Diabetes Education Curriculum
A Guide to Successful Self-Management

Second Edition

American Association of Diabetes Educators
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AIM

The purpose of this curriculum is to support diabetes educators in the teaching of self-management concepts, with the ultimate goal of helping patients achieve the behavioral changes necessary to manage their health condition(s).

RATIONALE

This aim is worth achieving because people with diabetes and related conditions make myriad daily decisions about their self-care that ultimately impact their clinical outcomes and overall health status. Self-management education is key to their success in making the decisions that will best serve them. Effective self-management includes not only the acquisition of knowledge, attitude, and skills but also the adoption of behavior change strategies. In fact, acquisition of knowledge without behavior change is futile; behavior change without knowledge acquisition is unlikely. Thus, this curriculum places equal emphasis on the content to be taught and the facilitation of behavior change.

INTENDED AUDIENCE

The intended audience for this curriculum is people with prediabetes or diabetes and related conditions, and their significant others. Patients present for self-management education with varying levels of prior knowledge and skill. Additionally, patients’ health beliefs, attitudes, and levels of readiness to learn and change may vary widely. Educators are challenged to structure their services to maximize the educational opportunity for participants: whether to offer individual consultation or groups, whether to group the newly diagnosed together with those with long-standing diabetes, and whether to separate type 1 diabetes from type 2 diabetes.

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CURRICULUM FOUNDATION

The AADE Standards for Outcomes Measurement of Diabetes Self-Management Education (DSME)¹

The AADE Standards for Outcomes Measurement of Diabetes Self-Management Education (2003) provide the foundation for this curriculum (see Figure I.1). The following overview of outcomes is important in order to clarify the influence of the AADE Standards for Outcomes Measurement of DSME on the practice of diabetes education in general, and on this curriculum in particular.

More than 30 years ago, physician Avedis Donebedian proposed a model for assessing healthcare quality based on structures, processes and outcomes.² Many of the continuous quality improvement (CQI) efforts that have been adopted in US health care have been drawn from this model, including the National Standards for DSME Programs.³ According to Donebedian, a health outcome is defined as “a measurable product . . . the changed state or condition of an individual as a consequence of healthcare over time.”²

Over the years, diabetes education programs have used a variety of measures, including A1C, in an attempt to show whether their interventions changed health outcomes. Metabolic outcomes like A1C, however, are impacted by a variety of interventions by other members of the healthcare team. For example, a change in a patient’s diabetes medication, which is prescriber-driven, can improve the A1C. So, it was not always clear whether the educational intervention made a unique contribution to such an improved health outcome.

The development of the AADE Standards for Outcomes Measurement of DSME in 2003 provided a framework for educators to answer the question, “Does the educational intervention make a difference?” A more detailed discussion of the outcomes standards answers that question.

**Standard:** Behavior change is the unique outcome measurement for DSME.

Behavior change is directly affected by the diabetes education experience, which involves self-care training and ongoing support. To continue the example cited above—the patient whose A1C improved after a change in diabetes medication—the behavior of taking the medication had to be sufficiently mastered in order for the medication to have its desired effect. Behavior change is just one outcome on a continuum of outcomes categories (see Figure I.2).

**Standard:** 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.

Learning is an immediate outcome, which can be measured at the time of the educational intervention. Questions that probe for patient understanding of a concept just taught can reveal whether learning has occurred, as can

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1. Behavior change is the unique outcome measurement for DSME.
2. Seven diabetes self-care behavior measures determine the effectiveness of DSME 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 the DSME and the population it serves.

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knowledge tests and return demonstration of a self-care skill. Identification of facilitators and barriers, as well as strategies to overcome barriers, is also an immediate outcome of learning. Questions are embedded throughout this curriculum that will help the educator determine patient understanding, as well as assist patients in identifying barriers to appropriate self-care.

