



GUEST EDITORIAL

CAPT Sherman M. Harman, MD, PhD

A Call to Action: Intensive Lifestyle Intervention Against Diabetes

The U.S. health care system is being overwhelmed by an epidemic of obesity and type 2 diabetes, sometimes referred to as “diabesity.” This metabolic problem is not limited to hyperglycemia (high blood sugar), but in most cases includes lipid abnormalities (high cholesterol and triglycerides) and high blood pressure (BP). The major long-term complications of obesity-induced type 2 diabetes are renal failure; retinopathy, causing blindness; neuropathy, leading to chronic pain and foot problems that can require amputation; atherosclerosis (large vessel disease), causing myocardial infarction, heart failure, strokes; and peripheral vascular insufficiency (also a cause of amputations).

Treating these complications costs billions of dollars annually. In 2012, the American Diabetes Association (ADA) estimated the total annual U.S. cost of type 2 diabetes and its complications at \$245 billion or about \$671 million a day. Numerous clinical research studies have shown that intensive treatment to lower blood sugar, reduce BP, and decrease low-density lipoprotein cholesterol and triglycerides are powerfully effective in reducing the incidence of these devastating complications.

However, there are simply not enough endocrinologists to see and treat all the patients with this syn-

drome, let alone provide preventive care to patients who do not yet have diabetes but are at high risk. Wait times for new patients to see an endocrine-metabolism specialist in the private sector are often 40 days or more. The increasing numbers of new patients with diabesity are also overwhelming primary care providers. The current VA guidelines mandate new patients wait < 30 days for a medical subspecialty consultation appointment. Unfortunately, this is already impossible to meet, given the increasing numbers of diabetic patients and the limited capacity of the system.

THE DIABESITY PROBLEM

Over the past 20 years, we have developed a whole new armamentarium of medications that either increase insulin secretion, increase sensitivity to insulin, or delay digestion and absorption of carbohydrates with the most recent addition being agents that promote urinary excretion of glucose. New long-acting and rapid-acting insulins allow us to simulate islet cell function with multiple daily injections or pump therapy. Nevertheless, good control of blood glucose still eludes far too many patients. Likewise, lipid-lowering drugs and combinations of antihypertensive agents with different modes of actions can reduce cholesterol and triglycerides and lower BP.

However, many patients are either unable or unwilling, as evidenced by the high rates of poor adherence. Moreover, many of the antidiabetic medications, including insulin, lead to weight gain, producing a vicious cycle

requiring higher doses and additional therapies as time goes on. The medical model of treatment of diabesity is just not working or not working well enough.

Diabesity is not only a medical problem. It is also a lifestyle problem. The primary treatment recommended by the ADA and other national medical organizations for type 2 diabetes and patients at high risk for type 2 diabetes is a lifestyle intervention: Mainly weight loss by improved nutrition and a regimen of regular exercise. Despite clear evidence that these interventions, when implemented appropriately, are remarkably effective and knowledgeable medical care providers consistently recommend them to obese patients with diabetes, success in implementing them has been limited. As a result, we continue to attempt to control diabesity using the medical model of drug treatment.

Perhaps it is time to do something different. We know that exercise and weight loss are effective. What we have not figured out is how to get patients to exercise, eat healthful diets, and lose weight. We can estimate the costs of complications from our failure to treat diabesity successfully, and even the costs for treating the minority of patients who obtain some level of success by meeting goals for hemoglobin A_{1c}, lipid levels, and BP. These costs remain staggering.

What we have not examined are the comparative costs of large-scale, innovative programs to get patients to adhere to regimens of diet and exercise that will result in weight loss. Are such

CAPT Harman is professor of clinical medicine at the University of Arizona College of Medicine in Phoenix and chief of the Endocrinology Division at the Phoenix VA Health Care System. Dr. Harman retired from the U.S. Public Health Service.

programs beyond our reach? I suggest they are not.

The private sector has voluntary pay-as-you-go programs, such as Weight Watchers, which achieve significant weight loss in a high percentage of participants. These programs work by a combination of motivational psychology and providing a user-friendly set of tools that enable clients to plan their nutritional programs and monitor the results, thus providing feedback that encourages success. Similarly, the Silver Sneakers program has had considerable success in getting older people to exercise regularly. A feature of these programs is group dynamics, in which people active in the program interact and encourage one another.

It is likely that a large-scale program that successfully gets patients to lose weight and exercise would be far less costly than treating diabetes and its complications. For private insurance companies, which largely avoid paying for long-term adverse outcomes for their current clients, such programs may fail the test of cost-benefit analysis. For the VA, where our patients tend to remain our patients “till death do us part,” programs of effective long-term prevention make perfect sense.

THE ILIAD

The program can be called ILIAD: Intensive Lifestyle Intervention Against Diabetes. Homer’s *Iliad* tells the story of the Trojan War, a long, frustrating campaign that the Greeks finally won thanks to a successful and highly imaginative innovation (the Trojan horse).

What then would be the key characteristics of ILIAD? First, it would have to be provided at no additional cost to the patient. Simply telling VA patients to join a gym and buy better quality food is never going to work, even if we educate them regarding the long-term benefits. This is not to say that patient education should not be a component of ILIAD—it cer-

tainly should be. Second, it would have to provide rewards for the patients. Human beings do what they are rewarded for doing. A mechanism should be created so patients could receive cash payments or earn reward coupons for services and goods. Third, ILIAD should probably include an element of group dynamics, moderated by a knowledgeable group leader. Fourth, it would have to include a system of regular, frequent monitoring to provide feedback to both the health care providers and the patient. Such a monitoring system should make use of the most up-to-date, user-friendly digital technology and be available as a smartphone application. Finally, it would have to be designed so that it could be implemented across the whole spectrum of VA facilities.

The VA should create a working group to design and test ILIAD. While dedicated VA programs and facilities could be developed, it might be more cost-effective to provide membership for eligible patients in existing private-sector nutrition and exercise programs at existing neighborhood locations. These programs would have to be overseen and, perhaps, the details adjusted in collaboration with the private-sector partners to be more suitable for the VA patient population.

One advantage that VA has for implementing ILIAD is the CPRS. Another potential advantage is that all our patients have military experience. They have been through basic training. At some level, most know the benefits of discipline and regular exercise. In addition, there are veterans who were themselves trainers, ex-drill sergeants with experience in shaping up recruits and keeping troops fit. Perhaps this experience can be used in design and execution of ILIAD programs, even stressing a back-to-basics theme.

The VA currently employs the MOVE! program to encourage patients to improve their diets and en-

gage in regular exercise. It has had notable success at some VA centers and has languished at others. The critical factor for a successful MOVE! program would appear to be the presence of a committed local “champion” and allocation of sufficient resources (personnel, space, dollars), which varies from center to center. ILIAD could be implemented as an “upgrade” (MOVE! 2.0), or as an alternative that would replace it. Unlike MOVE!, ILIAD would subsidize use of community resources, provide specialized trainers, and include a system of incentives and rewards for participation and success.

Without ILIAD, or something like it, the VA is inevitably going to be overwhelmed by the diabetes epidemic. There are simply not enough available medical providers or enough money in the federal budget to effectively treat all the patients using the medical model. If we do not innovate and think out of the box, we are doomed to fail, with enormous costs in terms of money to the system and, more important, in morbidity and mortality for our patients.

Let’s get moving. The time to act is now! ●

Author disclosures

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