ABSTRACT
Registered dietitians (RDs) have a defined and unique role in care for patients with diabetes that differs depending on whether the service is for medical nutrition therapy (MNT) or part of a diabetes self-management training (DSMT) program (DSMT and diabetes self-management education [DSME] are used interchangeably in this article). The purpose of this article is to describe the current regulatory and practice framework that supports nutrition care under Medicare Part B for people with diabetes. A description of MNT and DSMT provided under Medicare Part B is included. The role of RDs and other health care professionals involved as program instructors in DSMT programs is also addressed. Revisions to the National Standards for Diabetes Self-Management Education are discussed to clarify RDs’ involvement in DSME programs.

All health care professionals, including registered dietitians (RDs), must be accountable for upholding Medicare and other regulations for care of patients with diabetes. Medicare regulations define the unique program requirements that qualified providers must follow for medical nutrition therapy (MNT) and diabetes self-management training (DSMT) program compliance (note DSMT and diabetes self-management education [DSME] are used interchangeably in this article) (for definitions of terms, see Figure 1). Medicare MNT involves comprehensive clinical care provided by licensed/certified (as applicable) RDs and nutrition professionals. Nationally recognized protocols are required for the delivery of MNT services. Under Medicare regulations, DSMT includes a nutrition education component based on the National Standards for Diabetes Self-Management Education, which is endorsed by the American Diabetes Association to promote quality education for people with diabetes. The American Diabetes Association Education Recognition Program assesses whether or not DSMT applicants meet the National Standards for Diabetes Self Management Education (1). All DSMT programs must be accredited as meeting quality standards by a national accreditation organization approved by the Centers for Medicare & Medicaid Services (CMS). Currently, CMS recognizes the American Diabetes Association and the Indian Health Service as approved national accreditation organizations (2).

CMS has described the features of MNT and DSMT, and determined that provision of both benefits may be more medically effective for some beneficiaries than receipt of just one of the benefits. Thus, health care professionals must recognize and respect the unique components that distinguish the education and training curriculum included in Medicare DSMT programs, and the nutritional diagnostic, therapy, and counseling services provided through Medicare MNT.

The Standards of Practice and Standards of Professional Performance for Registered Dietitians (Generalist, Specialty, and Advanced) in Diabetes Care (3) describe levels of performance for RDs who care for patients with diabetes. In addition, the patient-focused Nutrition Care Process (NCP) for RDs also provides insight and language to distinguish nutrition education and nutrition counseling interventions (4).

MNT and DSMT services are well defined by Medicare, but their coverage is not comprehensive relative to patient access and need. The Ameri-
Diabetes A condition of abnormal glucose metabolism diagnosed using the following criteria: A fasting blood sugar level greater than or equal to 126 mg/dL on two different occasions; a 2-h post-glucose challenge greater than or equal to 200 mg/dL on two different occasions; or a random glucose test over 200 mg/dL for a person with symptoms of uncontrolled diabetes (17).

Medical nutrition therapy (MNT) A specific application of the Nutrition Care Process in clinical settings that is focused on the management of diseases. MNT involves in-depth individualized nutrition assessment and a duration and frequency of care using the Nutrition Care Process to manage disease. MNT services are defined in federal (Medicare Part B) statute as “nutritional diagnostic, therapy, and counseling services for the purpose of disease management which are furnished by a registered dietitian or nutrition professional . . . pursuant to a referral by a physician.” MNT is provided by licensed/certified (as applicable) registered dietitians and nutrition professionals (17).

Diabetes self-management training (DSMT) Under Medicare Part B, “diabetes outpatient self-management training services means educational and training services furnished . . . to an individual with diabetes by a certified provider . . . in an outpatient setting by an individual or entity who meets the quality standards . . ., but only if the physician who is managing the individual’s diabetic condition certifies that such services are needed under a comprehensive plan of care related to the individual’s diabetic condition to ensure therapy compliance or to provide the individual with necessary skills and knowledge (including skills related to the self-administration of injectable drugs) to participate in the management of the individual’s condition.” MNT programs are accredited as meeting quality standards by a Centers for Medicare & Medicaid Services–approved national accreditation organization. Currently, the Centers for Medicare & Medicaid Services recognizes the American Diabetes Association and the Indian Health Service as approved national accreditation organizations (21,22).

Figure 1. Definitions of medical nutrition therapy, diabetes self-management training, and diabetes.

can Dietetic Association (ADA) continuously seeks to strengthen the coverage and delivery of diabetes services provided by RDs and has developed principles to guide ADA policy work in diabetes care, including:

- Medicare MNT and DSMT are complementary but distinct programs in which RDs provide unique nutrition services, consistent with the specific missions of those programs;
- RDs are key members of multidisciplinary health care teams that provide DSMT;
- RDs provide the highest quality nutrition care and services following ADA’s NCP and evidence-based nutrition practice guidelines for medical nutrition therapy; and
- RDs who participate in the Medicare Part B MNT program are responsible and accountable for complying with related federal and state regulations.
- RDs’ unique education and training gives them an ideal background to serve in a changing environment for diabetes care and treatment, including preventive, chronic, and acute care for individuals diagnosed with diabetes and individuals identified as at risk of developing diabetes.

