Diabetes Self-management Education and Support in Type 2 Diabetes

A Joint Position Statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics

Margaret A. Powers, PhD, RD

Joan Bardsley, MBA, RN

Marjorie Cypress, PhD, RN, CNP

Paulina Duker, MPN, RN

Martha M. Funnell, MS, RN

Amy Hess Fischl, MS, RD

Melinda D. Maryniuk, MEd, RD

Linda Siminerio, RN, PhD

Eva Vivian, PharmD, MS

From International Diabetes Center at Park Nicollet, Minneapolis, Minnesota (Dr Powers); MedStar Health Research Institute and MedStar Nursing, Hyattsville, Maryland (Ms Bardsley); ABQ Health Partners, Albuquerque, New Mexico (Dr Cypress); LifeScan, a Johnson & Johnson Diabetes Solutions Company, Dubai, United Arab Emirates (Ms Duker); University of Michigan Medical School, Ann Arbor, Michigan (Ms Funnell); University of Chicago, Chicago, Illinois (Ms Fischl); Joslin Diabetes Center, Boston, Massachusetts (Ms Maryniuk); School of Medicine, University of Pittsburgh, Pittsburgh, Pennsylvania (Dr Siminerio); and University of Wisconsin–Madison, Madison, Wisconsin (Dr Vivian).

Correspondence to Margaret A. Powers, International Diabetes Center at Park Nicollet, Minneapolis, MN 55416-2699, USA. (margaret.powers@parknicollet.com).

Acknowledgments: The authors gratefully acknowledge the commitment and support of the collaborating organizations—the American Association of Diabetes Educators, the American Diabetes Association, and the Academy of Nutrition and Dietetics; their colleagues, including members of the Executive Committee of the National Diabetes Education Program, who participated in discussions and reviews about this inaugural position statement; and patients who teach and inspire them. The authors also thank Erika Gebel Berg (American Diabetes Association) for her invaluable editorial contribution.

The position statement was reviewed and approved by the Professional Practice Committee of the American Association of Diabetes Educators, the Professional Practice Committee of the American Diabetes Association, and the House Leadership Team, the Academy Positions Committee, and the Evidence-Based Practice Committee of the Academy of Nutrition and Dietetics.

This article is being simultaneously published in *The Diabetes Educator, Diabetes Care*, and the *Journal of the Academy of Nutrition and Dietetics.*

Duality of Interest. No potential conflicts of interest relevant to this article were reported.

DOI: 10.1177/0145721715588904

© 2015 by the American Association of Diabetes Educators, the American Diabetes Association, and the Academy of Nutrition and Dietetics. Readers may use this article as long as the work is properly cited, the use is educational and not for profit, and the work is not altered.

Diabetes is a chronic disease that requires a person with diabetes to make a multitude of daily self-management decisions and perform complex care activities. Diabetes self-management education and support (DSME/S) provides the foundation to help people with diabetes to navigate these decisions and activities and has been shown to improve health outcomes.[1-7] Diabetes self-management education (DSME) is the process of facilitating the knowledge, skill, and ability necessary for diabetes self-care. Diabetes self-management support (DSMS) refers to the support that is required for implementing and sustaining coping skills and behaviors needed to self-manage on an ongoing basis (see further definitions in Table 1). Although different members of the health care team and community can contribute to this process, it is important for health care providers and their practice settings to have the resources and a systematic referral process to ensure that patients with type 2 diabetes receive both DSME and DSMS in a consistent manner. The initial DSME is typically provided by a health professional, whereas ongoing support can be provided by personnel within a practice and a variety of community-based resources. DSME/S programs are designed to address the 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.

Table 1

Key Definitions

DSME[35]
- The ongoing process of facilitating the knowledge, skill, and ability necessary for diabetes self-care.
- This process incorporates the needs, goals, and life experiences of the person with diabetes or prediabetes and is guided by evidence-based research.
- The overall objectives of DSME are to support informed decision making, self-care behaviors, problem solving, and active collaboration with the health care team and to improve clinical outcomes, health status, and quality of life.
  Note: CMS uses the term *training* instead of *education* when defining the reimbursable benefit (DSMT); the authors of this position statement use the term *education* (DSME) as reflected in the National Standards. In the context of this article, the terms have the same meaning.

Ongoing DSMS[35]
- Activities that assist the person with diabetes in implementing and sustaining the behaviors needed to manage his or her condition on an ongoing basis.
- The type of support provided can be behavioral, educational, psychosocial, or clinical.

Patient-centered care[69]
- Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

Shared decision making
- Eliciting patient perspectives and priorities and presenting options and information so patients can participate more actively in care. Shared decision making is a key component of patient-centered care[43,77] and has been shown to improve clinical, psychosocial, and behavioral outcomes.[78]

Diabetes-related distress[29,61]
- This refers to the negative emotional responses (overwhelmed, hopeless, and helpless) and perceived burden related to diabetes.

CDE[79]
- A health professional who has completed a minimum number of hours in clinical diabetes practice, passed the Certification Examination for Diabetes Educators (administered by the National Certification Board for Diabetes Educators [NCBDE]), and has responsibilities that include the direct provision of diabetes education.

BC-ADM[80]
- A health care professional who has completed a minimum number of hours in advanced diabetes management, holds a graduate degree, passed the BC-ADM certification exam (administered by the AADE), and has responsibilities of an increased complexity of decision making related to diabetes management and education.

It is the position of the American Diabetes Association (ADA) that all individuals with diabetes receive DSME/S at diagnosis and as needed thereafter.[8] This position statement focuses on the particular needs of individuals with type 2 diabetes. The needs will be similar to those of people with other types of diabetes (type 1 diabetes, prediabetes, and gestational diabetes mellitus); however, the research and examples referred to in this article focus on type 2 diabetes. The goals of the position statement are ultimately to improve the patient experience of care and education, to improve the health of individuals and populations, and to reduce diabetes-associated per capita health care costs.[9] The use of the diabetes education algorithm presented in this position statement defines when, what, and how DSME/S should be provided for adults with type 2 diabetes.

Benefits Associated With DSME/S

DSME/S has been shown to be cost-effective by reducing hospital admissions and readmissions,[10-12] as well as estimated lifetime health care costs related to a lower risk for complications.[13] Given that the cost

of diabetes in the US in 2012 was reported to be $245 billion,[14] DSME/S offers an opportunity to decrease these costs.[11,12] It has been projected that 1 in 3 individuals will develop type 2 diabetes by 2050.[15] The US health care system will be unable to afford the costs of care unless incidence rates and diabetes-related complications are reduced.

