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Considerations in the Implementation of Diabetes Self-Management Education

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### Abstract

Diabetes self-management education (DSME) is an essential component in the care of persons with diabetes. The practice of DSME is defined in national standards, delineated in competencies, and carried out by diverse healthcare professionals. Recognized certifications acknowledge the expertise of diabetes educators in DSME. Through key position statements and outcome measures, professional associations advance the health care of individuals with diabetes in individual, political, and global arenas. Effective implementation of DSME by diabetes educators enacts the guidance provided in these resources. Individualized DSME that addresses personal needs and/or barriers of patients is critical to the transfer of knowledge, skill, and ability required for optimal diabetes self-management. These important and comprehensive considerations are discussed in this paper and are crucial to the implementation of DSME.

### Considerations in the Implementation of Diabetes Self-Management Education

Diabetes is a complicated chronic disease that affects the health and welfare of 29.1 million people or 9.3% of the U.S. population (Centers for Disease Control [CDC], 2014). The American Diabetes Association (ADA) released research in 2013 estimating the total costs in 2012 of diagnosed diabetes had risen to \$245 billion (ADA, 2013). One in every ten United States health care dollars spent is attributed to diabetes. These staggering numbers reflect the substantial burden that diabetes imposes on society. Increased medical costs combined with a reduced quality of life, the onset of diabetes complications, pain, and suffering pose an extensive burden to individuals and their families, the healthcare system, and society. Patient education has been shown to effectively reduce this burden (Chrvala, Sherr, & Lipman, 2016). This paper will explore considerations in effective diabetes education. National Standards for Diabetes Self-Management Education (DSME), educator competencies and certifications, and useful frameworks will be addressed. Considerations in the implementation of individualized patient education that facilitates the successful transfer of knowledge, skills, and abilities from the educator to the patient will be detailed.

### **Diabetes Self-Management Education and Support**

Navigating the care of diabetes can be complex. Diligence to learned self-care behaviors can prevent or delay the onset of diabetes-related complications and conditions and often necessitates the performance of complex care activities including healthful eating patterns, regular physical activity, stress management, blood glucose monitoring, and pharmacological therapy. Healthcare providers prescribe an appropriate regimen, but a person with diabetes will make numerous daily self-management decisions. Diabetes self-management education (DSME) is the ongoing process of facilitating the knowledge, skill, and ability necessary for prediabetes

and diabetes self care (Haas, 2012). With the successful development of self-care behaviors an individual is empowered to independently contribute to maintaining their overall long-term health. Diabetes self-management education is typically provided by a health professional.

An ongoing process, diabetes self-management support (DSMS), refers to the support one needs to keep up with unending self-management behaviors. The goals of DSME/S programs include assisting patients in modifying lifestyle and promoting self-management to improve health and quality of life, and reduce health care costs. Informed decision making and active collaboration with the health care team are key elements. Powers et al. (2015) writes “DSME/S programs are designed to address patient's health beliefs, cultural needs, current knowledge, physical limitations, emotional concerns, family support, financial status, medical history, health literacy, numeracy, and other factors that influence each person's ability to meet the challenges of self-management” (p. 1372).

### **Critical Times for DSME**

A joint position statement published by the ADA, American Association of Diabetes Educators (AADE), and Academy of Nutrition and Dietetics in 2015 outlines four critical times to assess, provide, and adjust DSME/S (Powers et al., 2015). A new diagnosis of diabetes is probably the most obvious time when an individual would benefit from DSME/S. Immediate survival skills to address safe use of medication, hypoglycemia treatment, and nutritional guidelines are essential. Yet good management must focus on much more. Patients present with varying levels of knowledge, cultural influences, health beliefs, and individual barriers that impact their ability to self-manage a new diagnosis of diabetes. Medication choice, blood glucose monitoring and pattern management, physical activity goals, and nutrition planning require consideration of the individual patient situation. Psychosocial concerns and a person's

ability to develop and implement strategies for change to promote health should be addressed for effective DSME/S.