**DIABETES AS AN EPIDEMIC**

Diabetes affects nearly 24 million people in the United States, an increase of more than 3 million in approximately 2 years, according to new 2007 prevalence data estimates released in 2008 by the Centers for Disease Control and Prevention. This means that nearly 8% of the US population has diabetes. In addition to the 24 million with diabetes, another 57 million people are estimated to have prediabetes, a condition that puts people at increased risk for diabetes. The 2007 total estimated cost of diabetes in the United States is $174 billion, including $116 billion in excess medical expenditures and $58 billion in reduced national productivity. Medical costs attributed to diabetes include $27 billion for care to directly treat diabetes, $58 billion to treat the portion of diabetes-related chronic complications that are attributed to diabetes, and $31 billion in excess general medical costs. People with diagnosed diabetes incur average expenditures of $11,744 per year, of which $6,649 is attributed to diabetes. The burden of diabetes is imposed on all sectors of society—higher insurance premiums paid by employers and employees, reduced earnings through productivity loss, and reduced overall quality of life for people with diabetes and their families and friends (5).

**Landmark Studies that have Shaped Diabetes Care**

The aggregate costs associated with treating individuals with diabetes and the increasing incidence of the disease reinforce the need to find and implement diabetes programs that successfully control, or even prevent, the onset of diabetes. Two landmark studies, the Diabetes Prevention Program (6) and the Diabetes Control and Complications Trial study (7), demonstrated the importance of lifestyle intervention and intensive therapy. Advances in the technology of diabetes care and results such as those in the Diabetes Control and Complications Trial study have expanded the role of RDs in diabetes care. As described in the Diabetes Control and Complications Trial study findings, RDs are recognized as integral members of diabetes health care teams (7). As a result, RD involvement in diabetes care and education has increased substantially during the past 10 years. Clinical trials and outcomes research have provided evidence for the effectiveness of MNT implemented by RDs on metabolic and behavioral outcomes for individuals with type 1 and 2 diabetes (for a summary of evidence see Figure 2).

Today, RDs may provide MNT services for individuals with diabetes, and nutrition education to these same individuals through separately administered services such as recognized DSMT programs. With additional qualifications, such as advanced practice for diabetes care or attainment of additional diabetes-specific credentials (for descriptions of some diabetes-related
<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Reference</th>
<th>Study length</th>
<th>No. of subjects</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Randomized controlled trials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MNT** only</td>
<td>UK Protective Diabetes Study Group, 1990</td>
<td>3 mo</td>
<td>3,042 newly diagnosed patients with type 2 diabetes</td>
<td>In 2,595 patients who received intensive nutrition therapy (447 were primary diet failures), hemoglobin A1c decreased 1.9% (8.9%-7.0%) during the 3 mo before study randomization.</td>
</tr>
<tr>
<td></td>
<td>Franz and colleagues, 1995</td>
<td>6 mo</td>
<td>179 patients with type 2 diabetes; 62 in comparison group; duration of diabetes ~4 y</td>
<td>Hemoglobin A1c at 6 mo decreased 0.9% (8.3%-7.4%) with nutrition practice guidelines care; hemoglobin A1c decreased 0.7% (8.3%-7.6%) with basic nutrition care; hemoglobin A1c was unchanged in the comparison group with no nutrition intervention (8.2%-8.4%).</td>
</tr>
<tr>
<td></td>
<td>Kulkarni and colleagues, 1998</td>
<td>6 mo</td>
<td>54 patients with type 1 diabetes, newly diagnosed</td>
<td>Hemoglobin A1c at 3 mo decreased 1.0% (9.2%-8.2%) with nutrition practice guideline care and 0.3% (9.5%-9.2%) in usual nutrition care group.</td>
</tr>
<tr>
<td></td>
<td>Glasgow and colleagues, 1992</td>
<td>6 mo</td>
<td>162 patients older than age of 60 y with type 2 diabetes</td>
<td>Hemoglobin A1c decreased from 7.4%-6.4% in control-intervention crossover group, whereas the intervention-control crossover group had a rebound effect; intervention group had a multidisciplinary team with an RD who provided MNT.</td>
</tr>
<tr>
<td></td>
<td>Sadur and colleagues, 1999</td>
<td>6 mo</td>
<td>185 adult patients with diabetes</td>
<td>97 patients received multidisciplinary care and 88 patients received usual care by primary care physician; hemoglobin A1c decreased 1.3% in the multidisciplinary care group compared with 0.2% in the usual care group; intervention group had a multidisciplinary team with the RD who provided MNT.</td>
</tr>
<tr>
<td><strong>Observational studies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-sectional survey</td>
<td>Delahanty and Halford, 1993</td>
<td>9 y</td>
<td>623 patients with type 1 diabetes</td>
<td>Patients who reported following their meal plan more than 90% of the time had an average hemoglobin A1c level 0.9% lower than subjects who followed their meal plan &lt;45% of the time.</td>
</tr>
<tr>
<td>Expert opinion</td>
<td>Diabetes Control and Complications Trial Research Group, 1993</td>
<td></td>
<td></td>
<td>Diabetes Control and Complications Trial group recognized the importance of the role of the RD in educating patients on nutrition and adherence to achieve hemoglobin A1c goals; the RD is a key member of the team.</td>
</tr>
<tr>
<td></td>
<td>Franz, 1994</td>
<td></td>
<td></td>
<td>Diabetes Control and Complications Trial made apparent that RDs and registered nurses were extremely important members of the team in co-managing and educating patients.</td>
</tr>
<tr>
<td>Chart audit</td>
<td>Johnson and Valera, 1995</td>
<td>6 mo</td>
<td>19 patients with type 2 diabetes</td>
<td>At 6 mo, blood glucose levels decreased 50% in 76% of patients receiving nutrition therapy by an RD; mean total weight reduction was ~5 lb.</td>
</tr>
<tr>
<td></td>
<td>Johnson and Thomas, 2001</td>
<td>1 y</td>
<td>162 adult patients</td>
<td>MNT intervention decreased hemoglobin A1c levels 20%, bringing mean levels &lt;8%, compared with subjects without MNT intervention who had a 2% decrease in hemoglobin A1c levels.</td>
</tr>
<tr>
<td>Retrospective chart review</td>
<td>Christensen and colleagues, 2000</td>
<td>3 mo</td>
<td>102 patients (15 type 1, 85 type 2) with duration of diabetes &gt;6 mo</td>
<td>Hemoglobin A1c levels decreased 1.6% (9.3%-7.7%) after referral to an RD.</td>
</tr>
<tr>
<td><strong>Meta-analyses of trials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brown, 1996, 1990</td>
<td></td>
<td>89 studies</td>
<td>Educational intervention and weight loss outcomes; MNT had a statistically significant positive impact on weight loss and metabolic control.</td>
</tr>
<tr>
<td></td>
<td>Padgett and colleagues, 1998</td>
<td></td>
<td>7,451 patients</td>
<td>Educational and psychosocial interventions in management of diabetes (including MNT, self-monitoring of blood glucose, exercise, and relaxation); nutrition education showed the strongest effect.</td>
</tr>
<tr>
<td></td>
<td>Norris and colleagues, 2001</td>
<td></td>
<td>72 studies</td>
<td>Positive effects of self-management training on knowledge, frequency, and accuracy of self-monitoring of blood glucose, self-reported dietary habits, and glycemic control were shown in studies with short follow-up (&lt;6 mo).</td>
</tr>
</tbody>
</table>