DSME/S improves hemoglobin A1C (A1C) by as much as 1% in people with type 2 diabetes.[3,7,16-20] Besides this important reduction, DSME has a positive effect on other clinical, psychosocial, and behavioral aspects of diabetes. DSME/S is reported to reduce the onset and/or advancement of diabetes complications,[21,22] to improve quality of life[19,23-26] and lifestyle behaviors such as having a more healthful eating pattern and engaging in regular physical activity,[27] to enhance self-efficacy and empowerment,[28] to increase healthy coping,[29] and to decrease the presence of diabetes-related distress[16,30] and depression.[31,32] These improvements clearly reaffirm the importance and value-added benefit of DSME. In addition, better outcomes have been shown to be associated with the amount of time spent with a diabetes educator.[3,4,7,11]

This position statement arms health care teams with the information required to better understand the educational process and expectations for DSME and DSMS and their integration into routine care. The ultimate goal of the process is a more engaged and informed patient.[33] It is recommended that all health care providers and/or systems develop processes to guarantee that all patients with type 2 diabetes receive DSME/S services and ensure that adequate resources are available in their respective communities to support these services.

Providing Diabetes Education and Support

Historically, DSME/S has been provided through a formal program where patients and family members participate in an outpatient service conducted at a hospital/health facility. In keeping with evolving health care delivery systems and in meeting the needs of primary care, DSME/S is now being incorporated into office practices, medical homes, and accountable care organizations. Receiving DSME/S in alternative and convenient settings, such as community health centers and pharmacies, and through technology-based programs is becoming more available and affords increased access.

Regardless of the setting, communicating the information and supporting skills that are necessary to promote effective coping and self-management required for day-to-day living with diabetes necessitate a personalized and comprehensive approach. Effective delivery involves experts in educational, clinical, psychosocial, and behavioral diabetes care.[34,35] Clear communication and effective collaboration among the health care team that includes a provider, an educator, and a person with diabetes are critical to ensure that goals are clear, that progress toward goals is being made, and that appropriate interventions (educational, psychosocial, medical, and/or behavioral) are being used. A patient-centered approach to DSME/S at diagnosis provides the foundation for current and future needs. Ongoing DSME/S can help the person to overcome barriers and to cope with the ongoing demands in order to facilitate changes during the course of treatment and life transitions.

Reimbursement, National Standards, and Referral

Reimbursement for DSME/S is available from the Centers for Medicare and Medicaid Services (CMS) and many private payers. Additional discipline-specific counseling, such as medical nutrition therapy (MNT) provided by a registered dietitian nutritionist, medication therapy management delivered by pharmacists, and psychosocial counseling offered by mental health professionals, is also reimbursed through CMS and/or third-party payers.[35,36]

In order to be eligible for DSME/S reimbursement, DSME/S programs must be recognized or accredited by a CMS-designated national accreditation organization (NAO). Current NAOs are the ADA and the American Association of Diabetes Educators (AADE). Both bodies assess the quality of programs using criteria established by the National Standards for DSME/S (Table 2).[35] Currently, CMS reimburses for 10 program hours of initial diabetes education and 2 hours in each subsequent year. Referrals for DSME/S must be made by a health care provider and include specified indicators, such as diabetes type, treatment plan, and reason for referral. Sample referral forms with information needed for reimbursement are available on the ADA Web site (http://professional.diabetes.org/Recognition.aspx?typ=15&cid=93574) and the AADE Web site (http://www.diabeteseducator.org/export/sites/aade/_resources/pdf/general/Diabetes_Services_Order_Form_v4.pdf).

According to the National Standards for DSME/S, at least 1 instructor responsible for designing and planning DSME/S must be a nurse, dietitian, pharmacist, or other

Table 2

National Standards for DSME/S: 10 Standards[a]

1. **Internal structure.** The organizational structure or system that supports self-management education; necessary for sustainability and ongoing self-management education and support.
2. **External input.** Ensures that providers of DSME will seek input from external stakeholders and experts to promote program quality.
3. **Access.** A system of assuring periodic reassessment of the population or community receiving self-management education to ensure that identified barriers to education are addressed.
4. **Program coordination.** The designation of an individual with responsibility for coordinating all aspects of self-management education (even if that person is the solo instructor).
5. **Instructional staff.** Identifies who can participate in the delivery of self-management education, recognizing the unique skill set of all potential providers of self-management education.
6. **Curriculum.** A set of written guidelines, including topics, methods, and tools to facilitate education for all people with diabetes; exactly what is taught will be based on patient's needs, preferences, and readiness.
7. **Individualization.** Instructor(s) will assess the patient to determine an individualized education and support plan focused on behavior change.
8. **Ongoing support.** A follow-up plan for ongoing support will be developed by the patient and instructor; communication among the team regarding goals, outcomes, and ongoing needs is essential.
9. **Participant progress.** Ongoing measurement of patient self-efficacy and success in self-management and achievement of goals; designed to continually assess needed support.
10. **Quality improvement.** Incorporation of systems to continuously look for ways to evaluate DSME/S effectiveness and to identify areas for improvement.

[a]Adapted with permission from Haas et al.[35]

trained or credentialed health professional (a certified diabetes educator [CDE] or health care professional with Board Certified-Advanced Diabetes Management [BC-ADM] certification) (Table 1) who meets specific competency and continuing education requirements.[35] This person is considered the primary instructor. Others can contribute to DSME and provide support with appropriate training and supervision. Trained community health workers, practice-based care managers, peers, and other support persons (eg, family members, social workers, and mental health counselors) have a role in helping to sustain the benefits gained from DSME.[37-41] Such staff/resources can be especially helpful in areas with diverse populations and serve as cultural navigators in health care systems and as liaisons to the community.

As an alternative to a referral to a formal DSME/S program, office-based health care teams can explore partnerships with educators within their community or assume responsibility for providing and/or coordinating some or all of the patient's diabetes education and support needs. Although this approach requires knowledge, time, and resources to effectively provide education, it offers a unique opportunity to reach patients at the point of care. This position statement and the National Standards for DSME/S are designed to serve as a resource for the health care team. Although reimbursement for education services is somewhat limited, financial benefits can be realized when an office-based program contributes to improved practice processes and patients' achievement of outcomes that can influence mandated quality measures.

Diabetes Education Algorithm

The diabetes education algorithm provides an evidence-based visual depiction of when to identify and refer individuals with type 2 diabetes to DSME/S (Figures 1 and 2) (figures are also available as a slide set at professional.diabetes.org/dsmeslides). The algorithm defines 4 critical time points for delivery and key information on the self-management skills that are necessary at each of these critical periods. The diabetes education algorithm

