



Strategies to Increase Diabetes Patient Education and Training

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Chronic disease represents a significant public health burden and cost to the US health care system. Diabetes, one of the most common chronic diseases in the US, consumes one-sixth of the country's health care costs.¹ Individuals with diabetes are at higher risk for heart disease, blindness, kidney failure, amputations, and other chronic conditions,² and have a higher prevalence of risk factors that lead to other chronic diseases (Figure 1). It is important for persons with diabetes to understand self-management and its impact on blood glucose levels, quality of life, and overall health in order to improve clinical outcomes and avoid complications.³

Diabetes self-management training (DSMT), or diabetes education, has been recommended for persons living with diabetes. The 2004 Wisconsin Essential Diabetes Mellitus Care Guidelines recommend DSMT at diagnosis and every 6-12 months or more, as needed. Yet many people with diabetes do not receive self-management training. *Healthy People 2010* calls for 60 percent of newly diagnosed diabetic persons to receive formal self-management education.⁴ Nonetheless, it is estimated that 50-80 percent of people with diabetes lack the knowledge and skills needed to adequately manage their diabetes.⁵ *Healthy People 2010* reports that only 45 percent of people with diabetes received formal diabetes education in 1998.⁴ The purpose of this Issue Brief is to examine the potential benefits of DSMT and explore the barriers to increasing the number of persons with diabetes who receive this training.

What is diabetes self-management training?

DSMT is the process of providing individuals with knowledge and skills that are necessary to perform self-care on a day-to-day basis. DSMT is provided by a nurse, dietitian, or other health professional. Those teaching DSMT are part of a multi-disciplinary team that strives to assess a person's main needs and concerns. The education and self-management goals are tailored based on this assessment. If desired, health professionals can obtain additional training to become a certified diabetes educator.

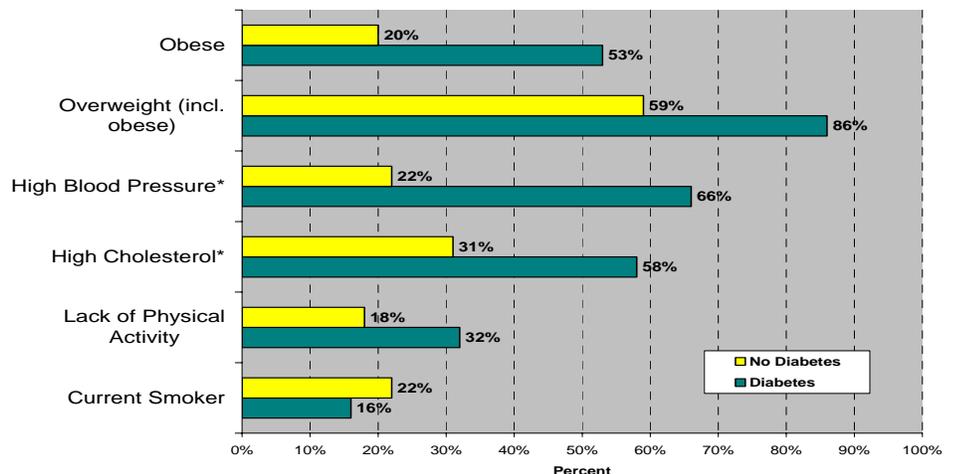
What are the benefits of diabetes self-management training?

DSMT is an evidence-based practice. A meta-analysis of randomized controlled trials on the effectiveness of DSMT demonstrates that knowledge alone is insufficient in inducing behavior change in patients.⁶ The amount of time primary care providers may have available to spend with a patient can be limited; comparatively, a health professional providing DSMT has more time to spend with individuals to teach important self-management strategies and skills.

Self-management training has been shown to help achieve and maintain optimal glycemic control.⁷ The Diabetes Control and Complications Trial demonstrated that maintaining blood glucose levels near normal in persons with type 1 diabetes delays the onset and reduces the progression of microvascular complications. The U.K. Prospective Diabetes Study also demonstrated that glycemic control can benefit individuals with type 2 diabetes. In addition to improved glycemic control, DSMT decreases fear, self-doubt, and anxiety surrounding diabetes.⁸ Self-management training encourages realistic goal setting (both short and long term) based on one's readiness to change.