**Figure 2.** Summary of evidence for use of medical nutrition therapy in patients with diabetes. **MNT** = medical nutrition therapy. **RD** = registered dietitian. (Reprinted with permission from: Pastors JG, Franz MJ, Warshaw H, Daly A, Arnold MS. How effective is medical nutrition therapy in diabetes care? J Am Diet Assoc. 2003;103:827-831.)
Certified Diabetes Educator (CDE) This credential is designed and intended for professionals who have a defined role as a diabetes educator, not for those who may perform some diabetes-related functions as part of or in the course of other routine occupational duties. Certification is a voluntary process used to assess and validate qualified health care professionals’ knowledge in diabetes education. It is an evaluative process that demonstrates that rigorous eligibility requirements have been met. Certification is not required by law for employment in the field, although some agencies may use board certification as a basis for employment, job promotions, salary increases, or other considerations. The certification is conferred by the National Certification Board for Diabetes Educators, a national, nongovernmental, not-for-profit certification organization. Certification is valid for a period of 5 years.a

Board Certified-Advanced Diabetes Management (BC-ADM) This credential demonstrates that a health care professional is able to perform a complete and/or focused assessment, recognize and prioritize complex data to identify needs of patients with diabetes across the life span, and provide therapeutic problem solving, counseling, and self-management training. The certification focuses on advanced management of clinical diabetes problems and requires an advanced degree before sitting for the examination. The scope of advanced clinical practice includes management skills such as medication adjustment, medical nutrition therapy, exercise planning, counseling for behavior management, and psychosocial issues. Attaining optimal metabolic control may include treatment and monitoring of acute and chronic complications. The depth of knowledge and competence in advanced clinical practice and diabetes skills affords an increased complexity of decision-making, which expands the traditional discipline-specific practice. Research, publications, mentoring, and continuing professional development are expected skill sets. A diabetes care professional with a BC-ADM credential may or may not hold the CDE credential. The BC-ADM certification program is jointly sponsored by the American Association of Diabetes Educators and the American Nurses Credentialing Center.b


PRACTICE FRAMEWORK SUPPORTING DIABETES CARE PROVIDED BY RDs

The Standards of Practice and Standards of Professional Performance for RDs in Diabetes Care

To reflect the current practice of dietetics as it relates to diabetes care for Medicare and other payers, ADA’s Diabetes Care and Education practice group has published its Standards of Practice and Standards of Professional Performance for Registered Dietitians (Generalist, Specialty, and Advanced) in Diabetes Care (2,9). Standards of practice (SOP) are authoritative statements that describe a competent level of practice related to direct client care demonstrated through nutrition assessment, nutrition diagnosis, nutrition intervention, and nutrition monitoring and evaluation, including the responsibilities for which RDs are accountable. The Diabetes Care SOP presuppose that RDs use critical thinking skills, analytical abilities, theories, best available research findings, current accepted dietetics and medical knowledge, and the systematic holistic approach of the nutrition care process as they relate to the standards. Three levels of expertise in diabetes care, the Generalist, Specialty, and Advanced Practice level, are represented in the diabetes SOP and standards of professional performance (SOPP) based on an RD’s acquisition and development of knowledge and skills.