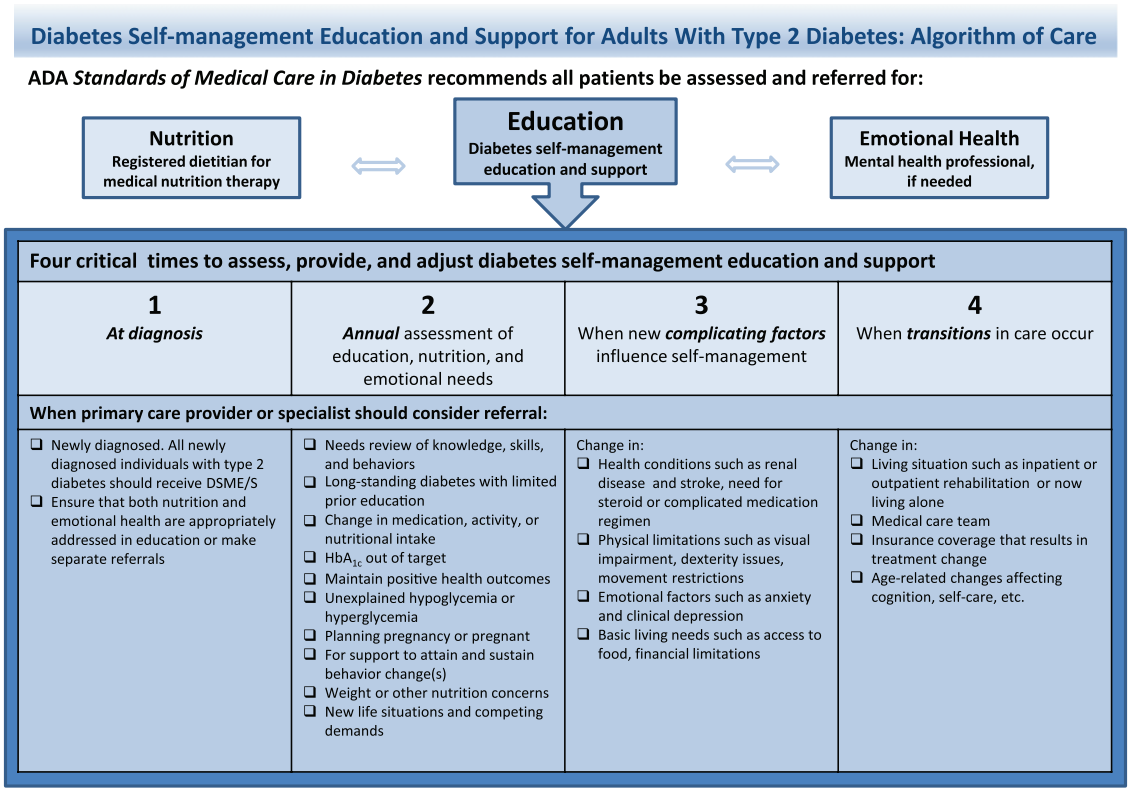


Figure 1. DSME and DSMS algorithm of care.

can be used by health care systems, staff, or teams, as well as individuals with diabetes, to guide when and how to refer to and deliver/receive diabetes education.

Guiding Principles and Patient-Centered Care

The algorithm relies on 5 guiding principles and represents how DSME/S should be provided through patient engagement, information sharing, psychosocial and behavioral support, integration with other therapies, and coordinated care (Table 3). Associated with each principle are key elements that offer specific suggestions regarding interactions with the patient and topics to address at diabetes-related clinical and educational encounters (Table 3).

Helping people with diabetes to learn and apply knowledge, skills, and behavioral, problem-solving, and coping strategies requires a delicate balance of many factors. There is an interplay between the individual and the context in which he or she lives, such as clinical status, culture, values, family, and social and community environment. The behaviors involved in DSME/S are dynamic and multidimensional.[42] In a patient-centered approach, collaboration and effective communication are considered the route to patient engagement.[43-45] This approach includes eliciting emotions, perceptions, and knowledge through active and reflective listening; asking open-ended questions; exploring the desire to learn or change; and supporting self-efficacy.[44] Through this approach, patients are better able to explore options, choose their own course of action, and feel empowered to make informed self-management decisions.[45,46] Table 4 provides a list of patient-centered assessment questions that can be used at diagnosis and at other encounters to guide the education and ongoing support process.

Critical Times to Provide Diabetes Education and Support

There are 4 critical times to assess, provide, and adjust DSME/S[47]: (1) with a new diagnosis of type 2 diabetes, (2) annually for health maintenance and prevention of complications, (3) when new complicating factors influence self-management, and (4) when transitions in care

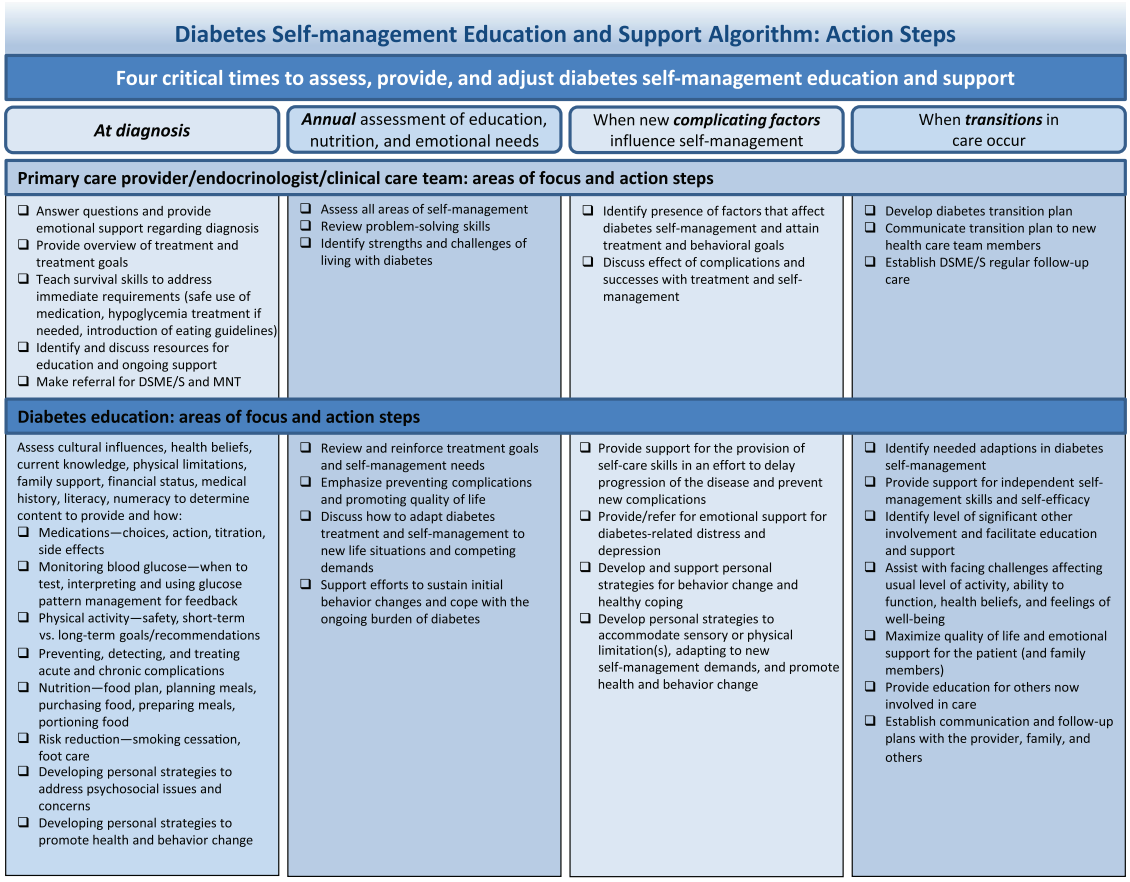


Figure 2. Content for DSME and DSMS at 4 critical time points.

occur (Figures 1 and 2). Although 4 distinct time-related opportunities are listed, it is important to recognize that type 2 diabetes is a chronic condition and situations can arise at any time that require additional attention to self-management needs. Whereas patients' needs are continuous (Figure 1), these 4 critical times demand assessment and, if needed, intensified reeducation and self-management planning and support.