Behavior change is an intermediate outcome. It requires more than a single measurement and must be measured over time. Intermediate outcomes are measured after the educational encounter and once the patient has had adequate time to implement newly learned behaviors in a real-life setting. Behavior change can be subjectively measured through patient self-report of behaviors at follow-up (eg, “I have been monitoring my blood sugar twice a day”), and it can be objectively measured through review of documented records (eg, glucose logbook results, meter data). Clinical improvement is a post-intermediate outcome, which results from the interaction of diabetes education, the patient’s self-management efforts, and the provider’s clinical management. A1C reduction, improved blood pressure, and weight loss are all examples of post-intermediate outcomes. Improved health status is a long-term outcome and can be measured by changes in quality of life, reductions in healthcare costs, and increased productivity (such as fewer missed days of work). Ideally, education programs should measure all outcomes categories, but the diabetes educator’s skills and influence most directly impact the first two—learning and behavior change.

**Standard:** Seven diabetes self-care behavior measures determine the effectiveness of DSME at individual participant and population levels.

The curriculum’s instructional content is centered around the AADE7 Self-Care Behaviors™ (see Figure I.3).

**Standard:** Diabetes self-care behaviors should be evaluated at baseline and then at regular intervals after the education program.

Each module in the curriculum includes sections entitled “Setting a SMART Goal” and “Follow-up/Outcomes Measurement.” In “Setting a SMART Goal,” the educator is prompted to help the patient develop an individual goal for behavior change. In keeping with principles of adult learning, the patient should be involved in selection of goals, but only once he or she is at a point of readiness to attempt the change in behavior. The acronym SMART helps ensure the goal is Specific, Measurable, Attainable, Realistic, and has a Timeline. In “Follow-up/Outcomes Measurement,” the educator is guided in the measurement of immediate and intermediate outcomes at baseline and follow-up intervals. The method of goal setting and outcomes measurement is compatible with use of the AADE7™ Goal Sheets and the AADE7™ System, which can help educators efficiently and accurately track and measure behavior change.

**Standard:** 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 the DSME and the population it serves.

At follow-up, the educator assesses the patient’s progress with behavior change. Barriers faced and attempts at problem solving should be discussed. The patient and the educator should collaborate to develop a plan for future behavior change. In the “Follow-up/Outcomes Measurement” section of each module, the steps discussed
above are outlined, specific to each behavior. At the population level, aggregate outcomes data should be used by the program to determine effectiveness and identify areas needing improvement. The CQI process is then followed.

Curriculum’s Relationship to Other Standards

In addition to meeting the AADE Standards for Outcomes Measurement of DSME, this curriculum meets many of the guiding principles published in other practice documents important to the specialty of diabetes education:

- **The AADE Standards for Outcomes Measurement of Diabetes Self-Management Education (DSME):**
  In 2015, a joint position statement, Diabetes Self-Management Education and Support in Type 2 Diabetes, was issued by the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. The joint position statement noted that diabetes self-management education and support (DSME/S) provides the foundation to help people with diabetes navigate daily self-management decisions and activities and has been shown to improve health outcomes.4

  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.4

  A patient-centered approach to DSME/S at diagnosis provides the foundation for current and future needs. Ongoing DSME/S can help the person with diabetes overcome barriers and cope with the ongoing challenges in order to facilitate changes during the course of treatment and life transitions4 (see Figure I.4).

  The diabetes education algorithm provides an evidence-based visual depiction of when to identify and refer individuals with type 2 diabetes to DSME/S.4 The algorithm defines 4 critical points for the delivery and key information on the self-management skills that are necessary. The algorithm relies on 5 guiding principles and represents how DSME/S should be provided through4:
  - Patient engagement
  - Information sharing
  - Psychosocial and behavioral support
  - Integration with other therapies
  - Coordinated care across specialty care, facility-based care, and community organizations