The SOPP in Diabetes Care are authoritative statements that describe a competent level of behavior in the professional role, including activities related to provision of services, application of research, communication and application of knowledge, use and management of resources, quality in practice, and continued competence and professional accountability.

The diabetes SOP/SOPP identify RDs as qualified providers of MNT and self-management skills for persons with diabetes, define RD roles and responsibilities for diabetes nutrition care, and identify members of a diabetes care team and benefits of team management. RDs use the SOP/SOPP for diabetes care to:

- Identify the competencies needed to provide diabetes care inclusive of diabetes self-management training and MNT;
- Self-assess whether they have the appropriate skill and knowledge base to provide safe and effective diabetes care for their level of practice;
- Identify the areas in which additional knowledge and skills are needed to practice at the Generalist, Specialty, or Advanced Practice level of diabetes practice;
- Provide a foundation for public accountability;
- Assist management in the planning of services and resources;
- Enhance professional identity and communicate the nature of dietetics; and
- Guide the development of diabetes-related dietetics education programs, job descriptions, and career pathways (2).

The SOP/SOPP constitute a very detailed, although not exhaustive, list of specific activities for all three levels of RD practice for diabetes care.

 ADA Diabetes Type 1 and 2 Evidence-Based Nutrition Practice Guideline for Adults

For decades, RDs and their professional association, the ADA, have been involved in the development and application of nutrition protocols, evidence-based nutrition practice guidelines, and policies to provide the highest quality care to diabetes patients. The ADA Diabetes Type 1 and 2 Evidence-Based Nutrition Practice Guideline for Adults (10) includes the most current recommendations, based on systematically analyzed evidence, that guide RDs in providing quality nutri-
### DSME standards

**Standard 1** The DSME entity will have documentation of its organizational structure, mission statement, and goals and will recognize and support quality DSME as an integral component of diabetes care.

**Standard 2** The DSME entity shall appoint an advisory group to promote quality. This group shall include representatives from the health professions, people with diabetes, the community, and other stakeholders.

**Standard 3** The DSME entity will determine the diabetes educational needs of the target population(s) and identify resources necessary to meet these needs.

**Standard 4** A coordinator will be designated to oversee the planning, implementation, and evaluation of diabetes self-management education. The coordinator will have academic or experiential preparation in chronic disease care and education and in program management.

**Standard 5** DSME will be provided by one or more instructors. The instructor(s) will have recent educational and experiential preparation in education and diabetes management or will be a certified diabetes educator. The instructor(s) will obtain regular continuing education in the field of diabetes management and education. At least one of the instructors will be a registered nurse, dietitian, or pharmacist. A mechanism must be in place to ensure that participants’ needs are met if those needs are outside an instructors’ scope of practice and expertise.

**Standard 6** A written curriculum reflecting current evidence and practice guidelines, with criteria for evaluating outcomes, will serve as the framework for the DSME entity. Assessed needs of the individual with prediabetes and diabetes will determine which of the content areas listed below are to be provided:

- Describing the diabetes disease process and treatment options.
- Incorporating nutrition management into lifestyle.
- Incorporating physical activity into lifestyle.
- Using medication(s) safely and for maximum therapeutic effectiveness.
- Monitoring blood glucose and other parameters and interpreting and using the results for self-management decision making.
- Preventing, detecting, and treating acute complications.
- Preventing, detecting, and treating chronic complications.
- Developing personal strategies to address psychosocial issues and concerns.
- Developing personal strategies to promote health and behavior change.

**Standard 7** An individual assessment and education plan will be developed collaboratively by the participant and instructor(s) to direct the selection of appropriate educational interventions and self-management support strategies. This assessment and education plan and the intervention and outcomes will be documented in the education record.

**Standard 8** A personalized follow-up plan for ongoing self-management support will be developed collaboratively by participants and instructor(s). A patient’s outcomes and goals and the plan for ongoing self-management support will be communicated to the referring provider.

**Standard 9** The DSME entity will measure attainment of patient-defined goals and patient outcomes at regular intervals using appropriate measurement techniques to evaluate the effectiveness of the educational intervention.

**Standard 10** The DSME entity will measure the effectiveness of the education process and determine opportunities for improvement using a written continuous quality improvement plan that describes and documents a systematic review of the entity’s process and outcome data.

#### American Association of Diabetes Educators Standards for Outcomes Measurement of DSME

1. Behavior change is the unique outcome measurement for diabetes self-management education.
2. Seven diabetes self-care behavior measures (listed below) determine the effectiveness of diabetes self-management education at individual, participant, and population levels.
3. Diabetes self-care behaviors should be evaluated at baseline and then at regular intervals after the education program.
4. The continuum of outcomes, including learning, behavioral, clinical, and health status, should be assessed to demonstrate the interrelationship between DSME and behavior change in the care of individuals with diabetes.
5. Individual patient outcomes are used to guide the intervention and improve care for that patient. Aggregate population outcomes are used to guide programmatic services and for continuous quality improvement activities for DSME and the population it serves.