The AADE7 Self-Care Behaviors provide a framework for identifying topics to include at each time: healthy eating, being active, monitoring, taking medication, problem solving, reducing risks, and healthy coping. The educational content listed in each box in Figure 2 is not intended to be all-inclusive, as specific needs will depend on the patient. However, these topics can guide the educational assessment and plan. Mastery of skills and behaviors takes practice and experience. Often a series of ongoing education and support visits are necessary to provide the time for a patient to practice new skills and behaviors and to form habits that support self-management goals.

New Diagnosis of Diabetes

The diagnosis of diabetes is often overwhelming.[48] The emotional response to the diagnosis can be a significant barrier for education and self-management. Education at diagnosis should focus on safety concerns (some refer to this as survival-level education) and "what do I need to do once I leave the doctor's office or hospital." To begin the process of coping with the diagnosis and incorporating self-management into daily life, a diabetes educator or someone on the care team should work closely with the individual and his or her family members to answer immediate questions, address initial concerns, and provide support and referrals to needed resources.

At diagnosis, important messages should be communicated that include acknowledgment that all types of diabetes need to be taken seriously, complications are not

Table 3

Guiding Principles and Key Elements of Initial and Ongoing DSME/S[45,58,81]

Engagement. Provide DSME/S and care that reflects person's life, preferences, priorities, culture, experiences, and capacity.
- Solicit and respond to questions
- Focus on decisions, reasons for the decisions, and results
- Ask about strengths and challenges
- Use shared decision making and principles of patient-centered care to guide each visit
- Engage the patient in a dialogue about current self-management successes, concerns, and struggles
- Engage the patient in a dialogue about therapy and changes in treatment
- Remain "solution neutral" and support patient identifying solution(s)
- Provide support and education to patient's family and caregiver

Information sharing. Determine what the patient needs to make decisions about daily self-management.
- Discuss that DSME/S is an important and essential part of diabetes management
- Describe that DSME/S is needed throughout the life cycle and is on a continuum from prediabetes, newly diagnosed diabetes, health maintenance/follow-up, early to late diabetes complications, and transitions in care related to changes in health status and developmental or life changes
- Avoid being didactic
- Provide "need-to-know" information and avoid providing the encyclopedia on diabetes
- Review that diabetes treatment will change over time
- Provide information to the patient using the above engagement key elements
- Take advantage of "teachable moments" to provide information specific to the patient's care and treatment
- Assess DSME/S patient/family needs for the behavioral and psychosocial aspects of informed decision making

Psychosocial and behavioral support. Address the psychosocial and behavioral aspects of diabetes.
- Assess and address emotional and psychosocial concerns, such as diabetes-related distress and depression
- Present that diabetes-related distress and a range of emotions are common and that stress can raise blood glucose and blood pressure levels
- Discuss that diabetes self-management is challenging but worth the effort
- Support self-efficacy and self-confidence in self-management decisions and abilities
- Support action by the patient to identify self-management problems and develop strategies to solve those problems, including self-selected behavioral goal setting
- Note that it takes about 2 to 8 months to change a habit/learn/apply behavior
- Address the whole person
- Include family members and/or support system in the educational and ongoing support process
- Refer to community, online, and other resources

Integration with other therapies. Ensure integration and referrals with and for other therapies.
- Ensure access to ongoing MNT
- Recommend additional referrals as needed for behavioral therapy, medication management, physical therapy, etc.
- Address factors that limit the application of diabetes self-management activities
- Advocate for easy access to social services programs that address basic life needs and financial resources
- Identify resources and services that support the implementation of therapies in health care and community settings

Coordination of care across specialty care, facility-based care, and community organizations. Ensure collaborative care and coordination with treatment goals.
- Understand primary care provider and specialist's treatment targets
- Provide overview of DSME/S to referring providers
- Follow medication adjustment protocols or make necessary recommendation to primary care provider
- Correspond with referring provider about education plan, progress toward treatment goals, and needs to coordinate education and support from entire clinical team; ensure documentation in the health record
- Ensure provision of culturally appropriate care
- Use evidence-based decision support
- Use performance data to identify opportunities for improvement

Table 4

Sample Questions to Guide a Patient-Centered Assessment[82]

• How is diabetes affecting your daily life and that of your family?
• What questions do you have?
• What is the hardest part right now about your diabetes, causing you the most concern or most worrisome to you about your diabetes?
• How can we best help you?
• What is one thing you are doing or can do to better manage your diabetes?

inevitable, and a range of emotional responses is common. Educators should also emphasize the importance of involving family members and/or significant others and of ongoing education and support. The patient should understand that treatment will change over time as type 2 diabetes progresses and that changes in therapy do not mean that the patient has failed. Finally, type 2 diabetes is largely self-managed and DSME and DSMS involve trial and error. The task of self-management is not easy, yet worth the effort.[49]

Other diabetes education topics that are typically covered during the visits at the time of diagnosis are treatment targets, psychosocial concerns, behavior change strategies (eg, self-directed goal setting), taking medications, purchasing food, planning meals, identifying portion sizes, physical activity, checking blood glucose, and using results for pattern management.

At diagnosis of type 2 diabetes, education needs to be tailored to the individual and his or her treatment plan. At a minimum, plans for nutrition therapy and physical activity need to be addressed. Based on the patient's medication and monitoring recommendations, themes such as hypoglycemia identification and treatment, interpreting glucose results, risk reduction, and so on may need to be considered. Patients are supported when personalized education and self-management plans are developed in collaboration with the patients and their primary care provider. Depending on the qualifications of the diabetes educator or staff member facilitating these steps, additional referrals to a registered dietitian nutritionist for MNT, mental health provider, or other specialist may be needed.

Individuals requiring insulin should receive additional education so that the insulin regimen can be coordinated with the patient's eating pattern and physical activity habits.[50,51] Patients presenting at the time of diagnosis with diabetes-related complications or other health issues may need additional or reprioritized education to meet specific needs.

Annual Assessment of Education, Nutrition, and Emotional Needs

The health care team and others can help to promote the adoption and maintenance of new diabetes management tasks,[52] yet sustaining these behaviors is frequently difficult. Thus, annual assessments of knowledge, skills, and behaviors are necessary for those who do meet the goals as well as for those who do not.

Annual visits for diabetes education are recommended to assess all areas of self-management, review behavior change and coping strategies and problem-solving skills, identify strengths and challenges of living with diabetes, and make adjustments in therapy.[35,52] The primary care provider or clinical team can conduct this review and refer to a DSME/S program as indicated. More frequent DSME/S visits may be needed when the patient is starting a new diabetes medication or experiencing unexplained hypoglycemia or hyperglycemia, goals and targets are not being met, clinical indicators are worsening, and there is a need to provide preconception planning. Importantly, the educator is charged with communicating the revised plan to the referring provider.

