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Invited Commentary

Live vs Electronically Delivered Weight-Loss Interventions Paying for Feasible Interventions

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Obesity is a well-recognized problem affecting 35.7% of US adults,¹ and there is a critical need for implementation and dissemination of low-cost, evidence-based weight-loss interventions. In November 2013, the American College of Cardiology



Related article page 1144

(ACC), American Heart Association (AHA), and The Obesity Society (TOS) released updated national guidelines on the management of overweight and obese adults in consultation with the US National Heart, Lung, and Blood Institute (NHLBI).² This long-awaited update emphasizes the importance of routine referral to weight-management programs in patients with a body mass index (BMI) (calculated as weight in kilograms divided by height in meters squared) greater than 30 or those with a BMI of 25 to 29.9 and 1 additional comorbidity (which now includes elevated waist circumference).²

On-site, high-intensity weight-management programs have a strong evidence base,² but real-world implementation is associated with high costs as well as poor uptake and reach, especially in diverse populations with the greatest need.³ The article by Keyserling and colleagues⁴ in this issue of *JAMA*

Internal Medicine highlights the potential efficacy of electronically delivered weight-loss programs that may help address critical barriers of reach and dissemination.

Keyserling and colleagues⁴ conducted a comparative effectiveness trial of a counselor vs web-delivered lifestyle-and-medication intervention to reduce coronary heart disease (CHD) risk. The authors randomized 385 patients (including 48% women and 24% African Americans), with mean age of 62 years and a mean BMI of 34, to either individual counseling or a web-based intervention. Both groups received 4 intensive and 3 maintenance sessions and used a web-based decision aid demonstrating potential CHD risk-reduction strategies. Significant reductions in predicted Framingham Risk Score (FRS) 10-year CHD risk occurred in both groups at 4 and 12 months (counselor-based intervention, -2.3% and -1.9%, respectively; web-based intervention, -1.5% and -1.7%, respectively) ($P < .001$). The change in FRS was significantly higher in the counselor group at 4 months (counselor, -2.3% vs web, -1.5%) ($P = .03$), but this effect was attenuated at 12 months, by which time no significant differences in study outcomes were observed between treatment arms (counselor, -1.9% vs web, -1.7%) ($P = .30$). Both formats were well received, but as

would be expected, total costs per participant were much lower for the web-based format than for the live counselor (\$220 vs \$393). The authors concluded that both interventions were equally effective and similarly acceptable, but the web-based format was more cost-effective and therefore might have greater reach and sustainability.

Limitations of this study included the use of self-report for many secondary outcomes. Objective biomarkers for change in fruit and vegetable intake, aspirin use, and smoking cessation were included, along with pedometers and standardized weight, blood pressure, and laboratory measurements. Also, telephone assessments were conducted at baseline followed by in-person assessments at 4 and 12 months, meaning that the web-based format still required 3 instances of direct contact. It is not clear whether this contact time was included in the cost estimates or constitutes a cointervention. If it was included in the cost estimates, this might have resulted in cost overestimates when applied to real-world settings, since research assessments would not be applicable in clinical practice. Finally, a usual-care group was not included, but the authors cite their own prior studies comparing a similar web-based intervention with usual care, and more importantly, there is broad consensus that “no intervention” can no longer be considered an acceptable standard of care.

Overall, this study uses a strong design with intention-to-treat analyses and presents promising evidence. It also touches on several important themes. First, it appears that some degree of customization and personalization is essential for patient engagement in electronically delivered programs. Keyserling and colleagues⁴ included personalized risk assessments for CHD and educated patients about their individualized risk.

Second, this study indicates that the prescription for weight loss management is not likely a 1-size-fits-all solution. An honest discussion about a patient’s competing demands, motivation, and goals prior to any type of weight management referral is key. Of note, 775 of the 2274 patients determined by medical chart review to be eligible for study participation (1 in 3) actually refused to participate. The reasons for refusal were not discussed but require attention to help inform issues of acceptability and adoption in real-world settings.

Finally, while primary care physicians (PCPs) may not be trained in weight management and may have limited time to address these issues, their engagement on some level appears critical. Evidence has shown that a PCP’s willingness to recommend weight loss, however limited, is associated with a greater likelihood of patients actually losing weight.⁵ It is interesting that Keyserling and colleagues⁴ excluded 847 of the 2274 patients determined by medical chart review to be eligible for study participation owing to lack of physician refer-

ral. While the reason for this exclusion is not explicitly stated and might have been simply the lack of required medical clearance for participation in an exercise program, the positive findings in both treatment arms may have been impacted by this decision.

With these caveats in mind, we nonetheless believe that Keyserling and colleagues⁴ provide evidence that electronically delivered interventions appear worthwhile. Importantly, electronically delivered interventions are an opportunity to increase the current repertoire of available weight-management options for patients, possibly filling gaps in counselor availability or allowing counselors to focus their efforts on harder-to-change behaviors, as suggested by Keyserling and colleagues.⁴ In addition, electronically delivered interventions create convenience through asynchronous delivery, possibly a better fit for patients with competing demands. The incremental cost-effectiveness ratio for the less expensive web intervention, compared with no intervention, was estimated as \$73 per percentage point reduction in CHD risk and \$2973 per quality-adjusted life year gained. The authors correctly note that this is very cost-effective compared with common benchmarks,⁴ but they might have also noted the potential for huge cost savings in light of estimated per-capita increases of \$1723 in additional spending per beneficiary in annual costs attributable to obesity for Medicare; \$1021 for Medicaid; and \$1140 for private payers.⁶

As the evidence base grows showing that electronically delivered weight-reduction programs are effective, it will be critical that national efforts to reimburse providers include these programs. As of November 2011, Centers for Medicare & Medicaid Services reimbursed weight-loss interventions but required face-to-face visits.⁷ We laud the Affordable Care Act (ACA) for emphasizing the importance of intensive weight counseling coverage with no patient cost sharing; however, the ACA does not require that electronically delivered interventions or mixed-mode interventions be included as a covered benefit. Currently, implementation of recommended obesity treatments by the ACA varies by insurer group and across states. Thus, face-to-face interventions that are less convenient for patients and demand greater professional resource and cost investments hindering their long-term sustainability appear to be the interventions typically reimbursed by payers. Electronically delivered interventions have a mounting evidence base, but widespread adoption will not occur without reimbursement. Alongside this change, we need increased public health and education funding to focus on healthy diet and increased physical activity. Payment models that provide reimbursement across a wide array of delivery approaches are critically needed to address the obesity epidemic in this country.

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