#### AADE 7 Diabetes Self-Care Behaviors

- Healthful eating
- Being active
- Monitoring
- Taking medication
- Problem solving
- Reducing risks
- Healthful coping

---

Figure 4.
tion care. The companion Toolkit (11) includes MNT Protocols—the plan or set of steps RDs apply when providing MNT, which define the level, content, and frequency of nutrition care that is appropriate for a disease or condition according to the setting in which they are implemented. The MNT protocols are designed to assist RDs and patients/clients in making decisions about appropriate nutrition care for specific disease states or conditions in typical settings based on research findings.

The Evidence-Based Nutrition Practice Guidelines and protocols also incorporate steps of the NCP as the standard process of care, and incorporate standardized language to help RDs document care provided to the patient/client as well as offer a standardized framework for measuring outcomes. These steps describe the comprehensive assessment, nutrition diagnosis, interventions, and behavioral as well as clinical outcomes to be expected as MNT is implemented by an RD during a series of visits or encounters. The NCP is unique to RDs and describes the steps RDs use to help patients or groups of patients achieve or maintain their nutrition and health goals for health promotion and/or disease prevention (4).

The guidelines and protocols were developed to enhance the unique knowledge, critical thinking, and skills of RDs, as well as to provide flexibility for RDs to empower patients to make behavior changes regarding their food choices and achieve the desired clinical outcomes. CMS has specified that RDs must use nationally recognized protocols when providing MNT to Medicare beneficiaries with diabetes (12).

In addition to the ADA Diabetes Type 1 and 2 Evidence-Based Nutrition Practice Guideline for Adults and Gestational Diabetes, additional disease-specific guidelines and protocols for co-morbidities have been developed. These include Disorders of Lipid Metabolism, Adult Weight Management, Hypertension, Heart Failure, and Chronic Kidney Disease (13).

PRACTICE FRAMEWORK SUPPORTING DIABETES CARE

National Standards for DSME

Similar to the evidence-based nutrition practice guidelines that RDs apply for MNT, national standards for diabetes education are also in place for services provided by recognized DSMT programs. The DSME Standards are a blueprint that defines quality DSME, allowing diabetes educators to provide evidence-based education. These Standards are reviewed approximately every 5 years by key organizations and federal agencies within the diabetes education community (14). Health care payers, such as Medicare, cover DSMT services when these services are furnished by a certified provider who meets quality standards such as the DSME Standards (described in Figure 4).

The recently released 2007 DSME Standards outline changes in the composition of the DSME program instructors. For example, Standard 5 no longer requires a DSMT entity to have both an RD and registered nurse providing DSMT training. Rather, “one or more instructor(s) will provide DSME,” and “at least one of the instructors will be a registered nurse, dietitian, or pharmacist” (15). The standard specifies that the instructor will have recent educational and experiential preparation in education and diabetes management or will be a certified diabetes educator. If a patient’s needs are outside an instructor’s scope of practice and expertise, then the program still must ensure and document that the patient’s DSME needs are met (15). It should be noted that as of this writing, CMS has not provided comment on the effect of the revised Standard 5 with DSMT regulatory language included in Medicare Manuals and Transmittals. In addition, interpretation of DSME Standard 5 on Medicare claims processing procedures and reimbursement to solo instructors enrolled in Medicare is not clear.

A new Standard 8 requires a personalized follow-up plan for ongoing self-management support that is developed collaboratively by participants and instructor(s). This standard was added to help improve patients’ long-term outcomes achieved during the education process. The 2007 standards also emphasize behavioral goal setting and measurement of outcomes achieved (15).

Issues Raised with the 2007 National Standards for DSME/DSMT

Standard 5 references MNT as a key area of expertise within the DSMT team: “The team should have a collective combination of expertise in the clinical care of diabetes, medical nutrition therapy, educational methodologies, teaching strategies, and the psychosocial and behavioral aspects of diabetes self-management” (15). This MNT reference underscores the role of RDs on DSMT multidisciplinary teams. However, MNT can only be provided by licensed/certified (as applicable) RDs and nutrition professionals (MNT regulations and policies are described in Figure 5), and is a separate and unique Medicare Part B service with its own set of coverage policies. CMS determined that the provision of both benefits may be more medically effective for some beneficiaries than receipt of just one of the benefits (16).

Another example in which the 2007 National Standards for DSME incorporate references to MNT provided by RDs is found in Standard 6. This standard addresses the need for a “written curriculum reflecting current evidence and practice guide-

Figure 4. National Standards for Diabetes Self-Management Education (DSME) (14), American Association of Diabetes Educators standards of outcomes management for DSME, and American Association of Diabetes Educators (AAME) seven diabetes self-care behaviors. *Data from: American Association of Diabetes Educators. The Scope of Practice, Standards of Practice, and Standards of Professional Performance for Diabetes Educators. Diabetes Educator. 2005;31:487-512. **Medical nutrition therapy and diabetes self-management training for prediabetes are not covered currently under Medicare Part B, although the Medicare Improvements for Patients and Providers Act adds coverage for preventive services, which may include prediabetes. Coverage changes are authorized effective January 1, 2009. Details included as part of the new Medicare preventive services will be determined through the rulemaking process.
MNT regulations and policies