- **National Standards for DSME/S (NSDSME/S) define quality diabetes education programs. These standards focus on the structure of the program, the process of providing DSME, and outcomes of the educational process.**3 This curriculum specifically addresses standards 6, 7, 8, 9, and 10.
  - **Standard 6/Curriculum:** A written curriculum reflecting current evidence and practice guidelines, with criteria for evaluating outcomes, will serve as the framework for the provision of DSME. The needs of the individual participant will determine which parts of the curriculum will be provided to that individual.
  - **Standard 7/Individualization:** The diabetes self-management, education, and support needs of each participant will be assessed by one or more instructors. The participant and instructor(s) will then together develop an individualized education and support plan focused on behavior change.
  - **Standard 8/Ongoing Support:** The participant and instructor(s) will together develop a personalized follow-up plan for ongoing self-management support. The participant’s outcomes and goals and the plan for ongoing self-management support will be communicated to other members of the healthcare team.
  - **Standard 9/Patient Progress:** The provider(s) of DSME and DSMS will monitor whether participants are achieving their personal diabetes self-management goals and other outcome(s) as a way to evaluate the effectiveness of the educational intervention(s), using appropriate measurement techniques.
  - **Standard 10/Quality Improvement:** The provider(s) of DSME will measure the effectiveness of the education and support and look for ways to improve any identified gaps in services or service quality, using a systematic review of process and outcome data.

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ADA Standards of Medical Care in Diabetes recommends all patients be assessed and referred for:

- **Nutrition**
  - Registered dietitian for medical nutrition therapy

- **Education**
  - Diabetes self-management education and support

- **Emotional health**
  - Mental health professional, if needed

**Four critical times to assess, provide, and adjust diabetes self-management education and support:**

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<tbody>
<tr>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
<td><strong>3</strong></td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>At diagnosis</td>
<td>Annual assessment of education, nutrition, and emotional needs</td>
<td>When new complicating factors influence self-management</td>
<td>When transitions in care occur</td>
</tr>
</tbody>
</table>

**When primary care provider or specialist should consider referral:**

- Newly diagnosed. All newly diagnosed individuals with type 2 diabetes should receive DSME/S.
- Ensure that both nutrition and emotional health are appropriately addressed in education or make separate referrals.
- Needs review of knowledge, skills, and behaviors
- Long-standing diabetes with limited prior education
- Change in medication, activity, or nutritional intake
- HbA1C out of target
- Maintain positive health outcomes
- Unexplained hypoglycemia or hyperglycemia
- Planning pregnancy or pregnant
- For support to attain and sustain behavior change(s)
- Weight or other nutrition concerns
- New life situations and competing demands
- Change in:
  - Health conditions such as renal disease and stroke, need for steroid or complicated medication regimen
  - Physical limitations such as visual impairment, dexterity issues, movement restrictions
  - Emotional factors such as anxiety and clinical depression
  - Basic living needs such as access to food, financial limitations
- Change in:
  - Living situation such as inpatient or outpatient rehabilitation or now living alone
  - Medical care team
  - Insurance coverage that results in treatment change
  - Age-related changes affecting cognition, self-care, etc.

**FIGURE I.4 Algorithm of Care**

**AADE Standards of Practice for Diabetes Educators** define nationally accepted standards of practice for diabetes educators and ensure quality and accountability in the practice of diabetes education. This curriculum specifically addresses standards 2, 3, 4, 5, and 6 (and selected measurement criteria).

- **Standard 2/Goal Setting:** The diabetes educator works with the person with or at risk for diabetes to identify mutually acceptable goals. The goals reflect information obtained through the assessment process. Goals should be specific, measurable, attainable, realistic, and timely.

- **Standard 3/Planning:** The diabetes educator develops the DSME/T plan to attain the mutually defined goals to achieve desired outcomes. The plan integrates current diabetes care practices and established principles of teaching and learning. The plan is coordinated among the diabetes healthcare team.

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members, the person with or at risk for diabetes, his or her family, significant others, other relevant support systems, and the referring provider.

— **Standard 4/Implementation:** The diabetes educator provides DSME/T according to the defined plan and desired goals and outcomes. Implementation may involve collaboration with other professional and community resources and services.

— **Standard 5/Evaluation:** The diabetes educator evaluates individual outcome measures for each person with diabetes, aggregate outcome measures for the program, and the quality and outcomes of DSME/T according to the 5 Standards for Outcomes Measurement defined by AADE.

— **Standard 6/Documentation:** The diabetes educator establishes a complete and accurate record of the client’s DSME/T experience and follow-up DSMS.