Annual diabetes self-management education and support is advocated in the joint position statement (Powers et al., 2015). Through any given year, life brings change. Annual assessment of education, nutrition, and emotional needs will assist a patient in diabetes self-management. Reviewing diabetes knowledge, skills, and behaviors associated with the management of this chronic disease is critical to maintaining positive health outcomes. A pregnancy, change in body weight, unexplained hypoglycemia or hyperglycemia, new medication, new activity, and new life demands are a few examples of change that may impact diabetes management. Diabetes self-management education and support should be provided on an annual basis.

A third critical time to assess, provide and adjust DSME/S is when complicating factors influence self-management (Powers et al., 2015). A change in renal function, a stroke, or the initiation of steroid use will impact diabetes management. Visual impairment, dexterity issues, or movement restrictions create physical limitations. Anxiety and clinical depression are emotional factors that impact self-management. Financial limitations can alter access to food and medication. The development of these and numerous other complicating factors presents an important opportunity for DSME/S.

Transition in care is the fourth critical time to assess, provide, and adjust DSME/S (Powers et al., 2015). A new living situation creates new challenges and/or barriers. Moving from an inpatient or outpatient rehabilitation center to living alone is one example. A new medical care team or new health insurance plan may necessitate a treatment change. Diabetes self-management education and support is critical during transitions in care.

### **DSME Settings**

Various educational settings are utilized for DSME/S. Education programs may reside in a small practice, a large medical complex, or a hospital. Education can occur individually, in a group setting, a virtual setting, or in combination. A small ( $n = 170$ ) randomized study of group versus individual diabetes education was conducted by Rickheim, Flader, Weaver, and Kendall in 2002. The study demonstrated the diabetes education delivered in a group setting was equally effective in providing equivalent or slightly greater improvements in glycemic control. Similar improvements in learning, behavioral, and clinical outcomes were observed in the two study settings. A group setting may allow for more efficient and cost-effective delivery of DSME/S when financial constraints are imposed. No significant disadvantage was identified in the group learning setting when compared to individualized education programs.

### **National Standards**

Updated National Standards for Diabetes Self-Management Education and Support programs were provided in 2012 through the collaboration of a task force jointly convened by the American Association of Diabetes Educators (AADE) and the ADA (Haas, 2012). The task force consisted of a comprehensive group of experts in the field, including individuals with diabetes, diabetes researchers, certified diabetes educators, registered nurses, registered dietitians, physicians, pharmacists, and a psychologist. Experts from areas of public health, underserved populations, individual practices, large urban specialty practices, and urban hospitals were represented within the Task Force. “The National Standards for Diabetes Self-Management Education are designed to define quality DSME and support and to assist diabetes educators in providing evidence-based education and self-management support” (Haas, 2012, para 2). The standards provide a consistent format to limit variation in educational interventions

and provide guidance to programs and providers. The standards are used for recognition and accreditation in diabetes education.

The standards consist of ten areas that focus on program structure, process, and outcomes. Haas et al. (2012) provides the National Standards with essential elements and guidance pertinent to program accreditation. Standards of program structure define necessary elements of internal structure, external input, access, and program coordination. Qualifications of instructional staff, an identified curriculum, and individualization of care standards together provide guidance in the process of DSME/S. Patient education outcomes are addressed in standards defining ongoing support, patient progress, and quality improvement. The appendix presents these standards in further detail.

### **National Diabetes Education Outcomes System**

Diabetes educators have historically focused on delivering educational content as defined in the National Standards for Diabetes Self-Management Education, however, measuring outcomes has become increasingly important in determining the impact of a DSME program. Metabolic measures such as HbA1c, body mass index, and lipids levels may be representative measures of DSME outcomes, yet these measures are also influenced by other contributing factors. In recognition of the shift to a more outcome-focused model the AADE assembled a task force in 1997 that developed the National Diabetes Education Outcomes System (NDEOS). “The goal of the NDEOS is to provide more comprehensive data for measuring the effectiveness of diabetes education and integrating diabetes education into the larger system of diabetes care” (Peeples, Mulcahy, Tomky, & Weaver, 2001, p. 549). Participant behavior change outcomes are identified as unique and specific to DSME while clinical and physiological outcomes result from the interaction of participant self-management, clinical management and DSME. Behavior,