- A registered dietitian (RD) or nutrition professional must provide MNT services. Medicare enrollment is required prior to providing the MNT service.
- Basic coverage of MNT for the first year a beneficiary receives MNT with a diagnosis of either renal disease or diabetes is 3 hours. Additional hours are considered to be medically necessary and covered if the treating physician determines that there is a change in medical condition, diagnosis, or treatment regimen that requires a change in MNT and orders additional hours during that episode of care. Nonphysicians are unable to make a referral to an RD for Medicare MNT services.
- An RD/nutritionist may choose how many units of the MNT code are performed at each visit.
- Services may be provided either on an individual or group basis without restrictions.
- The treating physician must make a referral and indicate a diabetes or renal diagnosis.
- Basic coverage in subsequent years for MNT for renal disease or diabetes is 2 hours. Additional MNT in subsequent years is considered to be medically necessary and covered if the treating physician determines that there is a change in MNT and orders additional hours during that episode of care.

DSMT regulations and policies: Initial training

- Initial training is furnished to a beneficiary who has not previously received initial or follow-up training under Healthcare Common Procedure Coding System G0108 or G0109; is furnished in increments of no less than ½ hour; and is furnished within a continuous 12-month period.
- Training does not exceed a total of 10 hours for the initial training. The 10 hours of training can be done in any combination of ½-hour increments. They can be spread over the 12-month period or less.
- With the exception of 1 hour of individual training, training is usually furnished in a group setting, although not all group members need be Medicare beneficiaries.
- The 1 hour of individual training may be used for any part of the training including insulin training.
- Medicare covers training on an individual basis if no group session is available within 2 months of the date the training is ordered; the beneficiary’s physician (or qualified nonphysician practitioner) documents in the beneficiary’s medical record that the beneficiary has special needs resulting from conditions that will hinder effective participation in a group training session; or the physician orders additional insulin training.
- Payment to nonphysician practitioners billing on behalf of a DSMT program (G0108 or G0109) should be made at the full fee-schedule rate and should not be paid at 85% of the fee schedule like other nonphysician practitioner services. This is because the payment is for the DSMT program and is not being made for the services of a single practitioner. Nonphysician practitioners who bill on behalf of a DSMT program are subject to mandatory assignment.

DSMT follow-up training

- Follow-up training consists of no more than 2 hours individual or group training for a beneficiary each year.
- Group training consists of 2-20 individuals not all of whom need be Medicare beneficiaries.
- Follow-up training is furnished any time in a calendar year following a year in which the beneficiary completes the initial training (e.g., beneficiary completes initial training in November 2007; therefore, the beneficiary is entitled to 2 hours of follow-up training beginning in January 2008).
- Training is furnished in increments of no less than ½ hour.
- The physician (or qualified nonphysician practitioner) treating the beneficiary must document in the beneficiary’s medical record that the beneficiary is diagnosed with diabetes.

Billing DSMT services

The Centers for Medicare & Medicaid Services (CMS) DSMT transmittals indicate “only one person or entity from the program bills Medicare for the whole program,” and “the benefit provided by the program may not be subdivided for the purposes of billing Medicare.” The following individuals and facilities, who become accredited, may bill for Medicare-covered DSMT services:

- A hospital can be the biller without any reassignment. When the DSMT program is accredited under a dietitian or [other CMS recognized provider], he or she works for a hospital, then the dietitian or provider would need to reassign his or her benefits to the hospital; then the hospital bills for the DSMT services.
- A physician, as the program physician advisor, can be the certified provider and bill Medicare using the physician’s Medicare provider number.
- An RD, who has a Medicare provider number and is part of the DSMT program, can bill on behalf of the DSMT program.

Designated certified providers of DSMT

CMS regulations indicate, “A designated certified provider bills for DSMT provided by an accredited DSMT program. Certified providers must submit a copy of their accreditation certificate to the contractor. The statute states that a ‘certified provider’ is a physician or other individual or entity designated by the Secretary that, in addition to providing outpatient self-management training services, provides other items and services for which payment may be made under title XVIII, and meets certain quality standards. CMS is designating all providers and suppliers that bill Medicare for other individual services, such as hospital outpatient departments, renal dialysis facilities, physicians, and durable medical equipment suppliers, as certified. All suppliers/providers who may bill for other Medicare services or items and who represent a DSMT program that is accredited as meeting quality standards can bill and receive payment for the entire DSMT program.”

Figure 5. Diabetes self-management training (DSMT) and medical nutrition therapy (MNT) Medicare regulations and benefit coverage policies.
Examples of coordination of MNT and DSMT benefits* (not inclusive of all program designs)

**Example #1: DSMT program initiated first, then physician referral to RD Medicare provider for MNT (Service Year 1)**
The treating physician/qualified nonphysician practitioner refers the Medicare beneficiary, with type 2 diabetes who has not received previous diabetes education, to the recognized DSMT program. The nurse educator who performs the initial assessment indicates that the Medicare beneficiary would benefit from MNT. The nurse communicates with the physician and RD. The physician determines that MNT is medically necessary and refers the beneficiary for initial MNT provided by an RD Medicare provider. Total hours: 13 (10 hours DSMT and 3 hours MNT)

