

Evidence-based Strategy:

Increase access to Diabetes Self-Management Education/Training (DSME/T) programs

Rationale:

Effectiveness/Impact of DSME/T: A large body of evidence supports the effectiveness of DSME/T in improving diabetes outcomes. Norris and colleagues (2001) demonstrated that self-management education improves A1C levels at immediate follow up, and that increased contact time is associated with an increased effect.(1) A systematic review of 71 trials by Warsi and colleagues in 2004 also showed reductions in A1C and systolic blood pressure in patients who received formal training in diabetes self-management.(2) A meta-analysis conducted by Deakin, et al in 2005 showed that patients who received DSME/T in a group setting improved their diabetes knowledge and reduced their fasting blood glucose levels, A1C levels, systolic blood pressure levels, and body weight, thus reducing their need for diabetes medication.(3) Additionally, Rachmani and colleagues (2005) conducted a randomized, prospective study of 165 patients with type 2 diabetes, hypertension, and hyperlipidemia; patients were referred for consultation to a diabetes clinic in an academic hospital and were randomly allocated to standard consultation (SC) or to a patient participation (PP) program. Throughout the study period, BP, LDL cholesterol, and A1C were significantly lower in the PP than in the SC patients. The authors concluded that well informed and motivated patients were more successful in obtaining and maintaining good control of their risk factors, resulting in reduced cardiovascular risk and slower progression of microvascular disease.(4) Finally, in 2015, Chrvala et al conducted a systematic review of 118 diabetes education interventions. Conclusions reinforced previous findings that adults with type 2 diabetes engaged in DSME/T experienced statistically significant and clinically meaningful improvement in A1C. The data also showed that DSME/T involving both group and individualized engagement results in the greatest improvement in A1C and suggested that there is a greater likelihood of DSME/T resulting in statistically significant improvement when a team rather than a single individual is involved in its provision. The data also suggested that limiting DSME/T contact time to 10 hours may not be sufficient.(5)

Cost Benefit: An economic analysis conducted in 2000 by Klonoff and Schwartz reported that for every \$1 spent on DSME/T, there was a net savings of \$0.44 to \$8.76.(6) In a systematic review conducted by Boren et al (2009) 18 of 26 papers reported findings associating diabetes education (and disease management) with decreased costs, cost savings, cost effectiveness, or positive return on investment.(7) A study by Duncan, et al also published in 2009, documented that commercially insured members who use diabetes education cost, on average, 5.7% less than members who do not participate in diabetes education. Participating Medicare members cost significantly less (14%). In the commercially insured population, the gap between the cost of the diabetes education population and the non-education population increased over time, so that by year 3 the non-diabetes education population average cost was 12% higher. Similar results were seen in the Medicare population, although the differences were smaller.(8) In a follow-up study in 2011, Duncan and colleagues focused more specifically on DSME/T encounters provided by diabetes educators in accredited/recognized programs. Results indicated that patients exposed to those encounters showed lower cost patterns when compared with a control group of people with diabetes without DSME/T encounters. People with diabetes who had multiple DSME/T encounters were more likely to receive care in accordance with recommended guidelines and to comply with diabetes-related prescription regimens, resulting in lower costs and utilization trends. This analysis demonstrated that repeated DSME/T encounters over time result in a dose-response effect on positive outcomes.(9)

A study was published by Brownson, et al in 2009 to estimate the cost-effectiveness of diabetes self-management programs in real-world community primary care settings. Findings showed that self-management programs for type 2 diabetes are cost-effective from a health systems perspective when the cost savings due to reductions in long-term complications are recognized; the authors noted that these findings may justify increased reimbursement for effective self-management programs in diverse settings.(10) A systematic review published by Li, et al in 2010 noted that diabetes self-management education for persons with type 2 diabetes compared with no education was shown to be very cost effective.(11) In 2012, Micklethwaite, et al provided a case example of a self-management intervention in a community general hospital targeting an underserved population with significant barriers to receiving regular health care. The 3-component program sought to improve meaningful access to care, increase health literacy related to type 2 diabetes, and partner with the enrollees to make long-term lifestyle changes. The intervention not

only resulted in significant improvements in HbA1c levels (-0.77%) but saved the hospital an average of \$551 per active patient per year, primarily by reducing hospital visits. With only 255 actively enrolled patients, the study indicated that the hospital could fully recover fully its total direct annual personnel and operating costs for the program.(12)