Family members are an underutilized resource for ongoing support and often struggle with how to best provide this help.[53,54] Including family members in the DSME/S process on at least an annual basis can help to facilitate their positive involvement.[55-57]

Since the patient has now experienced living with diabetes, it is important to begin each maintenance visit by asking the patient about successes he or she has had and any concerns, struggles, and questions. The focus of each session should be on patient decisions and issues—what choices has the patient made, why has the patient made those choices, and if those decisions are helping

the patient to attain his or her goals—*not* on perceived adherence to recommendations. Instead, it is important for the patient/family members to determine their clinical, psychosocial, and behavioral goals and to create realistic action plans to achieve those goals. Through shared decision making, the plan is adjusted as needed in collaboration with the patient. To help to reinforce plans made at the visit and support ongoing self-management, the patient should be asked at the close of a visit to "teach-back" what was discussed during the session and to identify one specific behavior to target or prioritize.[58]

Diabetes-Related Complications and Other Factors Influencing Self-management

The identification of diabetes complications or other patient factors that may influence self-management should be considered a critical indicator for diabetes education that requires immediate attention and adequate resources. During routine medical care, the provider may identify factors that influence treatment and the associated self-management plan. These factors may include the patient's ability to manage and cope with diabetes complications, other health conditions, medications, physical limitations, emotional needs, and basic living needs. These factors may be identified at the initial diabetes encounter or may arise at any time. Such patient factors influence the clinical, psychosocial, and behavioral aspects of diabetes care.

The diagnosis of additional health conditions and the potential need for additional medications can complicate self-management for the patient. Diabetes education can address the integration of multiple medical conditions into overall care with a focus on maintaining or appropriately adjusting medication, eating plan, and physical activity levels to maximize outcomes and quality of life. In addition to the introduction of new self-care skills, effective coping, defined as a positive attitude toward diabetes and self-management, positive relationships with others, and quality of life, can be addressed in DSME/S.[29] Additional and focused emotional support may be needed for anxiety, stress, and diabetes-related distress and/or depression.

Diabetes-related health conditions can cause physical limitations, such as visual impairment, dexterity issues, and physical activity restrictions. Diabetes educators can help patients to manage limitations through education and various support resources. For example, educators can help patients to access large-print or talking glucose meters that benefit those with visual impairments and specialized aids for insulin users that can help those with visual and/or dexterity limitations.

Psychosocial and emotional factors have many contributors and include diabetes-related distress, life stresses, anxiety, and depression. In fact, these factors are often considered complications of diabetes and result in poorer diabetes outcomes.[59,60] Diabetes-related distress (see definition in Table 1) is particularly common, with prevalence rates of 18% to 35% and an 18-month incidence of 38% to 48%.[61] It has a greater impact on behavioral and metabolic outcomes than does depression.[61] Diabetes-related distress is responsive to intervention, including DSME/S and focused attention.[30] Although the National Standards for DSME/S include the development of strategies to address psychosocial issues and concerns,[35] additional mental health resources are generally required to address severe diabetes-related distress, clinical depression, and anxiety.

Social factors, including difficulty paying for food, medications, monitoring and other supplies, medical care, housing, or utilities, negatively affect metabolic control and increase resource use.[62] When basic living needs are not met, diabetes self-management becomes increasingly difficult. Basic living needs include food security, adequate housing, safe environment, and access to medications and health care. Education staff can address such issues, provide information about available resources, and collaborate with the patient to create a self-management plan that reflects these challenges.

If complicating factors are present during initial education or a maintenance session, the DSME/S educators can either directly address these factors or arrange for additional resources. However, complicating factors may arise at any time; providers should be prepared to promptly refer patients who develop complications or other issues for diabetes education and ongoing support.

Transitional Care and Changes in Health Status

Throughout the life span, changes in age, health status, living situation, or health insurance coverage may require a reevaluation of the diabetes care goals and self-management needs. Critical transition periods include transitioning into adulthood, hospitalization, and moving into

an assisted living facility, skilled nursing facility, correctional facility, or rehabilitation center.

DSME/S affords important benefits to patients during a life transition. Providing input into the development of practical and realistic self-management and treatment plans can be an effective asset for successful navigation of changing situations. A written plan prepared in collaboration with diabetes educators, the patient, family members, and caregivers to identify deficits, concerns, resources, and strengths can help to promote a successful transition. The plan should include personalized diabetes treatment targets; a medical, educational, and psychosocial history; hypo- and hyperglycemia risk factors; nutritional needs; resources for additional support; and emotional considerations.[63,64]

The health care provider can make a referral to a diabetes educator to develop or provide input to the transition plan, provide education, and support successful transitions. The goal is to minimize disruptions in therapy during the transition while addressing clinical, psychosocial, and behavioral needs.

MNT as an Adjunct to DSME/S Programs

The National Standards for DSME/S list "incorporating nutritional management into lifestyle" as 1 of 9 core topics in a comprehensive program.[35] Some DSME/S programs include MNT services delivered by a registered dietitian nutritionist, whereas other programs provide basic nutrition guidance and rely on referrals for MNT. DSME/S referral forms often include referral for MNT to help to coordinate care (ADA and AADE referral forms). The ADA publishes nutrition recommendations that detail nutrition therapy goals and nutrition and eating pattern recommendations.[65] All members of the health care team should be versed in the basic principles of diabetes nutrition therapy so that they can facilitate basic meal planning, clarify misconceptions, and/or provide reinforcement of the nutrition plan developed collaboratively by the registered dietitian nutritionist and the patient (Table 5).

Overcoming Barriers That Limit Access and Receipt of DSME/S

The number of people with type 2 diabetes who receive DSME/S, despite its proven benefits, is low. For example, only 6.8% of individuals with newly diagnosed type 2 diabetes with private health insurance participated in DSME/S within 12 months of diagnosis.[66] Furthermore, only 4% of Medicare participants received DSME/S and/or MNT.[4] To increase the number of individuals with diabetes who receive DSME/S services described in this position statement, it is necessary to consider the barriers that currently limit provision. Barriers are associated with a number of factors, including the health system, the individual health care professional, community resources, and the individual with diabetes. Barriers can include a misunderstanding of the necessity and effectiveness of DSME/S, confusion regarding when and how to make referrals, lack of access to DSME/S services, and patient psychosocial and behavioral factors.[67] Provider misconceptions that can limit access to DSME/S include a misunderstanding of reimbursement issues and the misconception that one or a few initial education visits are adequate to provide patients with the skills needed for lifelong self-management. Lack of or poor reimbursement for DSME/S also can hamper patients' participation. Even when DSME/S programs are operating at peak service, they often struggle to cover costs—making it easy to eliminate programs despite their wider influence on reducing costs and improving health outcomes.[13]

Although people with diabetes report wanting to be actively engaged in their health care, most indicate that they are not actively engaged by their providers and that education and psychological services are not readily available.[68] In order to enhance patient and family engagement in DSME/S, provider communication about the necessity of self-management to achieve treatment and quality-of-life goals and the essential nature of both DSME and ongoing support throughout a lifetime of diabetes is essential (Table 3).