clinical, and physiological outcomes together contribute to the improved health status of individuals with diabetes. Within the larger system of diabetes care, data collected by the NDEOS, assists with improving care at the individual, program, and national level. Outcome data helps guide the delivery of individual care sessions. Program operations depend on the aggregate of individual outcome data to establish care processes. National organizations that ultimately create policy and impact the diabetes population as a whole depend on outcome data to establish benchmarks, define best practice, and allocate resources. The NDEOS has used tools such as the Diabetes Self-Management Assessment Report Tool (D-SMART), the Diabetes Educator Tool (D-ET), and the Site Registration Form to collect outcome data. Behavior change outcomes are organized within seven domains tasked to diabetes education programs. The AADE identifies the behaviors as the AADE7 Self-Care Behaviors™. These self-care behaviors as described by the AADE (2010) are provided in Table 1.

**Table 1**

*American Association of Diabetes Educators: AADE7 Self-Care Behaviors*

Domain	Self-Care Behavior
Healthy eating	Know the foods that affect blood sugar, count carbohydrates, read food labels, measure servings, develop an eating plan, prevent high and low blood sugar.
Being active	Think of things you like to do, take it slow, don't overdo it, check blood sugar levels, track activity, find a friend to exercise with, take a class, join a league, mix it up.
Monitoring Blood Glucose	Know how to use your glucose monitor, test when appropriate, understand what the numbers mean, record blood glucose results, take action when

<b>Domain</b>	<b>Self-Care Behavior</b>
	levels are out of target.
Taking Medication	Understand the reason for medication and what it does for you, take correctly, fit it in your schedule, identify side effects, take corrective action.
Problem Solving	Don't expect perfection, analyze your day, learn from it, discuss possible solutions, try new solutions.
Reducing Risks	Do not smoke, see your doctor regularly, visit eye doctor at least once a year, see your dentist every six months, take care of your feet, listen to your body.
Healthy Coping	Seek support, move your body, think positive, be good to yourself.

### **Patient-Centered Care**

A patient-centered approach to care has substantial significance within DSME/S programs. Evidence-based practice requires the integration of best available evidence from literature with both clinician expertise and patient inclination. Evidence-based care decisions rely on median responses but do not necessarily answer the question of who responded best to which therapy. Individual circumstances must be considered in DSME/S. A diabetes educator must assess each participant's needs and facilitate appropriate educational and behavioral interventions to support self-management strategies. Barriers, abilities, and expectations should be considered when developing an education and support plan. The Institute of Medicine (IOM, 2001) describes patient-centered care as “respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions”(p.

3). Diabetes self-management education and support is personalized according to patient needs and values. A program designed to tackle common needs must also address individual patient choices and preferences.

Patient education and support must respond to individual considerations to identify how to best lead a patient to healthful behaviors. Lifestyle choices and personal behaviors are not a direct reflection of knowledge. Knowing and doing are two very different things. Identifying what can get in the way of a behavior change is imperative. A patient may be distracted or overwhelmed and not hear or understand what is taught. Providing information that is congruent with current needs for knowledge aids the patient in being receptive to the information. Just-in-time information and discussion is more meaningful. Active listening to what a patient communicates will aid an educator in meeting the patient's needs and creating a plan that incorporates shared decision making. An educator who identifies multiple management strategies, and integrates a solution neutral approach, better serves the patient in implementing a plan that works with real life demands. Engaging patients in health care decisions, particularly in chronic disease management, should be a guiding principle to enhancing adherence to therapy. In the end, lifestyle choices will be decisions of individual patients; equipping patients to make informed decisions advances care. Inzucchi et al. (2012) report there is compelling evidence supporting the effectiveness of this approach.