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**METHODOLOGY**

This curriculum is not based on one single methodology. Instead, its theoretical base and underlying principles are derived from a variety of sources: Knowles’s principles of adult learning,6–8 Gardner’s theory of multiple intelligences,9 and behavior change models and theories, including the patient empowerment model, the health belief model, and social cognitive theory.

**Principles of Adult Learning**

Established principles of teaching and learning theory are reflected in the curriculum’s design. According to Malcolm Knowles, the “father of adult education,” learning should be an active process which draws on the learners’ experiences, and the information should fill an immediate need and be presented in a problem-oriented format. Table I.1 shows how these principles are applied within the curriculum.

Knowles urges educators to view adult learners as mutual partners in the learning endeavor. He proposes that addressing the needs and interests of learners is the most efficient way to teach.6,7 Lessons should be developed from the responses of students, and not from a previously determined logical structure. If the educator’s priority is to deal with the participants’ responses to problems—the kinds of questions they will ask, the obstacles they will face, their attitudes, and the possible solutions they will offer—there is no compelling need to “cover ground,” eg, check off all the required topic areas.8

**Theory of Multiple Intelligences**

This curriculum has been developed in accordance with Knowles’s philosophy for adult education. Callout boxes that highlight teaching and learning principles are sprinkled throughout the instructional plan to remind the educator to use educational approaches that enhance adult learning. These “teaching and learning” boxes also incorporate Howard Gardner’s theory of multiple intelligences.9 This theory argues that the traditional definition of intelligence does not adequately encompass the full spectrum of human abilities. It suggests that every person possesses each of 7 core intelligences in varying degrees, as outlined in Table I.2. The different categories of intelligence give educators a variety of platforms from which to present content, thus allowing learners to grasp new concepts in ways that resonate with their abilities.

However, as Gardner himself has noted in the preface of the third edition of his book *Frames of Mind: The Theory of Multiple Intelligences*:

> Multiple intelligences should not—in and of itself—be an educational goal. To the extent possible, an educator should teach and assess in ways that bring out that [person’s] capacities . . . The educator should decide on which topics, concepts, or ideas are of the greatest importance, and should then present them in
a variety of ways. . . . When a topic is taught in multiple ways, one reaches more students. Additionally, the multiple modes of delivery convey what it means to understand something well. When one has a thorough understanding of a topic, one can typically think of it in several ways, thereby making use of one’s multiple intelligences. Conversely, if one is restricted to a single mode of conceptualization and presentation, one’s own understanding (whether teacher or student) is likely to be tenuous.9(pxvii)

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### Table I.2 Multiple Intelligences

<table>
<thead>
<tr>
<th>Category of Intelligence</th>
<th>Learning Is Enhanced By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal-linguistic</td>
<td>Well-developed verbal skills and sensitivity to the sounds, meanings, and rhythms of words</td>
</tr>
<tr>
<td>Mathematical-logical</td>
<td>Ability to think conceptually and abstractly, and capacity to discern logical and numerical patterns</td>
</tr>
<tr>
<td>Musical</td>
<td>Ability to produce and appreciate rhythm, pitch, and timber</td>
</tr>
<tr>
<td>Visual-spatial</td>
<td>Capacity to think in images and pictures, to visualize accurately and abstractly</td>
</tr>
<tr>
<td>Bodily-kinesthetic</td>
<td>Ability to control one's body movements and to handle objects skillfully</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Capacity to detect and respond appropriately to the moods, motivations, and desires of others</td>
</tr>
<tr>
<td>Naturalist</td>
<td>Ability to recognize and categorize plants, animals, and other objects in nature</td>
</tr>
<tr>
<td>Existential</td>
<td>Sensitivity and capacity to tackle deep questions about human existence, such as What is the meaning of life? Why do we die? How did we get here?</td>
</tr>
</tbody>
</table>

### Behavior Change Theories

Useful precepts from a variety of behavior change theories and models are embedded in this curriculum, including the following:

- **Patient Empowerment Model.**[^10][^11] People with diabetes are in control of their own self-management. They make the choices that have the most impact on their outcomes. Because they live with the consequences of their decisions, they have the right and the responsibility to be the primary decision-maker in their diabetes management. The empowerment approach requires willing participation. It is best implemented after basic survival skills have been acquired.

