DISEASE MANAGEMENT
Volume 10, Supplement 1, 2007

DOI: 10.1089/dis.2007.7716

Application of an Outcome-Directed Behavioral Modification Model for Obesity on a Telephonic/Web-Based Platform

RYAN SORRELL

ABSTRACT

This study assessed intervention results from 205 individuals enrolled in a telephonic weight management program. Average weight of enrolled participants was 270 pounds with an average body mass index (BMI) of 44. The study was an initial program assessment of multiple outcome areas including weight loss, behavior change, global distress, and productivity. The study used pre and post client self-reported information to assess these areas. The average participant in the program lost 8 pounds, or 3% of intake weight, which represents a strong trend toward expected results ($p = .08$ one-tailed t-test). Other encouraging results include significant improvement in distress, improvement in absenteeism and presenteeism, as well as increases in healthy behaviors such as nutrition and exercise plans. This article will highlight an online outcomes management system that enables the program participant and service provider to assess appropriate level of care, effectiveness of services, and likelihood of success. This ongoing assessment allows continual customization of the plan of care in order to maximize outcomes. The study demonstrates the impact of obesity to behavioral health and productivity, and provides evidence that telephonic interventions delivered in tandem by behavioral health specialists and registered dieticians can yield effective results. Because these results are preliminary, recommendations are also provided for program enhancement.

PROGRAM DESCRIPTION

RESOURCES FOR LIVING (RFL), a behavioral wellness company, launched its weight management program on a telephonic/Web-based platform in 2004. Customers involved range from retail to high-tech industries. One aspect that distinguishes this program is the use of behavioral health specialists (ie, masters-level licensed clinicians) as health coaches in conjunction with registered dieticians. The proposition is that no other professionals are better equipped to deal with the complexities involved in weight management and the significant behavioral changes required to reduce risk and improve the health of affected individuals.

This program was built upon the hypothesis that addressing psychological and behavioral aspects of obesity will yield significant results. This is not to diminish the role of genetic, biological, or cultural aspects. However, it was believed that through a better understanding of the emotional connection to food and modifi-

Resources for Living, Austin, TX 78749

cation of resulting unhealthy behaviors, participants would demonstrate improved well-being leading to improved productivity and decreased health costs for organizations utilizing this program.

Telephonic service delivery has been a core competency of RFL for 20 years, so the coaches and dieticians primarily utilize this platform. There is also an option for online interaction with coaches via chat, email, and shared journaling capabilities. The key driver behind this flexible platform is the understanding that obesity is an issue that can be driven by shame. For weight management programs in particular, it is crucial to create every avenue possible for participants to become engaged and stay engaged.

Levels of care are determined using RFL's proprietary SIGNAL® system in conjunction with readiness to change criteria. The different levels vary in the intensity and type of services offered to maintain participation and maximize outcomes. SIGNAL® is also used to alter treatment in real time when necessary.

SIGNAL®

The SIGNAL® system is a Web-enabled clinical outcomes management tool designed to provide feedback information regarding the success or failure of a case in real time. This system uses a brief outcome measure called the Outcome Rating Scale (ORS)[1] that assesses global distress factors. When the coach enters the ORS score for the first session, the system generates a graph with a line showing the predicted trajectory of improvement. This trajectory is a linear regression based on the average scores at each measurement point for all other cases in the SIGNAL® database with identical intake distress scores. The graph also displays the distribution of the expected scores over time, displaying lines for the 25th and 10th percentiles as well as the average scores at each measurement point. Additionally, the system displays the Clinical Cutoff. Scores above this line are in the range of responses typical of people who are not seeking treatment. As additional scores are input at subsequent sessions, the graph immediately shows the participant's change compared to the expected change. Participants with scores below the 25th and 10th percentiles are at moderate and severe risk for a poor outcome, respectively, and this feedback is provided to the coach along with suggestions for treatment adjustments.