#### **Guidelines for Health Practitioners: LEARN**

Diverse patient populations often beget language and socioeconomic barriers in health care. Varying cultural heritages bring diverse health and disease beliefs that may be in contrast with western medicine. Good communication and understanding is necessary in overcoming barriers and providing care that a patient will accept. Berlin and Fowkes (1983) developed the

LEARN framework which suggests a process for improved communication. The mnemonic summary of this framework is provided below.

**L** Listen with sympathy and understanding to the patient's perception of the problem

**E** Explain your perceptions of the problem

**A** Acknowledge and discuss the differences and similarities

**R** Recommend treatment

**N** Negotiate agreement

Utilizing this framework during a DSME/S clinical encounter may create understanding where biases, stereotypes, and a low degree of trust previously exist. A health educator who seeks to understand family and group influences, religious and faith influences, as well as nutritional preferences, is practicing with cultural and ethnic sensitivity. Demonstrating respect for the patient is fundamental to making a good first impression and becoming a trusted health care provider.

### **Barriers**

Poor numeracy and health literacy rates pose significant barriers to DSME. According to the IOM (2004), nearly half of all American adults, 90 million people, lack the literacy proficiency necessary to effectively understand and act upon health information. Numeracy, or the ability to understand and use numbers in daily life, is an important component of literacy. Counting grams of carbohydrate intake, figuring out blood glucose correction factors, and calculating insulin dosages require numeracy skills. These tasks require an individual to understand written directions, document data, and make quantitative calculations.

A national survey of 19,000 individuals, age 16 and older, identified that for many navigating healthcare is highly problematic (Kutner, Greenberg, Jin, & Paulsen, 2006). Certain

demographic populations have greater levels of difficulty than others. Those over 65 years of age showed lower health literacy than adults in other age groups. In adults who did not complete high school, nearly half of those surveyed had below basic health literacy skills. Non-native English speakers, Hispanics, Blacks, American Indian/Alaska Native, and Multi-racial adults have lower health literacy rates. For those with diabetes, low health literacy impacts patient understanding of their disease and leads to worse glycemic control and worse clinical outcomes (Osborn, Cavanaugh, Wallston, White, & Rothman, 2009). Health literacy poses an additional challenge for healthcare providers. Recognizing a literacy problem is a first step to overcoming the challenge. Other barriers to consider include financial limitations, poor vision, poor hearing, a disease state, cognitive disability, lack of family support, emotional difficulties, and inaccessible transportation.

### **DSME Reimbursement**

January 1, 1997, the United States Congress authorized Medicare coverage for DSME of up to ten hours in the first year of engagement and two hours of follow-up education in subsequent years. To receive reimbursement, diabetes self-management education programs must be recognized or accredited by a Centers for Medicare and Medicaid Services (CMS) designated national accreditation organization (NAO). The ADA and the AADE serve in this accreditation role and utilize criteria outlined by the National Standards to assess program quality. Discipline-specific counseling is also reimbursed through the CMS. A registered dietitian may provide medical nutrition therapy (MNT), a pharmacist may offer medication therapy management, and a mental health professional may deliver psychosocial counseling. These services are also reimbursed through third party payers and provide additional resources to aid individuals with diabetes self-management.

It is estimated that only 5% of Medicare patients newly diagnosed with Type 2 Diabetes participate in DSME. Those with private insurance fare only slightly better with approximately 7% participation (Chrvala et al., 2016). Under utilization of DSME services presents a significant opportunity to enhance care and reduce the burden of diabetes. To enhance glycemic control and provide quality diabetes care, primary care physicians should refer patients with diabetes to DSME.

The chronic and progressive nature of diabetes often necessitates increasingly complex treatment regimens. While DSME is often underutilized many patients attending education present with new health concerns and intensified barriers to care. An individual with Medicare often requires significant additions to their diabetes treatment plan, yet will be limited to two hours of education when previous education has been provided. Two hours of education can prove quite limiting for an individual new to insulin. Basic insulin administration, blood glucose monitoring and dietary management may be all that can be addressed in two hours. Yet good diabetes self management requires so much more. Expanding CMS reimbursement hours, along with utilization rates, would likely advance quality of care and health outcomes for those with diabetes.