  In this curriculum, the empowerment model is evident by the inclusion of questions that help patients more clearly define their self-management problems as well as identify their feelings surrounding the problem. Anticipating barriers, formulating strategies, and setting goals for behavior change are a consistent approach within the curriculum. Having patients evaluate their experience after putting the plan into action, and revising for future goal-setting, is encouraged. Educators can use the “Problem-Solving Activity Script” in Module 7: Healthy Coping to help participants begin to address self-care problems in an incremental manner.

- **Health Belief Model.**[^12] A person’s health-related behavior depends on his or her perception of 4 areas: the seriousness (severity) of his or her condition, how vulnerable (susceptible) one believes he or she is to developing problems, the benefits of taking action, and the barriers (costs or hassles) related to taking action. One’s confidence in his or her ability to take action (self-efficacy), the degree to which he or she is convinced that taking action is necessary, and cues to action are all influential on behavior.

  This curriculum incorporates the health belief model by its suggested use of reminders to provide cues to action, as well as probing questions that the educator can ask to uncover participants’ beliefs about severity susceptibility, benefits, and barriers. The “Goal-Setting Activity” in Module 6: Problem Solving can be used to help participants learn how to set appropriate behavior change goals based on their health beliefs. In the same module, “Tips for the Educator: Using Motivational Interviewing Techniques to Enhance Confidence and Conviction” provides educators a guide to using confidence and conviction scales with patients. In Module 7: Healthy Coping, the “Costs Versus Benefits Learning Activity” helps learners become more aware of their values and motivators for behavior.

- **Social Cognitive Theory.**[^12] Behavior is affected by environmental influences such as family, friends, the workplace, and the community. One’s level of self-efficacy and expectation about performing a behavior *(what's in it for me?)* are important determinants for making a change. People draw on the experiences of others as a way to shape their own behavior. Future performance of a specific behavior is based in part on one’s experience with the behavior, whether it is positive or negative.

[^10]: Patient Empowerment Model
[^11]: Patient Empowerment Model
[^12]: Social Cognitive Theory

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In this curriculum, credible participants in group settings are invited to share their experiences with classmates in an effort to model targeted behaviors. Self-efficacy is enhanced by providing clear instruction and approaching behavior change in small incremental steps. Patients are encouraged to use self-initiated rewards and incentives to reinforce new behaviors.

**READABILITY**

It is understood that participants will not be reading the curriculum content. When providing DSME/T, however, the educator must translate the written content into the spoken word. One known barrier to health literacy is when healthcare professionals speak at a level of language that is comfortable to them but not clear to patients. In an effort to promote participant understanding, the curriculum's instructional plan content has been written at a seventh-grade level. Educators should assess their clients' literacy levels and adjust their communication accordingly.

Flesch-Kincaid readability statistics were calculated for each module's instructional plan content to determine the level of understandability and grade level. The Flesch Reading Ease score bases its rating on the average number of syllables per word and the average number of words per sentence. According to Flesch, a reading ease score of 60 to 70 is recommended for most documents. The average reading ease score for the instructional plan of this curriculum is 62. Although a person's years of education do not necessarily predict literacy, the content was also evaluated for grade level. The Flesch-Kincaid Grade Level test recommends aiming for a score of 7.0 to 8.0 for most documents. The average grade level score for the curriculum's instructional plan content is 7.6.

It is hoped that this approach will remind educators to speak to participants on a layman's level that will be understood by most. For some curriculum content, the use of multisyllabic words (eg, carbohydrate, hypoglycemia, retinopathy, pioglitazone) was unavoidable and may have inflated the scores. In such cases, the word is defined with its first use, as should educators when instructing patients.

The narrative voice of the curriculum instructional content is mostly written in the second person. A second-person narrative voice is intended to make the information more personal to the intended audience, as compared with third-person narrative voice. An illustration of the difference is: “You should have a blood test to check your kidneys before starting metformin therapy” (second person) versus “People with diabetes should have a blood test to check their kidneys before starting metformin therapy” (third person).

