Completion of a nonoperative weight loss program is recommended but not required. Surgery candidates should have attempted to lose weight by nonoperative means, including self-directed dieting, nutritional counseling, an exercise program, and commercial/hospital-based weight loss programs.
7. Received counseling by a credentialed expert (e.g., member(s) of the surgical team) on the risks and benefits of the procedure and understands the many potential complications of the surgery (including death) and the realistic expectations of postsurgical outcomes.
8. Recognized the need for postsurgical attention to lifestyle, an exercise program, and dietary changes and understands the need for postsurgical follow-up with all applicable professionals (e.g., nutritionist, psychologist/psychiatrist, exercise physiologist, or physical therapist, support group participation, regularly scheduled physician follow-up visits). (CAHP, 2006, p. 13)

Greenberg, Perna, Kaplan, and Sullivan (2005) found a high incidence of depression, negative body image, eating disorders, and low quality of life (QoL) in patients with severe obesity. Although their investigation showed there are no predictive relationships between preoperative psychological evaluations and postoperative weight loss, they recommended that all bariatric surgery candidates be evaluated by a licensed mental health care provider experienced in the treatment of severely obese patients and working with a multidisciplinary team. In another study of clients followed for 1 year after weight loss surgery, perceived obesity-related health problems, motivation, and sense of coherence (SoC) predicted better weight loss. A history of sexual abuse correlated with poorer weight loss, whereas intrinsic motivational factors appeared to predict greater weight loss after surgery (Ray, Nickels,

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Sayed, & Sax, 2003). Although research supports the association of psychological problems such as depression and personality disorder with less successful obesity surgery outcomes, rarely are the psychological problems cited as contraindications for surgery (Greenberg et al., 2005). Furthermore, the goal of psychological assessment should be the development of pre- and postsurgical treatment plans that address psychosocial barriers to postoperative success. Professional consensus is that bariatric surgery should be performed only in motivated, educated patients who have participated in a combined multidisciplinary assessment and only after behavior-based interventions have failed (Bachman, Buck, Hanna, Mocha, Greenwood, & Moiel, 2005).

Core Elements of a Successful Program

CAHP (2006) consensus guidelines propose that qualified obesity management programs in hospitals should include board-certified or eligible bariatric surgeons, with volumes in excess of 125 bariatric surgeries per year for the hospital and 50 cases per year for each surgeon. CAHP (2006) guidelines go on to recommend the following bariatric program elements:

- Multidisciplinary team, appropriately trained and experienced in treating bariatric surgery patients
- Technical and equipment capacity
- Screening program for assessing mental health care needs
- Full complement of consultative services
- Clinical pathways and standardized protocols
- Ongoing training of staff on new techniques and competencies
- Follow-up infrastructure to provide education and long-term support to patients with regularly scheduled support groups and health education
- Outcomes tracking and reporting

Most studies have examined outcomes of only face-to-face counseling on obesity (Sidorov & Fitzner, 2006). Health management and behavioral

management companies believe that coaching over the telephone by trained medical staff using behavioral change strategies, as well as individualized plans, education, and nutritional counseling, are core elements for obesity management programs. A recent study by Digenio, Mancuso, Gerber, and Dvorak (2009) compared five methods of obesity management lifestyle modification programs (high-frequency face-to-face dietician counseling; low-frequency face-to-face counseling; high-frequency telephone dietician counseling; e-mail counseling; and self-help with no dietician counseling) in combination with weight loss medications.

The study population was composed of 87% women, aged 24–63 years, with a BMI of 30 kg/m² or more but less than 40 kg/m². After 6 months, the face-to-face and telephonic counseling groups had a significantly greater weight loss than the other methods. The face-to-face participants lost the most weight, but participants randomly assigned to telephonic dietician counseling lost almost as much weight as those receiving face-to-face dietician counseling. Although dietician counseling over the telephonic based on the results of this study would seem to be an effective alternative, there are limits on generalizability of the results because most of the study participants were women, BMI range was limited, follow-up was limited to 6 months, and disease management companies often utilized RNs and health education specialists as telephone coaches with limited access to dietitians. Focus on the contribution of exercise and other relevant interventions is less prevalent in telephone-based coaching programs. Obesity disease management programs are also less likely to work with clients who are referred to bariatric surgery or provide follow-up interventions required to maximize effectiveness after bariatric surgery. In addition, bariatric case management programs begin work with the person at the point of request for bariatric surgery with limited follow-up postsurgery to maximize long-term results. What also appeared to be missing from most literature describing hospital programs, as well as health management type programs, was the accompanying preoperative education focusing on immediate recovery and prevention of complications associated with decreased mobility, pain management, respiratory impairment, and other nursing diagnoses associated with surgery and anesthesia.