### **Competencies**

Numerous challenges complicate the management of diabetes. A plethora of treatment options, the chronic and progressive nature of the disease, complexities of individual circumstances, and limited resources contribute to the complexity of diabetes management. Health professionals must consider these complexities while providing patient education and care. Diabetes self-management education and support demands competent professionals. The AADE provides DSME/S competencies that reflect current practices and general guidelines

regarding the roles and responsibilities of members of a diabetes education and support team.

Minimal knowledge, skill, and abilities required to practice at each level across the continuum of diabetes care are outlined. Competencies are structured into five domains with specific objectives identified for each of five practice levels. Practice levels include Diabetes Paraprofessional Level 1 and Level 2, and Diabetes Educator Level 1, Level 2, and Level 3. A competency objective included in a lower practice level carries through to all higher levels, with the most comprehensive objectives included in Diabetes Educator Level 3. The five domains with their associated competency statements are presented in Table 2. These competencies provide the basis for education, training, development, and performance appraisal of those engaged in diabetes education and support. Roles and responsibilities are delineated to apply to a wide array of practice settings as healthcare teams across the country vary in size and composition, as do their organizational policies, bylaws, and protocols (AADE, 2016a).

**Table 2**

*American Association of Diabetes Educators: Domains and Competency Statements*

Domains	Competency Statements
1: Pathophysiology, Epidemiology, and Clinical Practice of Prediabetes and Diabetes	Demonstrates familiarity with pathophysiology, epidemiology, and clinical practice consistent with practice level.
2: Cultural Competency Across the Lifespan	Provides diabetes support and care in a culturally competent manner across the lifespan.
3: Teaching and Learning Skills	Applies current principles of teaching and learning and/or behavior change to facilitate

<b>Domains</b>	<b>Competency Statements</b>
	self-management skills. Pursues ongoing professional development.
4: Self-Management Education	Works with an interdisciplinary diabetes care team to tailor interventions to individual self-management education needs.
5: Program and Business Management	Applies principles of program and/or business management to create a climate that supports successful self-management of diabetes.

Healthcare personnel from various educational backgrounds offer DSME/S for individuals who have prediabetes or diabetes as diabetes education is a subspecialty of many professions. Healthcare workers impart varying levels of expertise, beginning at a novice level, and growing in expertise over time. Lay health, community health workers, peer counselors, health coaches, assistive school personnel, certified nursing assistants, medical assistants, dietetic technicians, pharmacy technicians, and licensed practical nurses are a few examples of valued paraprofessionals who may assist an individual with diabetes. The AADE classifies these DSME/S healthcare workers as either Diabetes Paraprofessionals Level 1 or Level 2.

Pharmacists, registered dietitians, nurses, exercise physiologists, physical therapists, physician assistants, and physicians make up the majority of health professionals providing DSME/S. The AADE classifies DSME/S healthcare providers as diabetes educators: Level 1, Level 2, or Level 3. These diabetes educators are specialized providers who have the

knowledge, skills, experience, and credentialing necessary to effectively assist people with diabetes to engage in impactful self-care.

Within the three levels of diabetes educator practice, Bloom's (revised) taxonomy of educational objectives was used to frame the cognitive, affective, and psychomotor domains of learning. (AADE, 2016b). The six cumulative levels of cognitive behavior: remembering, understanding, applying, analyzing, evaluating, and creating, are incorporated within the levels of DSME/S expected expertise. As a diabetes educator "moves from novice to expert, he or she should also be moving from application of knowledge to analysis, synthesis, and evaluation" (AADE, 2016b, Overview, para 3). A Level 1 educator typically has completed the educational requirements for a specific health profession degree, is licensed to practice in the professional discipline, and has basic background knowledge of diabetes. Level 1 diabetes educators often work in hospitals, clinics, homecare, and pharmacy settings to transmit knowledge for the essential skills of safe diabetes self-management and basic coaching for behavior change. This educator will focus on learning objectives pertinent to remembering, understanding and applying.