**MODULE ORGANIZATION**

The curriculum begins with Introduction to Diabetes. This introductory module focuses on the risk factors and pathophysiology of type 1 diabetes, type 2 diabetes, and prediabetes. Its purpose is to give participants a basic foundation upon which to begin learning about the self-care behaviors involved in the management or prevention of diabetes. Following this introduction is a module for each of the AADE7 Self-Care Behaviors™ (refer to Figure I.3). With few exceptions, the modules are structured as follows.

**An Educator's Overview**

**AADE Systematic Review of the Literature**

For each of the AADE7 Self-Care Behaviors™, the growing body of evidence has been systematically reviewed by a team of researchers engaged by the American Association of Diabetes Educators (AADE). Key points and
conclusions of these reviews are outlined in this section, providing support for DSME interventions that have been integrated into the curriculum’s instructional plan.

**Background Information and Instructions for the Educator**

Salient background information and relevant instructions prepare the educator to instruct and counsel participants about each self-care behavior. Educators are encouraged to read this section prior to using the instructional plan with participants.

**Learning Objectives**

Prior to instruction, an assessment should be performed. An educator’s review of the assessment will reveal which areas of self-care the participant needs to learn about. When using the empowerment approach, however, the participant’s interests determine which topics areas are covered and when. Since there is usually a great deal that needs to be learned, it is not realistic to assume each participant will successfully meet every listed objective in a session. The educator and the participant will need to prioritize which learning objectives can be met in each encounter. At the beginning of each module, a range of potential learning objectives are listed. These objectives are measurable statements that indicate what the participant could potentially learn if the entire instructional plan were covered.

**Behavioral Objectives**

Behavioral objectives are developed collaboratively between the educator and the participant after the instructional encounter(s). Because they are personalized, every participant’s behavioral objectives will be unique, different from those of other participants. At the beginning of each module is a statement that the participant will set a behavioral goal for the specific self-care behavior. See “Setting a SMART Goal” for details on how behavioral goals are developed.

**Instructional Plan**

One traditional educational approach is to deliver instructional content in a lecture format, in a set order of topics, and from basic to advanced level, followed by a question-and-answer period. Experience with the patient empowerment approach, however, has shown that this is not necessarily the most effective method for educating adults. **Addressing psychosocial concerns first stimulates participant interaction.** It shows them that the educator respects their experiences and perspectives. By focusing on the day-to-day problems of living with diabetes, the educator can then center the instruction around the participants’ interests. While this approach may require educators to stretch their comfort zone and change their program structure, this practical approach enhances learning and promotes behavior change.

**Questions to Ask Participants**

Each module in this curriculum begins with a list of questions the educator may ask participants. These queries are intended to encourage active discussion, keep learners engaged, probe for understanding, and assess reasoning and critical thinking skills. Additional questions appear throughout the module.

- What have you heard about . . . ?
- What is your greatest concern / what worries you the most about . . . ?
- What do you want to learn today about . . . ?
- What’s been your experience with . . . ?
Questions to Anticipate From Participants
Throughout most modules there are common questions the educator may anticipate from participants, followed by the answers. If they are not asked by participants, the educator may choose to pose these questions to the participants to enhance the learning experience.

Is it safe for a person with diabetes to have a pedicure?

Notes to Educator
These notes are tips for the educator for how to best use particular material in the curriculum.

Be sure to make the point that blood glucose is the same as blood sugar. Don’t assume that participants know these terms are synonymous. Whichever term you choose to use, though, it helps to be consistent so as to avoid confusion.

Teaching and Learning
A variety of principles of adult learning are highlighted in teaching and learning boxes, and distributed throughout the modules as reminders to the educator.

Adults learn best when the learning experience is active and not passive. Keep participants engaged with questions like “Can you list . . . ?”