**Example #2: Physician refers beneficiary for MNT for diabetes and DSMT (Service Year 1)—both benefits occurring simultaneously**
A Medicare beneficiary with newly diagnosed type 2 diabetes is referred by his or her treating physician to an RD Medicare provider for initial MNT (3 hours initially—additional hours available based on medical necessity and if the treating physician determines that there is a change in medical condition, diagnosis, or treatment regimen that requires a change in MNT). In the course of the nutrition assessment, an RD determines that the Medicare beneficiary would benefit from a DSMT program offered at a local hospital. The RD contacts the physician to discuss medical necessity for initial DSMT and the physician determines that DSMT is medically necessary and refers beneficiary for initial DSMT. Total hours: 13 (3 hours MNT and 10 hours DSMT)

**Example #3: Follow-up MNT and DSMT benefits (Service Year 2)**
At Year 2 a Medicare beneficiary with type 2 diabetes has completed an initial DSMT program and received initial MNT from an RD Medicare provider. Both services were provided during the same episode of care (12 months). The beneficiary is referred by his or her primary care physician to the DSMT program for additional insulin instruction and cardiovascular risk reduction instruction, and to the RD for follow-up MNT. Total hours: 4 (2 hours DSMT and 2 hours MNT)

*Based on Centers for Medicare & Medicaid Services Medicare MNT regulations, treating physicians (defined as a primary care physician or specialist coordinating care for beneficiary with diabetes or renal disease) must make a referral and indicate a diagnosis of diabetes or renal disease. Medicare regulations for DSMT indicate the training order/referral must be signed by a physician or qualified nonphysician practitioner treating the beneficiary and maintained in the beneficiary’s file in the DSMT’s program records.


*For Medicare Part B coverage of MNT, only an RD or nutrition professional may provide the services. “Registered dietitian or nutrition professional” means a dietitian or nutritionist licensed or certified in a state as of December 21, 2000 (they are not required to meet any other requirements); or an individual who, on or after December 22, 2000, holds a bachelor’s or higher degree granted by a regionally accredited college or university in the United States (or an equivalent foreign degree) with completion of the academic requirements of a program in nutrition or dietetics, as accredited by an appropriate national accreditation organization recognized for this purpose (the academic requirements of a nutrition or dietetics program may be completed after the completion of the degree) and has completed at least 900 hours of supervised dietetics practice under the supervision of an RD or nutrition professional (documentation of the supervised dietetics practice may be in the form of a signed document by the professional/facility that supervised the individual) and is licensed or certified as a dietitian or nutrition professional by the state in which the services are performed. In a state that does not provide for licensure or certification, the individual will be deemed to have met this requirement if he or she is recognized as a “registered dietitian” by the Commission on Dietetic Registration or its successor organization, or meets the requirements stated above.

*Assignment is an agreement between Medicare and certain types of Medicare Part B providers and suppliers of health care equipment and supplies. To accept assignment means the providers or suppliers agree to receive direct payment from the Medicare Part B program and agree to accept the Medicare approved amount as payment in full for the service. The approved amount is composed of the Medicare Part B payment and the applicable deductible and co-pay. The provider or supplier must make a reasonable effort to collect deductible and co-pay amounts.

*Background information: Qualifying beneficiaries with diabetes are eligible for 2 hours of follow-up DSMT and 2 hours of follow-up MNT annually based on medical necessity and a referral from the physician/qualified nonphysician practitioner. Both services can provide follow-up in a group or individual setting. The treating physician can refer the beneficiary to an RD Medicare provider for additional hours of follow-up MNT beyond the initial 2 hours of follow-up MNT if the physician determines there is a change in medical condition, diagnosis, or treatment regimen that requires a change in MNT; and orders additional hours of MNT during the episode of care.

Figure 5. (Continued).

lines,” where the curriculum criteria are further described as, “the curriculum is dynamic and needs to reflect current evidence and practice guidelines.” Several references cited in this section of the standards reflect RD-provided MNT and the Standards of Practice and Standards of Professional Performance for Registered Dietitians in Diabetes Care. Referencing MNT highlights RDs’ role in diabetes services and as key members of DSMT teams, yet also blends components of the two separate Medicare Part B MNT and DSMT programs for Medicare beneficiaries.

MNT and DSMT should remain as separate, complementary programs to allow individuals with diabetes access to quality care offered through both covered benefits. Failure to comply with each benefit’s regulations could be grounds for revoking the provider/entity billing privileges and terminating the provider/entity from participation in Medicare (17).

**Description of RD-Provided Medicare MNT and DSMT Nutrition Education**
According to CMS regulations, RDs may provide the nutrition education component of an accredited DSMT program, as well as MNT to qualifying Medicare Part B beneficiaries. Under the revised DSME Standards, RDs may serve as the sole program instructor to provide all the program educational content (15). It is important for compliance and payment to distinguish between the nutrition education content of a DSMT program and the separate and unique MNT services. The Medicare-accredited DSMT program includes 1 hour of individual assessment and 9 hours of group classes, and the curriculum covers nine con-
Figure 6. Nutrition education as key curriculum content area in recognized diabetes self-management training (DSMT) programs. aMNT = medical nutrition therapy. bRD = registered dietitian. cCMS = Center for Medicare & Medicaid Services.
Instructor(s) provide DSMT program curriculum content areas, including:

- Describing the diabetes disease process and treatment options
- **Incorporating nutritional management into lifestyle**
- Incorporating physical activity into lifestyle
- Using medication(s) safely and for maximum therapeutic effectiveness
- Monitoring blood glucose and other parameters and interpreting and using the results for self-management decision making
- Preventing, detecting, and treating acute complications
- Preventing, detecting, and treating chronic complications
- Developing personal strategies to address psychosocial issues and concerns
- Developing personal strategies to promote health and behavior change


Provide basic nutrition education (topics may include any of the following)

- Teach the importance of:
  - Consistent timing of meals;
  - Good nutrition—ie, Food Pyramid, Plate Method, or Choose Your Foods: Plan Your Meals;
  - Carbohydrate effect on glycolic control—which foods contain carbohydrate, carbohydrate consistency improves glycolic control, 1 carb serving = 15 g carbohydrate, recommended ranges of carbohydrate at meals and snacks;
  - Reducing fat and sodium and choosing heart-healthy foods
  - Reading food labels for key information—serving size, total carbohydrates, fat content, sodium content, and total calories; and
  - Controlling portion sizes—demonstrate size with food models; Nutrition Facts food labels.
- Review use of sweeteners—nutritive and non-nutritive
- Review use of alcohol
- Describe healthy food choices for eating away from home
- Review food and fluid intake on sick days

Offer referral to an RD for MNT.

Figure 6. (Continued).
Figure 7. Medical nutrition therapy (MNT) provided by registered dietitians (RDs).

NUTRITION EDUCATION ACTIVITIES PROVIDED BY PROGRAM INSTRUCTORS OF NATIONALLY RECOGNIZED DSMT PROGRAMS

There may be instances in which several of the key members of a multidisciplinary diabetes team (ie, a registered nurse, RD, and pharmacist) are not available to provide DSMT education, so one qualified program instructor administers all content for the program. CMS DSMT regulations indicate that, “In a rural area, an individual who is qualified as a registered dietitian and as a CDE [certified diabetes educator] that is currently certified by an organization approved by CMS . . . may furnish training and is deemed to meet the multidisciplinary team requirement” (18). [It should be noted that as of this writing, CMS has indicated that the Medicare Benefit Policy Manual, Section 300.2 (2), will be updated to align with language in the Electronic Code of Federal Regulations (18).] Solo program instructors are expected to practice only at the level at which they are competent, which will vary depending on the practitioner’s education, training, and experience. Also, members of all health disciplines who provide DSMT need to be familiar with the boundaries of their own health profession, which may be regulated by national or state agencies or accrediting bodies (15,17). Expertise in diabetes care develops through venues such as experience, advanced practice, additional certified diabetes educator and/or board certified—advanced diabetes management credentials (see Figure 3), continuing education, individual study, and mentorship. However, in cases where the accredited DSMT program does not include an RD, solo program instructors should make recommendations to the referring physician to order MNT provided by an RD. The separate and individualized MNT sessions will help ensure that a patient’s nutrition needs and goals are incorporated into the overall diabetes treatment plan.

As described in the American Diabetes Association’s Standards of Medical Care in Diabetes—2008 (19), “achieving nutrition-related goals requires a coordinated team effort that includes the active involvement of the person with prediabetes or diabetes. Because of the complexity of nutrition issues, it is recommended that a registered dietitian who is knowledgeable and skilled in implementing nutrition therapy into diabetes management and education be the team member who provides MNT.” Similarly, an RD is recommended to be the team member who provides the nutrition education component of the DSMT curriculum; however, when an RD is not available to teach the group session, the non-RD program instructor may perform tasks described in Figure 6.

CONCLUSIONS

RDs have a defined and unique role in diabetes care that differs depending on whether the service is for MNT or part of a DSMT program. RDs may participate in recognized DSMT programs as a sole program instructor or as part of a multidisciplinary team. RDs or other qualified health care professionals who operate as solo instructors in DMST programs must practice only at the level at which
they are competent, which will vary depending on an individual’s education, training, and experience. Health care practitioners who provide DSMT need to be familiar with the boundaries of their own profession, which may be regulated by national or state agencies or accrediting bodies. In cases where RDs are not part of DSMT teams, referral to an RD for separately administered MNT is appropriate to ensure that an individual’s nutrition plan is integrated into the diabetes plan of care.

The Standards of Practice and Standards of Professional Performance for Registered Dietitians (Generalist, Specialty, and Advanced) in Diabetes Care (3) describe levels of performance for RDs in diabetes care. Evidence-Based Nutrition Practice Guidelines (10) and Toolkits (11) serve as guides for RDs for implementing quality MNT services. DSMT-recognized programs rely on National Standards for Diabetes Self Management Education as the basis for the program curriculum and the respective health care professional’s role in the program.

All health care professionals involved in diabetes care have a responsibility and must be accountable to uphold Medicare and other diabetes regulations. Medicare regulations define the unique program requirements for diabetes services. A health care professional’s recognition of the complementary nature of the education and training curriculum included in Medicare DSMT programs and the nutritional diagnostic, therapy, and counseling services provided through Medicare MNT will allow the greatest opportunity for individuals with diabetes to receive quality care through both services.

References