A Level 2 diabetes educator possesses advanced knowledge, skills and ability beyond that required by their profession of origin. At Level 2, a diabetes educator would have the "academic, professional, and experiential criteria to qualify for and maintain the Certified Diabetes Educator or CDE® credential" (AADE, 2016b, para. 4). Increasingly complex cognitive skills demonstrating application, analysis, and evaluation are evident in a Level 2 diabetes educator. Competencies focus on facilitating behavior change. Content is specific to individualized learning needs based on individualized assessment. A Level 2 diabetes educator

possesses the knowledge, skills, and ability to provide individualized DSME/S at mid to high level learning objectives.

A Level 3 diabetes educator is an advanced level expert in diabetes education, clinical management and/or research. Complex critical thinking and decision making skills are evident at this level of practice. These educators are involved in the comprehensive, integrated, and global management of diabetes. Excellent communication skills, care coordination, assessment, problem identification, planning, implementation, and evaluation are associated with a Level 3 diabetes educator. Using Bloom's taxonomy, teaching and learning within the cognitive domain would focus on analyzing, evaluating, and creating. A Level 3 diabetes educator will support and mentor lower level educators and play a key role in designing and directing DSME practice. Considerable experience and advanced skills are demonstrated in this highest level diabetes educator (AADE, 2016b).

### **Certifications**

Level 2 and Level 3 diabetes educators may or may not hold credentials in the diabetes education specialty. Providers of DSME/S may demonstrate the competencies and have extensive experience working with diabetes, yet may not meet all criteria set by a certifying board. Holding certification is voluntary and requires experience and mastery within a specialty area. A certification recognizes individuals for demonstrating qualifications through a standardized assessment and is generally offered by a private, nongovernmental agency. Professional associations often seek such agencies to identify and acknowledge those who have met a standard.

Three diabetes-specific credentials are available in the United States: Certified Diabetes Educator (CDE®), Board Certification in Advanced Diabetes Management (BC-ADM), and

Certified Diabetes Technology Clinician (CDTC). The National Certification Board for Diabetes Educators (NCBDE) was established in 1986 to develop and administer the CDE® credential.

The CDE® credential is designed and intended for health professionals who provide DSME and is currently held by over 17,870 health professionals (NCBDE, 2013). The CDE® credential is recognized as the standard for competence in DSME. People with diabetes, employers, and third party payers identify a CDE® as possessing distinct knowledge to promote quality of care for patients with diabetes. The certification is not intended for the entry-level diabetes educator.

The NCBDE website (2016) indicates a minimum of two years of professional practice experience within the discipline (e.g., Registered nurse, Registered Dietitian) under which the individual is applying is required prior to applying for the certification. Furthermore, a health professional must log 1,000 hours of DSME experience with 400 of those hours accrued in the year preceding application. In addition to the professional practice requirements and logged DSME experience, 15 hours of diabetes related continuing education is required in the two years prior to application. Upon completion of these requirements, an applicant pays an examination fee and completes the 200-item multiple-choice exam at an AMP Assessment Center. A scaled score between 0 and 99 is reported, with 70 or more set as a passing grade. Certification must be renewed every five years.

The AADE also endorses for advanced DSME practitioners Board Certification in Advanced Diabetes Management (BC-ADM). This certification requires the health professional to hold at minimum a master's degree. A health professional, within their scope of practice, holding the BC-ADM credential will adjust medications, treat and monitor acute and chronic complications, counsel patients on lifestyle modifications, address psychosocial issues, and participate in research and mentoring. This advanced practice certification, recognized by the

diabetes community since 2001, is limited to RN, RD, RPH/PharmD, PA, and MD/DO professional licensure and requires DSME practice hours. Fees and examination are also required.

The CDTC certification covers the body of knowledge applicable to technologies utilized in diabetes. Special focus is on blood glucose monitoring, continuous glucose monitoring, and insulin pumps and pens. Applicants must attend a two-day program and pass the certifying examination.

