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INVITED COMMENTARY

The Future of Obesity Treatment

Accessible, Inexpensive, and Technology Based?

A staggering 68% of US adults are either overweight or obese.¹ Current direct medical costs associated with treating obesity-related illness are roughly 5% to 10% of all US health care spending.² Effective solutions to this epidemic are scarce, expensive, or both. The mean cost of bariatric surgery is \$27 905.³ Few medications are available for weight loss, and despite recent promising developments, obesity drugs are unlikely to become a solution to the problem.⁴ Many believe significant changes in public policy and the built environment will be necessary to reverse the epidemic.^{5,6} Such changes require a great deal of political will, which is lacking, and in any case would take many years to have a significant effect. So, what on earth should we do right now or in the near future?

A limited number of modestly effective behavioral weight management programs are available but expensive. Our medical community desperately needs new approaches that meet 3 criteria. First, weight management programs should be convenient and accessible to most people in need. Second, these programs must

cost significantly less than current alternatives. Technology can play a crucial role in providing low-cost, accessible weight management. Finally, participation should be sustainable, even if programs have only a modest effect on weight. Weight management is often a lifelong struggle, so it is essential that these programs have the ability to retain or reengage people for many years. This is why strategies that take advantage of the long-term relationship of patients with primary care physicians are so important.⁷

Unfortunately, most weight management research has been performed in specialized rather than primary care settings. The few studies performed in primary care have significant shortcomings. We conducted a simple, rather than comprehensive, PubMed search of clinical trials using the keywords *obesity* and *weight loss*, which yielded roughly 3200 articles. When that search was narrowed by adding the keyword *primary care*, only 143 articles remained. We were able to classify most interventions described in these 143 articles into 2 types: simple and

easy to implement but minimally effective or intense and effective but impractical or expensive to implement.

By contrast, the 2 articles by Ma et al⁸ and Spring et al⁹ in this issue of the journal provide some hope. Ma et al translated an effective intervention from the Diabetes Prevention Program into versions for primary care.¹⁰ A simple, self-directed, DVD-based group experienced not only greater weight loss compared with usual care but also comparable weight loss to a more intensive group-led intervention. DVDs are cheap and easy to distribute and could be a useful tool for primary care physicians to promote weight loss among their overweight and obese patients. Spring et al report the value of a personal digital assistant (PDA)-based tool to supplement an intensive group weight loss program. The PDA-based group had significantly greater weight loss at all time points compared with the intensive group weight loss program alone. Simple, technology-based interventions such as these are appealing because of their affordability, scalability, and convenience. These technologies also allow patients to take charge of their own weight management. Patient self-management is an essential component of the increasingly important patient-centered medical home model of care.¹¹

The articles by Ma et al⁸ and Spring et al⁹ represent a foundation for future work. There are still many unanswered questions. Technology changes so quickly that many tools are obsolete by the time they have been thoroughly studied. Smartphones, for example, have largely replaced PDAs. We need to know what specific features of technology make it successful for weight loss. Is it, for example, convenience, personalization, or interactivity? These features could be incorporated into future tools no matter what form they take. We also need to know whether interventions such as those studied by Ma et al and Spring et al would be effective if used among unselected primary care patients rather than typical patients recruited for research. Along the same lines, we need to know how primary care physicians can efficiently and effectively incorporate technological tools into their practices to help their patients lose weight. These and related questions are now becoming the focus of intense

research.¹⁰ Stay tuned! Thanks to simple technologies, the future of obesity research and treatments is starting to look brighter.

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