Kaiser Permanente (Neisner et al., 2003) suggests that the Chronic Care Model may provide a framework for coordinating policies and interventions to address overweight and obesity. The Chronic Care Model provides a framework for utilizing community resources and the healthcare systems to create effective

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patient interactions and positive outcomes. Goals of the Kaiser Permanente Obesity Management Program (Bachman et al., 2005) include preoperative preparation to achieve greater insight into obesity, supporting new skills and behavioral patterns that will promote long-term maintenance of weight goals, clarifying behavioral expectations, and education on physical activity and diet. A nurse case manager tracks the patients as they progress through the program moving through the program at their own pace, with a typical duration of preoperative preparation ranging from 6 to 9 months.

Follow-Up Requirements

Potential long-term problems with weight loss surgery include not only those seen after any abdominal procedures but also those specific to bariatric surgery, such as gastric obstruction marginal ulceration, bowel obstruction, protein malnutrition, and vitamin deficiencies (Saltzman, 2005). Follow-up and postoperative care requirements should include the following:

- Adequate hydration and protein intake post-surgery.
- A well-defined diet progression.
- Serum micronutrient assessment at 6 months postsurgery and annually thereafter.
- Daily multivitamin and calcium supplement with added vitamin D for all weight loss surgery (WLS) patients.
- Consideration of thiamine supplementation for patient with persistent vomiting or inadequate nutrient intake.
- Regular use of iron supplements for patient at risk for iron an/or folic acid deficiency (with prenatal multivitamin optional).
- Periodic assessment for metabolic bone disease in patients who have had gastric by-pass (GBP) or malabsorptive procedures or who are at otherwise increased risk for metabolic bone disease. (Saltzman et al., 2005, p. 8)

A recent press release by the American College of Physicians (2006) cites a finding that poor car-

diofitness can lead to complications after bariatric surgery in a study involving 109 morbidly obese patients who underwent bariatric surgery. The recommendation is that for patients with low cardiopulmonary fitness levels, a combination of medical weight loss and physical conditioning be implemented preoperatively to increase fitness level.

OUTCOME MEASURES

Typical outcome measures for weight loss programs and weight loss surgery include the following: weight loss/decreased BMI; reduction of comorbidity risk factors and indicators including hypertension; cost and utilization; complication risks; and QoL. Other outcome measures utilized by obesity management programs include the following: program satisfaction, physical activity level, journaling/food diary documentation compliance, body image perception, and change in eating habits (CAHP, 2006; Livingston & Fink, 2003; Ropka, 2002; Wing, 2003).

Ropka (2002) insists that disease management outcome measures must meet identified standards for scientific validity, relevance, and feasibility as outlined by the Team on Developing Obesity Outcomes and Learning Standards (TOOLS), Task Force of North American Association for the Study of Obesity (NAASO). Obesity outcomes measures should focus on traditional medical clinical outcomes such as:

...1) clinical events such as myocardial infarction or cerebrovascular accident; 2) biologic or physiological measures such as hypertension or hypercholesterolemia; and 3) mortality.... Humanistic outcomes include: 1) symptom status; 2) functional status; and 3) quality of life, whereas economic outcomes include 1) direct costs and 2) indirect costs. (Ropka, 2002, p. 2)

Livingston and Fink (2003) advocate outcome measures of obesity treatment that measure domains of health, social-interpersonal functioning, work mobility, self-esteem, sexual life, activities of daily living, and comfort with food.

Professional consensus is that bariatric surgery should be done only in motivated, educated patients who have participated in a combined multidisciplinary assessment and only after behavior-based interventions have failed.