Self-management training, beyond improving glycemic control, has also been shown to improve quality of life.⁶ Participants in self-management programs experience reduced medication costs, decreased lower-extremity amputations, and reduced emergency room visits and hospitalizations.⁷ Participants in nutritional interventions showed significantly improved weight and lower coronary heart disease risk.⁹

Figure 1: Percent of adults with and without diabetes in Wisconsin that have selected risk factors for chronic disease, 2003-2004



Source: Wisconsin Behavioral Risk Factor Survey, 2003-2004. Overweight is defined as Body Mass Index (BMI) ≥ 25.0 kg/m². Obesity is defined as BMI ≥ 30.0 kg/m². * Data are from only 2003.

DSMT may save money overall for the health care system by reducing diabetes complications and hospitalizations. Cost-effectiveness models show that the cost benefit of DSMT on average occurs five years after DSMT initiation. However, additional studies have suggested that improved glycemic control may lead to an earlier reduction in health care utilization, which would promptly offset costs of the intervention.¹⁰ One review calculated an average savings of \$3 to \$4 per dollar invested in DSMT.¹¹

Literature suggests training that addresses the general issues associated with disease management may be a cost effective means to address co-morbidities often present in persons with chronic disease.¹² For many persons with a chronic disease, there will be disease management skills that are appropriate for general chronic disease self-management. More research is needed to compare tailored self-management training to general chronic disease training to assess the differences in health benefits and cost-effectiveness.

What are barriers to increasing the number of persons with diabetes who receive self-management training?

Multiple barriers exist in increasing the number of persons with diabetes who receive self-management training. Reimbursement is a major issue. In the past, Medicare, Medicaid, and private insurance groups often did not cover diabetes self-management services, or provided only minimal coverage. The lack of coverage to support DSMT is of considerable concern, especially for the Medicare population, as the majority of persons with diabetes in the adult population are age 65 or older.¹³

During the last decade, laws and regulations have changed the reimbursement structure regarding DSMT for Medicare beneficiaries, health plans mandated by state laws, and employee self-funded health plans. For example, federal regulation now mandates that Part B Medicare beneficiaries with a diagnosis of diabetes be provided with at least ten hours of self-management training (upon referral) in the initial year of service. Following the initial year of service, two hours of DSMT are provided annually. Wisconsin state law also requires that health insurance plans cover diabetes education services. Currently, state laws and regulations mandate health insurance coverage for DSMT in 45 states.¹⁴

However, the new reimbursement regulations for DSMT have not been widely disseminated. Although most individuals with diabetes have some form of medical insurance that will cover the cost of this intervention, lack of coverage is still cited by providers as a major barrier to diabetes self-management. Providers may not refer individuals to this service because they believe that this service will not be covered.¹⁵

Additionally, the evidence-based benefits of self-management training may not be recognized as an integral component of diabetes care. Providers may not refer individuals to a diabetes educator even if they are aware that the training is covered, simply because they are not aware of the benefits associated with this service.¹⁵ Individuals with diabetes also may not realize the health benefits of self-management training. Even upon referral from their primary care providers, individuals may not attend self-management training. In other instances, individuals begin self-management training but elect to drop out of the program. Finally, individuals who remain in self-management programs may not be ready to learn and begin making lifestyle changes needed to positively self manage their diabetes. People with diabetes need to be consistently invited to make positive lifestyle changes. They also need to be actively supported, and provided with ongoing reinforcement by providers in order to obtain the maximum benefit of self-management training.⁹

Recommendations

Providing DSMT to patients with diabetes will improve control and reduce the risk of complications. In order to increase the percentage of persons who receive formal diabetes education, up-to-date information about DSMT needs to be disseminated to both providers and persons with diabetes. Organizations that purchase health care benefits for their members or employees should ensure that adequate coverage exists for self-management training. Health insurance plans should inform both patients and providers that DSMT is covered, and provide information concerning the benefits of this training. Reimbursement for DSMT can also improve by educating health care professionals about deductibles and correctly billing for units of service.¹⁶

Evidence for the multiple benefits of self-management training demonstrates that this intervention, when widely implemented, will minimize disease complications, increase the quality of life for persons with diabetes, and reduce costs for the health care system as a whole.

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