Removing barriers to access and increasing quality care can be achieved by using data to coordinate care and build workforce capacity.[69] The US health care paradigm is changing with increased attention on primary care practices, technology, and quality measures.[70]

Studies have shown that implementing DSME programs that directly connect with primary care and rely on technology is effective in improving clinical, psychosocial, and behavioral outcomes.[16,71-74] Patients receiving care in these practice settings report more confidence in provider communication and satisfaction with direct access to an educator for information and ongoing support.[16]

Despite the proven value and effectiveness of diabetes education and support services, one of the biggest

Table 5

Overview of MNT

MNT is an evidence-based application of the nutrition care process provided by the registered dietitian nutritionist. It includes an individualized nutrition assessment, nutrition diagnosis, intervention and monitoring, and evaluation and is the legal definition of nutrition counseling by a registered dietitian nutritionist practicing in the US.[8]
1. Characteristics of MNT reducing A1C by 0.5% to 2% for type 2 diabetes: • Series of 3 to 4 encounters with a registered dietitian nutritionist lasting from 45 to 90 minutes; the registered dietitian nutritionist should determine if additional encounters are needed • Series of encounters should begin at diagnosis of diabetes or at first referral to a registered dietitian nutritionist for MNT for diabetes and should be completed within 3 to 6 months • At least 1 follow-up encounter is recommended annually to reinforce lifestyle changes and to evaluate and monitor outcomes that indicate the need for changes in MNT or medication(s)
2. MNT provides nutrition assessment, nutrition diagnosis, and an intervention and management plan including the creation of individualized food plan and support for the following: • Individualized modification of food plan/physical activity/medication dosing for improved postprandial control, hypoglycemia prevention, and overall glycemic improvement • Individualized modification of carbohydrate, protein, fat, and sodium intake and guidance to achieve lipid and blood pressure goals • Individualized weight management planning and coaching • Education and support on additional topics to promote flexibility in meal planning, food purchasing/preparation, recipe modification, and eating away from home • Individualized modification of food plan for managing related complications and comorbidities such as celiac disease, gastroparesis, eating disorders/disordered eating, kidney disease, and so on
3. CMS reimburses for diabetes MNT when provided by a qualified practitioner (ie, registered dietitian nutritionist). Many other payers also provide reimbursement. MNT services are included on the ADA and AADE DSME/S referral forms. A separate MNT referral form is available from the Academy of Nutrition and Dietetics at http://www.eatrightpro.org/~/media/eatrightpro%20files/about%20us/what%20is%20an%20rdn%20and%20dtr/mnt_referral_form_15_jul_14.ashx.
Note: The Academy of Nutrition and Dietetics recognizes the use of registered dietitian (RD) and registered dietitian nutritionist (RDN). RD and RDN can only be used by those credentialed by the Commission on Dietetic Registration.

looming threats to their success is low utilization, which has recently forced many such programs to close. The current reimbursement model and mandate for provider referrals will continue to be limiting factors for access to and participation in DSME/S. The health care community needs processes that support referrals and reimbursement practices; otherwise, it will be increasingly more difficult to sustain DSME/S services. Attention to these challenges needs to be met to provide access particularly for areas such as rural and underserved communities.

Conclusion

Diabetes is a complex and burdensome disease that requires the person with diabetes to make numerous daily decisions regarding food, physical activity, and medications. It also necessitates that the person be proficient in a number of self-management skills.[35,75,76] In order for people to learn the skills necessary to be effective self-managers, DSME is critical in laying the foundation with ongoing support to maintain gains made during education. Despite proven benefits and general acceptance, the numbers of patients who are referred to and receive DSME/S are disappointingly small. This position statement and algorithm provide the evidence and strategies for the provision of education and support services to all adults living with type 2 diabetes. It is imperative that the health care community, responsible for delivering quality care, mobilizes efforts to address the barriers and explores resources for DSME/S in order to meet the needs of adults living with and managing type 2 diabetes.