DSME Interventions	Outputs (services, products) and Outcomes (changes targeted by activity)	Performance Measures	Explanation/Rationale
<p>1. Increase the number/availability of ADA-recognized, AADE-accredited, state-accredited, or licensed Stanford DSME/T programs</p>	<ul style="list-style-type: none"> • Increased # of DSME/T programs available statewide that meet quality standards and are delivered with fidelity • Increased # of DSME/T programs available in underserved areas of the state 	<ul style="list-style-type: none"> • Number of ADA-recognized, AADE-accredited, state-accredited, or licensed Stanford DSME/T programs • <i>Proportion of counties with ADA-recognized, AADE-accredited, state-accredited, or licensed Stanford DSME/T programs</i> 	<p>In order to bill Medicare and other third party payers, DSME/T programs must demonstrate that they are able to meet approved quality standards. CMS accepts recognition by the ADA or accreditation by the AADE as meeting the National Standards Diabetes Self-Management Education and Support.(13) Some state health departments also serve as umbrella organizations for recognition/accreditation of DSME/T programs within their states, and therefore offer this same option using a slightly different mechanism. Licensed Stanford DSM Programs may be an option in community settings where accreditation or recognition may not be feasible, and some states have invested in expanding access to these programs; however, these programs should be encouraged to pursue recognition/accreditation where feasible to promote quality and sustainability through reimbursement.</p> <p>Access to DSME/T is sub-optimal in rural and underserved communities. Opportunities exist to establish and promote alternative locations for DSME/T delivery that are appealing to both patients and referring providers (e.g., pharmacies; telehealth, etc.).(8,14,15)</p>
<p>2. Increase the number of people with diabetes participating in ADA-recognized, AADE-accredited, state-accredited, or</p>	<ul style="list-style-type: none"> • Increased # of providers/health systems referring patients with diabetes to DSME/T programs • Increased # of people with 	<ul style="list-style-type: none"> • <i>Proportion of people with diabetes in targeted settings who have at least one encounter at an ADA-recognized, AADE-</i> 	<p>Although DSME/T is recognized as a crucial component in diabetes care, many patients never receive formal training. AADE’s analysis of the Centers for Medicare and Medicaid Services (CMS) reimbursement for DSME/T found that only about 1% of Medicare beneficiaries with diabetes received DSME/T in 2004 and 2005.(16) Physicians exhibit high variation in their referral rates to diabetes education. A study conducted by Duncan, et al (2009) indicated that quality can be improved and cost reduced by increasing referral rates to</p>

<p>licensed Stanford DSME/T programs</p>	<p>diabetes willing and able to participate in DSME</p>	<p>accredited, state-accredited, or licensed Stanford DSME/T program</p>	<p>diabetes education among low-referring physicians, specifically among men and people in disadvantaged areas. More needs to be done to inform physicians about ways to increase access to diabetes education for underserved populations.(8)</p> <p>Multiple barriers to accessing DSME/T have been documented at the health system, provider, and patient level.(14,15,17) A study published in 2014 in <i>Morbidity and Mortality Weekly Reports</i> indicated that DSME/T was substantially underused among persons with newly diagnosed diabetes even in an insured population with private health insurance. Fewer than 7% of persons received DSME/T within 1 year after diagnosis with diabetes, and although there were differences in the rates of DSME/T participation across subgroups, no subgroup of persons with newly diagnosed diabetes reached even a 15% participation rate.(18) Additional efforts are required to guarantee that all people with diabetes receive the DSME/T they need. This will require increased referral by providers, increased follow-through by patients, and increased availability of DSME/T in forms that make it appealing to patients and providers.(17)</p>
<p>3.Increase Medicaid coverage for DSME/T</p>	<ul style="list-style-type: none"> Increased # of Medicaid recipients with diabetes who have access to DSME/T as a covered benefit 	<ul style="list-style-type: none"> # of Medicaid recipients with diabetes who have DSME/T as a covered Medicaid benefit 	<p>People with diabetes who are members of racial/ethnic minority populations, enrolled in public insurance programs such as Medicaid, or living in low-income communities are more likely to experience multiple hospitalizations and have higher hospital costs than their counterparts.(19) Many state Medicaid programs do not include DSME/T as a covered service for their beneficiaries, even though DSME/T has been associated with lower hospitalization rates among people with diabetes who have at least one educational visit.(20)</p>

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