### **Interdisciplinary Practice**

Distinctive to the specialty of diabetes education is the variety of health disciplines working in the role. While DSME has typically been carried out by registered nurses and registered dietitians, other health professionals do assume the position. Registered pharmacists, physicians, mental health professionals, podiatrists, optometrists, and exercise physiologists make up a small percentage of DSME professionals. Regardless of their discipline, all diabetes educators provide all aspects of DSME. Each discipline brings their particular focus, widening or narrowing the scope of practice as appropriate to the boundaries of the health profession. Key to diabetes education, regardless of the health care discipline, is providing clients with the knowledge and skills necessary to manage their diabetes. The body of knowledge required for effective DSME spans across disciplines.

### **Summary**

Diabetes self-management education is a vital component in the care of people with diabetes. The prevention or delay of diabetes related complications allows for better quality of life for those affected with diabetes. Improved health outcomes, and lower health care costs result when daily self-management behaviors are carried out. Diabetes educators facilitate these

self-management behaviors through diabetes self-management education and support. Standards of practice, competencies, and certifications help to define and advance the care that diabetes educators provide. A diabetes educator who individualizes care and responds to the personal needs and/or barriers of their patients will be most effective in facilitating the behavioral outcomes necessary for healthy diabetes self-management. The chronic, progressive nature of diabetes and the large population affected pose significant burden yet advances in care challenge that burden. Effective diabetes self-management education provides patients with the knowledge, skills, and abilities to successfully manage their diabetes.

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## Appendix

### *National Standards for Diabetes Self-Management Education and Support*

<b>Standard</b>	<i>2012 National Standards for Diabetes Self-Management Education and Support</i>
1. Internal Structure	The provider(s) of DSME will document an organizational structure, mission statement, and goals. For those providers working within a larger organization, that organization will recognize and support quality DSME as an integral component of diabetes care.
2. External Input	The provider(s) of DSME will seek ongoing input from external stakeholders and experts in order to promote program quality.
3. Access	The provider(s) of DSME will determine who to serve, how best to deliver diabetes education to that population, and what resources can provide ongoing support for that population.
4. Program Coordination	A coordinator will be designated to oversee the DSME program. The coordinator will have oversight responsibility for the planning, implementation, and evaluation of education services.
5. Instructional Staff	One or more instructors will provide DSME and, when applicable, DSMS. At least one of the instructors responsible for designing and planning DSME and DSMS will be a registered nurse, registered dietitian, or pharmacist with training and experience pertinent to DSME, or another professional with certification in diabetes care and education, such as a CDE or BCADM. Other health workers can contribute to DSME and provide DSMS with appropriate training in diabetes and with supervision and support.

<b>Standard</b>	<b><i>2012 National Standards for Diabetes Self-Management Education and Support</i></b>
6. Curriculum	A written curriculum reflecting current evidence and practice guidelines, with criteria for evaluating outcomes, will serve as the framework for the provision of DSME. The needs of the individual participant will determine which parts of the curriculum will be provided to that individual.
7. Individualization	The diabetes self-management, education, and support needs of each participant will be assessed by one or more instructors. The participant and instructor(s) will then together develop an individualized education and support plan focused on behavior change.
8. Ongoing Support	The participant and instructor(s) will together develop a personalized follow-up plan for ongoing self-management support. The participant's outcomes and goals and the plan for ongoing self-management support will be communicated to other members of the health care team.
9. Patient Progress	The provider(s) of DSME and DSMS will monitor whether participants are achieving their personal diabetes self-management goals and other outcome(s) as a way to evaluate the effectiveness of the educational intervention(s), using appropriate measurement techniques.
10. Quality Improvement	The provider(s) of DSME will measure the effectiveness of the education and support and look for ways to improve any identified gaps in services or service quality using a systematic review of process and outcome data.

*Note.* The *National Standards for Diabetes Self-Management Education and Support* are cited from Haas et al. (2012).