References

1. Brunisholz KD, Briot P, Hamilton S, et al. Diabetes self-management education improves quality of care and clinical outcomes determined by a diabetes bundle measure. *J Multidiscip Healthc*. 2014;7:533-542.
2. Weaver RG, Hemmelgarn BR, Rabi DM, et al. Association between participation in a brief diabetes education programme and glycaemic control in adults with newly diagnosed diabetes. *Diabet Med*. 2014;31:1610-1614.
3. Steinsbekk A, Rygg LO, Lisulo M, Rise MB, Fretheim A. Group based diabetes self-management education compared to routine treatment for people with type 2 diabetes mellitus. A systematic review with meta-analysis. *BMC Health Serv Res*. 2012;12:213.
4. Duncan I, Birkmeyer C, Coughlin S, Li Q, Sherr D, Boren S. Assessing the value of diabetes education. *Diabetes Educ*. 2009;35:752-760.
5. Fan L, Sidani S. Effectiveness of diabetes self-management education intervention elements: a meta-analysis. *Can J Diabetes*. 2009;33:18-26.
6. Ellis SE, Speroff T, Dittus RS, Brown A, Pichert JW, Elasy TA. Diabetes patient education: a meta-analysis and meta-regression. *Patient Educ Couns*. 2004;52:97-105.
7. Norris SL, Lau J, Smith SJ, Schmid CH, Engelgau MM. Self-management education for adults with type 2 diabetes: a meta-analysis of the effect on glycemic control. *Diabetes Care*. 2002;25:1159-1171.
8. American Diabetes Association. Standards of medical care in diabetes—2015. *Diabetes Care*. 2015;38(suppl 1):S5-S87.
9. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. *Health Aff (Millwood)*. 2008;27:759-769.
10. Healy SJ, Black D, Harris C, Lorenz A, Dungan KM. Inpatient diabetes education is associated with less frequent hospital readmission among patients with poor glycemic control. *Diabetes Care*. 2013;36:2960-2967.
11. Duncan I, Ahmed T, Li QE, et al. Assessing the value of the diabetes educator. *Diab Educ*. 2011;37:638-657.
12. Robbins JM, Thatcher GE, Webb DA, Valdmanis VG. Nutritionist visits, diabetes classes, and hospitalization rates and charges: the Urban Diabetes Study. *Diabetes Care*. 2008;31:655-660.
13. Brown HS III, Wilson KJ, Pagán JA, et al. Cost-effectiveness analysis of a community health worker intervention for low-income Hispanic adults with diabetes. *Prev Chronic Dis*. 2012;9:E140.
14. American Diabetes Association. Economic costs of diabetes in the U.S. in 2012. *Diabetes Care*. 2013;36:1033-1046.
15. Boyle JP, Thompson TJ, Gregg EW, Barker LE, Williamson DF. Projection of the year 2050 burden of diabetes in the US adult population: dynamic modeling of incidence, mortality, and prediabetes prevalence. *Popul Health Metr*. 2010;8:29.
16. Siminerio L, Ruppert K, Huber K, Toledo FG. Telemedicine for Reach, Education, Access, and Treatment (TREAT): linking telemedicine with diabetes self-management education to improve care in rural communities. *Diabetes Educ*. 2014;40:797-805.
17. Tshiananga JK, Kocher S, Weber C, Erny-Albrecht K, Berndt K, Neeser K. The effect of nurse-led diabetes self-management education on glycosylated hemoglobin and cardiovascular risk factors: a meta-analysis. *Diabetes Educ*. 2012;38:108-123.
18. Welch G, Zagarins SE, Feinberg RG, Garb JL. Motivational interviewing delivered by diabetes educators: does it improve blood glucose control among poorly controlled type 2 diabetes patients? *Diabetes Res Clin Pract*. 2011;91:54-60.
19. Deakin T, McShane CE, Cade JE, Williams RD. Group based training for self-management strategies in people with diabetes mellitus. *Cochrane Database Syst Rev*. 2005;(2):CD003417.
20. Gary TL, Genkinger JM, Guallar E, Peyrot M, Brancati FL. Meta-analysis of randomized educational and behavioral interventions in type 2 diabetes. *Diabetes Educ*. 2003;29:488-501.
21. The Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med*. 1993;329:977-986.
22. Stratton IM, Adler AI, Neil HA, et al. Association of glycaemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study. *BMJ*. 2000;321:405-412.
23. Cooke D, Bond R, Lawton J, et al.; UK NIHR DAFNE Study Group. Structured type 1 diabetes education delivered within routine care: impact on glycemic control and diabetes-specific quality of life. *Diabetes Care*. 2013;36:270-272.
24. Cochran J, Conn VS. Meta-analysis of quality of life outcomes following diabetes self-management training. *Diabetes Educ*. 2008;34:815-823.
25. Trento M, Passera P, Borgo E, et al. A 5-year randomized controlled study of learning, problem solving ability, and quality of life modifications in people with type 2 diabetes managed by group care. *Diabetes Care*. 2004;27:670-675.
26. Toobert DJ, Glasgow RE, Strycker LA, et al. Biologic and quality-of-life outcomes from the Mediterranean Lifestyle Program: a randomized clinical trial. *Diabetes Care*. 2003;26:2288-2293.
27. Toobert DJ, Strycker LA, King DK, Barrera M Jr, Osuna D, Glasgow RE. Long-term outcomes from a multiple-risk-factor diabetes trial for Latinas: ¡*Viva Bien*!. *Transl Behav Med*. 2011;1:416-426.
28. Tang TS, Funnell MM, Oh M. Lasting effects of a 2-year diabetes self-management support intervention: outcomes at 1-year follow-up. *Prev Chronic Dis*. 2012;9:E109.
29. Thorpe CT, Fahey LE, Johnson H, Deshpande M, Thorpe JM, Fisher EB. Facilitating healthy coping in patients with diabetes: a systematic review. *Diabetes Educ*. 2013;39:33-52.
30. Fisher L, Hessler D, Glasgow RE, et al. REDEEM: a pragmatic trial to reduce diabetes distress. *Diabetes Care*. 2013;36:2551-2558.
31. Hermanns N, Schmitt A, Gahr A, et al. The effect of a diabetes-specific cognitive behavioral treatment program (DIAMOS) for patients with diabetes and subclinical depression: results of a randomized controlled trial. *Diabetes Care*. 2015;38:551-560.
32. de Groot M, Doyle T, Kushnick M, et al. Can lifestyle interventions do more than reduce diabetes risk? Treating depression in adults with type 2 diabetes with exercise and cognitive behavioral therapy. *Curr Diab Rep*. 2012;12:157-166.
33. Wagner EH, Bennett SM, Austin BT, Greene SM, Schaefer JK, Vonkorff M. Finding common ground: patient-centeredness and evidence-based chronic illness care. *J Altern Complement Med*. 2005;11(suppl 1):S7-S15.
34. Bowen ME, Rothman RL. Multidisciplinary management of type 2 diabetes in children and adolescents. *J Multidiscip Healthc*. 2010;3:113-124.