The impetus for creating such a system was clear research indicating that clinicians cannot reliably identify or predict failing cases.[2,3,4] Additionally, studies of clinical outcome have shown that the typical course of change in successful psychotherapy is very predictable. Patients who benefit from therapy tend to gain the most benefit very early in treatment and then plateau.[5] The SIGNAL® system is used in every case, and in every session, to assess level of distress, monitor progress relative to normative trajectories, and to alert the coach of potential treatment failure. (Fig. 1)

The system also has an alliance measure that is used at the end of every session to determine fit, goal agreement, and hopefulness for change. Therapeutic alliance has long been known to be an important predictor of psychotherapy outcome. A literature review revealed that over 1000 studies demonstrate a relationship between the therapeutic alliance and treatment outcome.[6] When feedback of this type (ie, outcome and alliance) is given in real time it affords the coach and the participant an opportunity to alter the treatment plan, which increases the odds of a positive outcome. Evidence of the benefit of this feedback system is clear. After a 6-month baseline period of data collection without feedback, the SIGNAL® system was implemented across all services in October of 2002. Within 6 months of implementation, RFL's services demonstrated a 60% increase in outcome.[7]

OUTCOMES

During the study period, the weight management program achieved reach and enrollment rates of 72% and 70% respectively. Concerning clinical outcomes, the numbers were far more dramatic; 53% of participants achieved clinically significant change on the SIGNAL® measure. An additional 24% experienced improvement of a lesser magnitude to-

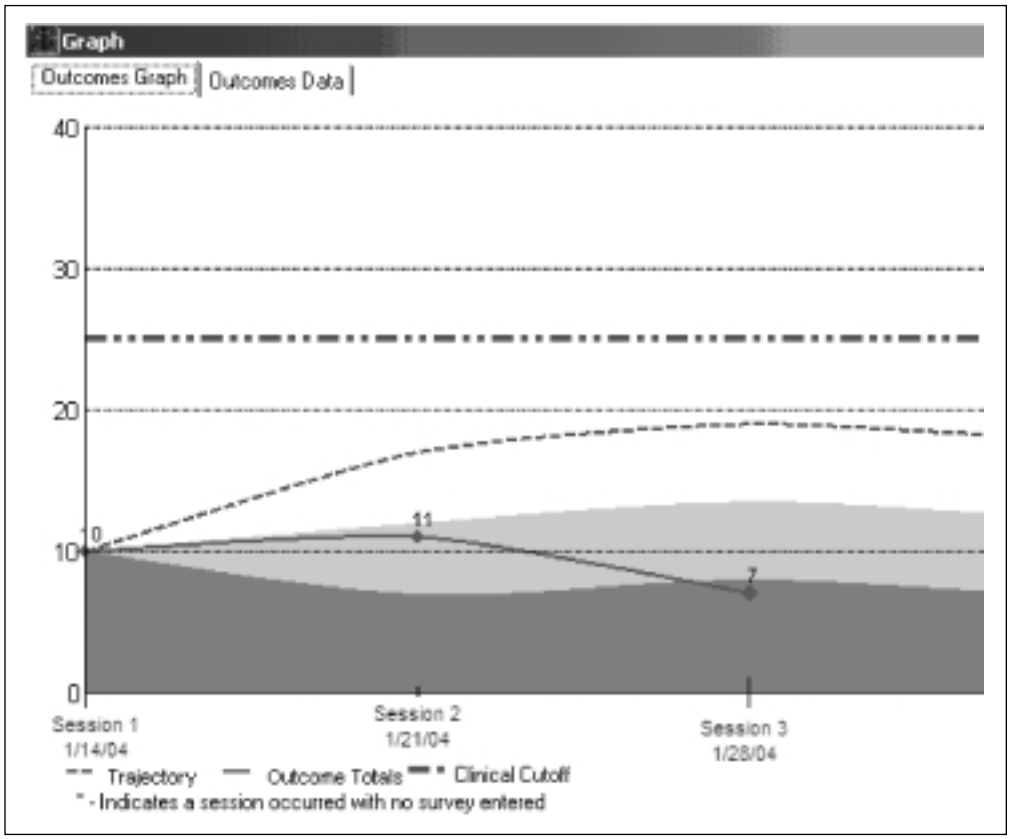

FIG. 1. SIGNAL® System Outcome Feedback Screen

taling 77% of participants who showed improvement. Of the remaining participants, 19% experienced no change or slight deterioration, while 4% had deterioration of a statistically significant magnitude.

WEIGHT LOSS

Regarding weight loss outcomes, 66% of program participants lost weight and 13% experienced no change in weight. Unfortunately, 21% of participants gained weight through the program, but to more fully understand this it is important to examine the magnitude of change. The average weight loss for participants who lost weight was 6.1%, while the average weight gain for participants who gained weight was 2.9%.

BEHAVIOR CHANGE

Though weight change tends to be the key outcome in programs of this type, it is also important to look at behavior and lifestyle changes that will contribute to long-term health, even if the impact on weight is not dramatic in the first year. By the end of the program, 70% of participants were adhering to a nutritional plan, and 65% were adhering to an exercise plan. Furthermore, 63% of participants increased their fruit and vegetable intake, and 59% increased their daily water intake. These are important behavior changes that will increase the odds of long-term health improvement and risk reduction.