TABLE 2
Recommendations for Obesity and Bariatric Surgery Management Programs

Key Point	Description of Program Activities
Identification and Engagement	<p>Multidimensional approach for identification of participants who may benefit from obesity management programs including:</p> <ul style="list-style-type: none"> self-referral physician/provider referral Utilization management/case management/disease management program autoreferral health risk appraisal Claims/pharmacy claims–based predictive modeling Aggressive promotion and communication plan to market program and motivate participation Outreach via phone, e-mail, and other mechanisms such as Explanation of Benefit (EOB) stuffers, pharmacy medication inserts, or corporate screen saver runners. Incentives to stimulate participation
<i>Coaching, Education and Support</i>	<p>Comprehensive person-centered assessment</p> <p>Stratification system to support assignment of appropriate interventions</p> <p>Individual plan with telephonic contacts by coach/advisor scheduled as needed</p> <p>Trained coaches using behavioral based and motivation techniques</p> <p>Hard copy and Web-based education with interactive modules</p> <p>Nutrition planning and counseling by dietician</p> <p>Health education by nurse or certified health education specialist (CHES)</p> <ul style="list-style-type: none"> Exercise/physical fitness assessment, education, and individual plan by exercise physiologist or CHES Multidisciplinary support team including experts in nutrition, exercise physiology, and behavior change
<i>Collaboration including Integrated Case Management and Disease Management for Morbidly Obese</i>	<p>Capacity for in-person assessment and intervention as needed</p> <p>Clinical guidelines and interface protocols between utilization management/case management/disease management care managers that ensure seamless management across the continuum of services and interventions, from identification through goal attainment</p> <p>Collaborative behavioral and physical health assessment and management</p> <p>Ongoing communication with primary physician</p> <p>Identification of structured network of community resources to support weight loss and physical activity goals</p> <p>Specialty bariatric management including:</p> <ul style="list-style-type: none"> Assignment of case manager Preoperative assessment by multidisciplinary team Preoperative education and management that addresses barriers to success Use of bariatric centers of excellence Specially designed nutritional plans to ensure adequate nutrition through recovery Specially designed exercise plans with training to address effect too rapid and excess weight loss and integrate exercise into daily lifestyle on long-term basis Psychological follow-up and support
<i>Follow-up</i>	<p>Multiple tools to document and track progress including workbooks, Internet, telephone interactive voice response with interoperability between client, health coach, and provider</p> <p>Continued contact until goals are attained, particularly goals addressing adopting new lifestyle habits required for long-term weight management involving exercise and diet</p> <p>Easy to read and graphically appealing progress reports for client and physician</p> <p>Incentives for goal attainment</p>

(continues)

TABLE 2
Recommendations for Obesity and Bariatric Surgery Management Programs (Continued)

Key Point	Description of Program Activities
<i>Outcome Measurement</i>	<p>Outcome metric assessment at baseline and minimum of annually during program participation until discharge or graduation</p> <p>Minimal outcome assessment variables:</p> <ul style="list-style-type: none"> Weight loss Change in BMI <p>Change in comorbidity risk factors:</p> <ul style="list-style-type: none"> blood pressure HDL LDL HgbA_{1c} <p>SF 36 excluding pain and vitality subscales</p> <p>Physical activity level</p> <p>Program satisfaction</p> <p>Minimal outcome variables associated with bariatric surgery:</p> <ul style="list-style-type: none"> All above assessment variables Pharmacy costs DME costs <p>specific surgery episode markers:</p> <ul style="list-style-type: none"> complication rate readmission rate length of stay episode of care (surgery) costs

Note. DME = durable medical equipment.

SUMMARY AND RECOMMENDATIONS

Findings From the Literature Review

Current interventions addressing overweight and obesity include the following:

- Prevention (education and public awareness campaigns)
- Diet with nutritional counseling and education and monitoring
- Exercise with individual assessment, training, and monitoring
- Behavioral change counseling
- Assignment of case manager
- Group support
- Journaling
- Pharmacotherapy
- Bariatric surgery

Research shows skeptical long-term, positive outcomes for diet, exercise, and pharmacotherapy but supports positive outcomes of bariatric surgery in terms of reduced BMI as well as reduced effects of comorbidities (AHRQ, 2004; Buchwald et al., 2004; Maggard et al., 2005; Shah et al., 2006). The literature stops short at the description of integrated pro-

grams for weight loss and management of bariatric surgery preoperative and postoperative care but does offer recommendations for requirements that should be considered when evaluating new programs.

A review of literature did not reveal an abundance of published research or descriptions of obesity disease management programs or obesity/bariatric surgery case management programs. Although not referenced as a disease management or case management program, Kaiser Permanente has published articles on its obesity management program (Bachman et al., 2005) that includes most elements of a disease/case management program for obesity. Obvious reference to obesity management programs that address critical care management program elements, such as predictive modeling, stratification, and population-based metrics, were missing from the literature. In addition, research or case studies based on case management of bariatric surgery clients were not found.

Recommendations

Although the immaturity of obesity disease management programs inhibits the identification of best practices based on outcomes, emerging practices can be

identified and program recommendations can be formulated. In addition to employer- and government-sponsored prevention programs, the following recommendations focus on programming strategies specific to management of weight loss interventions with the potential for improving outcomes. In general, the following five key focus points are recommended:

1. identification and engagement;
2. coaching, education, and support;
3. collaboration including integrated case management and disease management interventions for morbidly obese clients including preparation, management, and follow-up when bariatric surgery is indicated;
4. aggressive follow-up and continued management until personal goals are achieved; and
5. outcome measurement.

Specific strategies for each focus point are outlined in Table 2.

Closing Comments

Obesity management will continue to be a visible issue in our society and especially important in the struggle to manage many chronic health conditions. We are beginning to see programs emerge that would appear promising in achieving positive outcomes for obesity and related comorbid conditions. The advent of these new programs requires healthcare purchasers, providers, and consumers to obtain a general understanding of obesity as a condition and the relevant program requirements necessary to impact the condition and evaluate outcomes.

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