35. Haas L, Maryniuk M, Beck J, et al.; 2012 Standards Revision Task Force. National Standards for diabetes self-management education and support. *Diabetes Care*. 2012;35:2393-2401.
36. American Association of Diabetes Educators. Reimbursement tips for primary care practice. http://www.diabeteseducator.org/export/sites/aade/_resources/pdf/reimbursement_tips_2009.pdf. Accessed March 24, 2015.
37. Tang TS, Funnell M, Sinco B, et al. Comparative effectiveness of peer leaders and community health workers in diabetes self-management support: results of a randomized controlled trial. *Diabetes Care*. 2014;37:1525-1534.
38. Thom DH, Ghorob A, Hessler D, De Vore D, Chen E, Bodenheimer TA. Impact of peer health coaching on glycemic control in low-income patients with diabetes: a randomized controlled trial. *Ann Fam Med*. 2013;11:137-144.
39. Tang TS, Ayala GX, Cherrington A, Rana G. A review of volunteer-based peer support interventions in diabetes. *Diabetes Spectrum*. 2011;24:85-98.
40. Funnell MM. Peer-based behavioural strategies to improve chronic disease self-management and clinical outcomes: evidence, logistics, evaluation considerations and needs for future research. *Fam Pract*. 2010;27(suppl 1):i17-i22.
41. Heisler M. Overview of peer support models to improve diabetes self-management and clinical outcomes. *Diabetes Spectrum*. 2007;20:214-221.
42. Marrero DG, Ard J, Delamater AM, et al. Twenty-first century behavioral medicine: a context for empowering clinicians and patients with diabetes: a consensus report. *Diabetes Care*. 2013;36:463-470.
43. Inzucchi SE, Bergenstal RM, Buse JB, et al. Management of hyperglycemia in type 2 diabetes: a patient-centered approach: position statement of the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetes Care*. 2012;35:1364-1379.
44. Miller WR, Rollnick S. Why do people change? In: *Motivational Interviewing: Preparing People for Change*. 2nd ed. New York: Guilford Press; 2002: 3-12.
45. Funnell MM, Anderson RM. Empowerment and self-management of diabetes. *Clinical Diabetes*. 2004;22:123-127.
46. Rollnick S, Mason P, Butler C. *Health Behavior Change: A Guide for Practitioners*. London: Churchill Livingstone; 1999.
47. Weinger K, MacNeil T, Greenlaw SM. Behavioral strategies for improving self-management. In: Childs BP, Cypress M, Spollett G, eds. *Complete Nurse's Guide to Diabetes Care*. 3rd ed. Alexandria, VA: American Diabetes Association; In press.
48. Skovlund SE, Peyrot M. The Diabetes Attitudes, Wishes, and Needs (DAWN) program: a new approach to improving outcomes of diabetes care. *Diabetes Spectrum*. 2005;18:136-142.
49. Weiss MA, Funnell MM. In the beginning: setting the stage for effective diabetes care. *Clinical Diabetes*. 2009;27:149-151.
50. Philis-Tsimikas A, Walker C. Improved care for diabetes in underserved populations. *J Ambul Care Manage*. 2001;24:39-43.
51. Karter AJ, Subramanian U, Saha C, et al. Barriers to insulin initiation: the Translating Research Into Action for Diabetes Insulin Starts Project. *Diabetes Care*. 2010;33:733-735.
52. American Association of Diabetes Educators. AADE position statement. Individualization of diabetes self-management education. *Diabetes Educ*. 2007;33:45-49
53. Kovacs Burns K, Nicolucci A, Holt RI, et al; DAWN2 Study Group. Diabetes Attitudes, Wishes and Needs second study (DAWN2™): cross-national benchmarking indicators for family members living with people with diabetes. *Diabet Med*. 2013;30:778-788.
54. Peyrot M, Kovacs Burns K, Davies M, et al. Diabetes Attitudes Wishes and Needs 2 (DAWN2): a multinational, multi-stakeholder study of psychosocial issues and person-centered diabetes care. *Diabetes Res Clin Pract*. 2013;99:174-184.
55. Vaccaro JA, Exebio JC, Zarini GD, Huffman FG. The role of family/friend social support in diabetes self-management for minorities with type 2 diabetes. *J Nutrition Health*. 2014;2:1-9.
56. Armour TA, Norris SL, Jack L Jr, Zhang X, Fisher L. The effectiveness of family interventions in people with diabetes mellitus: a systematic review. *Diabet Med*. 2005;22:1295-1305.
57. Gallant MP. The influence of social support on chronic illness self-management: a review and directions for research. *Health Educ Behav*. 2003;30:170-195.
58. Funnell MM, Anderson RM, Piatt GA. Empowerment, engagement, and shared decision making in the real world of clinical practice. *Consultant*. 2014;53:358-362.
59. Chew BH, Shariff-Ghazali S, Fernandez A. Psychological aspects of diabetes care: effecting behavioral change in patients. *World J Diabetes*. 2014;5:796-808.
60. Peyrot M, Rubin RR, Lauritzen T, Snoek FJ, Matthews DR, Skovlund SE. Psychosocial problems and barriers to improved diabetes management: results of the cross-national Diabetes Attitudes, Wishes and Needs (DAWN) study. *Diabet Med*. 2005;22:1379-1385.
61. Fisher L, Hessler DM, Polonsky WH, Mullan J. When is diabetes distress clinically meaningful? Establishing cut points for the Diabetes Distress Scale. *Diabetes Care*. 2012;35:259-264.
62. Berkowitz BA, Meigs JB, DeWalt D, et al. Material need insecurities, control of diabetes mellitus, and use of health care resources: results of the Measuring Economic Insecurity in Diabetes study. *JAMA Intern Med*. 2015;175:257-265.
63. American Association of Diabetes Educators. The American Association of Diabetes Educators position statement: self-monitoring of blood glucose using glucose meters in the management of type 2 diabetes. http://www.diabeteseducator.org/export/sites/aade/_resources/pdf/publications/Self-Monitoring_of_Blood_Glucose_FinalVersion.pdf. Accessed April 24, 2015.
64. Hess-Fischl A. Practical management of patient with diabetes in critical care. From a diabetes educator's perspective. *Crit Care Nurs Q*. 2004;27:189-200.
65. Evert AB, Boucher JL, Cypress M, et al. Nutrition therapy recommendations for the management of adults with diabetes. *Diabetes Care*. 2013;36:3821-3842.
66. Li R, Shrestha SS, Lipman R, Burrows NR, Kolb LE, Rutledge S. Diabetes self-management education and training among privately insured persons with newly diagnosed diabetes—United States, 2011-2012. *MMWR Morb Mortal Wkly Rep*. 2014;63:1045-1049.
67. Peyrot M, Rubin RR, Funnell MM, Siminerio LM. Access to diabetes self-management education: results of national surveys of patients, educators, and physicians. *Diabetes Educ*. 2009;35:246-263.
68. Nicolucci A, Kovacs Burns K, Holt RI, et al.; DAWN2 Study Group. Diabetes Attitudes, Wishes and Needs second study (DAWN2™): cross-national benchmarking of diabetes-related

psychosocial outcomes for people with diabetes. *Diabet Med*. 2013;30:767-777.

69. Institute of Medicine Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press; 2001.
70. Cusack CM, Knudson AD, Kronstadt JL, Singer RF, Brown AL. Practice-based population health: information technology to support transformation to proactive primary care (prepared for the AHRQ National Resource Center for Health Information Technology under contract no. 290-04-0016). AHRQ publication no. 10-0092-EF. Rockville, MD: Agency for Healthcare Research and Quality; 2010.
71. Phillips LS, Barb D, Yong C, et al. Translating what works: a new approach to improve diabetes management [published online March 9, 2015]. *J Diabetes Sci Technol*. doi:10.1177/1932296815576000
72. Shea S, Weinstock RS, Teresi JA, et al; IDEATel Consortium. A randomized trial comparing telemedicine case management with usual care in older, ethnically diverse, medically underserved patients with diabetes mellitus: 5 year results of the IDEATel study. *J Am Med Inform Assoc*. 2009;16:446-456.
73. Hunt JS, Siemienczuk J, Gillanders W, et al. The impact of a physician-directed health information technology system on diabetes outcomes in primary care: a pre- and post-implementation study. *Inform Prim Care*. 2009;17:165-174.
74. Siminerio L, Ruppert KM, Gabbay RA. Who can provide diabetes self-management support in primary care? Findings from a randomized controlled trial. *Diabetes Educ*. 2013;39:705-713.
75. Piette JD, Heisler M, Wagner TH. Cost-related medication underuse among chronically ill adults: the treatments people forgo, how often, and who is at risk. *Am J Public Health*. 2004;94:1782-1787.
76. Delamater AM. Improving patient adherence. *Clinical Diabetes*. 2006;24:71-77.
77. Charles C, Gafni A, Whelan T. Decision-making in the physician-patient encounter: revisiting the shared treatment decision-making model. *Soc Sci Med*. 1999;49:651-661.
78. Parchman ML, Zeber JE, Palmer RF. Participatory decision making, patient activation, medication adherence, and intermediate clinical outcomes in type 2 diabetes: a STARNet study. *Ann Fam Med*. 2010;8:410-417.
79. National Certification Board for Diabetes Educators. What is a certified diabetes educator? www.ncbde.org/certification_info/what-is-a-cde. Accessed March 13, 2015.
80. American Association of Diabetes Educators. Board Certified-Advanced Diabetes Management Certification. http://www.diabeteseducator.org/ProfessionalResources/Certification/BC-ADM/. Accessed March 2, 2015.
81. Powers MA, Davidson J, Bergenstal RM. Glucose pattern management teaches glycemia-related problem-solving skills in a diabetes self-management education program. *Diabetes Spectrum*. 2013;26:91-97.
82. Funnell MM, Bootle S, Stuckey HL. The diabetes attitudes, wishes and needs second study. *Clinical Diabetes*. 2015;33:32-36.

For reprints and permission queries, please visit SAGE's Web site at http://www.sagepub.com/journalsPermissions.nav.