IMPACT TO WORK

Corporate customers are also concerned about the impact to work. RFL utilizes the Work Productivity and Activity Impairment Questionaire to assess the impact of the specific condition of Obesity on the workplace in terms of absenteeism and presenteeism. The data reveal a stark difference between absenteeism and presenteeism for these participants. Only

12% of participants reported any amount of impairment in the area of absenteeism at intake, while 64% reported some degree of presenteeism. What this says about the condition, or at least the segment of participants with this condition, is that obesity does not keep them from getting to work, but it does hamper their performance while at work. Utilizing pre and post scores, analysis revealed that 94% of the participants reporting absenteeism at intake made improvement by the end of the program and 71% of those reporting presenteeism issues at intake showed improvement by the end of the program. This data begins to build the bridge toward a sense of return on investment for the customer but, even more importantly, challenges some assumptions about how the impact to work and productivity manifests itself with this population.

PROCESS IMPROVEMENT

This was the first thorough analysis of the tremendous amount of data collected in this program. The analysis afforded an opportunity to seek best practices and initiate process improvement within the program. One issue that stood out was the need to resolve competing incentives. For instance, various incentives for coaches can encompass reach and enrollment rates, retention rates, behavior change, cost containment, and of course, weight loss. However, it may be of greater benefit if some clients are not enrolled, or there may be times when retention conflicts with cost containment, which is especially troubling when the participant is not benefiting significantly from the program. Furthermore, as stated previously, weight loss is often the primary outcome but, given the complexity of the issue, perhaps weight loss as a success measure needs to be balanced with other behavior changes so that people are not encouraged to lose weight at all costs. Another improvement initiative will focus on the issue of individual therapist effects. Utilizing outcome measurement, some distinction can begin to be made among coaches. The differences can be so significant at times that it's possible to predict outcomes simply based on the coach to which a case is assigned. Finally, it is an organizational commitment to strive toward being outcome driven rather than process driven. Any part of the process of this program that can be reliably identified as negatively affecting outcome must be removed. Similarly, any process that is not contributing to positive outcomes must be reviewed for its necessity. There should be no sacred cows. Outcome must take precedence over process.

REFERENCES

1. Miller SD, Duncan BL, Brown J, Sparks J, Claud D. The outcome rating scale: a preliminary study of the reliability, validity, and feasibility of a brief visual analog measure. *Journal of Brief Therapy*. 2003;2(2):91–100.
2. Lambert MJ, Whipple JL, Bishop MJ, Vermeersch DA, Gray GV, Finch AE. Comparison of empirically derived and rationally derived methods for identifying clients at risk for treatment failure. *Clinical Psychology and Psychotherapy*. 2002;9:149–164.
3. Lambert MJ, Whipple JL, Smart DW, Vermeersch DA, Nielsen SL, Hawkins EJ. The effects of providing therapists with feedback on client progress during psychotherapy: are outcomes enhanced? *Psychotherapy Research*. 2001;11:49–68.
4. Lambert MJ, Whipple JL, Vermeersch DA, et al. (). Enhancing psychotherapy outcomes via providing feedback on client progress: a replication. *Clinical Psychology and Psychotherapy*. 2002;9:91–103.
5. Brown J, Dreis S, Nace DK. What really makes a difference in psychotherapy outcome? Why does managed care want to know? In: Hubble MA, Duncan BL, Miller SD, eds. *The Heart and Soul of Change: What Works in Therapy*. Washington, DC: American Psychological Association; 1999:389–406.
6. Orlinsky D, Rønnestad MH, Willutzki U. Fifty years of process-outcome research: continuity and change. In: Lambert MJ, ed. *Handbook of Psychotherapy and Behavior Change*. 5th ed. New York: John Wiley & Sons, Inc.; 2004.
7. Miller S, Duncan B, Brown J, Sorrell R, Chalk M. Using formal client feedback to improve outcome and retention. *Journal of Brief Therapy*. 2007;5:19–28.

QU1

Address reprint requests to:
Ryan Sorrell, MMFT, LPC
Manager of Informatics
Resources for Living
4407 Monterey Oaks Blvd
Suite 150
Austin, TX 78749

E-mail: SorrellR@rfl.com

SORRELL

QU1
In refs, set journal titles roman & selete period? (per style)