Survival Skills
When faced with the prospect of teaching “survival skills,” many educators wonder where to draw the line. Opinions may vary on what topics to include in survival skills, as well as the depth of instruction. Most educators agree that, at the very least, survival skills should include prevention, recognition, and treatment of hypoglycemia for at-risk persons (eg, those taking insulin or oral insulin secretagogues); recognition and treatment of hyperglycemia; how to safely take prescribed diabetes medication, and recognition of side effects that should be reported; healthy food choices and basic meal planning; glucose monitoring and proper care of testing supplies; target blood glucose levels; and when to call the healthcare team for help. Red survival skills tags appear throughout the curriculum to identify potential survival skills topics.

Advanced Detail
Various aspects of self-care topics are expanded on as “advanced detail” within the curriculum. These are to be used as needed, depending on participants’ level of interest, the complexity of their self-care, and educator preference.

Identifying Barriers/Reality Scenarios
People with diabetes face an unlimited number of barriers to successfully carrying out self-care behaviors. Each person’s barriers will differ based on his or her individual situation. Educators should encourage participants to

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identify barriers that will likely disrupt their self-care. To help activate this process, common barriers to self-care are listed in most modules, along with possible solutions. This section provides a springboard for discussion about barriers, used at the discretion of the educator. Rather than passively offering solutions to participants, however, the educator is challenged to actively engage them in the problem-solving process. The sample solutions included for each Reality Scenario may not apply or be useful for each participant. In group education sessions, invite the participants to brainstorm together and learn from each other’s experiences.

**Identifying Facilitators**

As important as it is to identify barriers, educators often forget about the facilitators to self-care, the potential positives in the situation. This module section calls attention to the facilitators—the people, resources, and activities that can help participants adhere to their self-care plan. The educator can help them identify the people in their lives who may be supportive of their efforts, and help them maximize that support. A list of resources appears at the end of the module and can be copied and given to participants as a handout. This list includes many useful national resources. Depending on the self-care behavior, available local community resources should be explored with participants. Activating reminder systems and cues to behavior may be helpful for those starting new behaviors. Instituting a reward system can help reinforce behaviors.

**Setting a SMART Goal**

Collaborative setting of behavior change goals (behavioral objectives) should take place after instruction. Educators are prompted to use the SMART acronym as a guide to help participants set goals. Goals should be:

- **S**—Specific, not vague
- **M**—Measurable (e.g., how much, for how long, how often)
- **A**—Attainable; challenging but not out of reach
- **R**—Realistic; given the person’s situation, can it be done?
- **T**—Timeline; short-term, over the next week or two

There is a newer version of the acronym SMART, used in both health care and corporate management. In this alternative version, *Realistic* is replaced by *Relevant*. *Realistic* is seen as too similar to *Attainable*, while *Relevant* is seen as more patient-focused (i.e., is the goal relevant to the patient?). Educators may find it tempting, in the interest of time, to set goals for the participant. This approach will likely backfire, however, since it is not patient-driven. Goals should be selected based on what the participant feels is important and needed. He or she must understand what is needed to make the change in behavior, have the confidence to do it, and believe that it will lead to an improvement in health or quality of life. A date should be set for follow-up, in order to evaluate progress with the selected behavior change.

Documentation of behavior change goals represents standard practice and is a requirement for program accreditation. Educators can develop their own tools for documenting the setting of goals or use a tool such as the AADE7™ Goal Sheets or the AADE7 System™. Visit the AADE Web site to order goal sheets in English or Spanish: [http://www.diabeteseducator.org/product/K712](http://www.diabeteseducator.org/product/K712). For more on the electronic AADE7 System™, see the AADE Web site: [https://www.diabeteseducator.org/practice/aade7-system](https://www.diabeteseducator.org/practice/aade7-system).

**Follow-up/Outcomes Measurement**

The process for measuring outcomes is delineated at the end of each module. Learning—acquiring knowledge and skills—is an immediate outcomes measure, meaning that it can be measured immediately after the education session. Additionally, learning outcomes should be measured at follow-up encounters. This provides the educator an opportunity to assess for gaps in knowledge and skills and educate accordingly.
As an intermediate outcome, behavior change requires measurement over at least 2 points in time. The status of the behavior is measured at baseline (after the education session) and again after the patient has had time to implement the new behavior.

According to the AADE Standards for Outcomes Measurement of Diabetes Self-Management Education, the first follow-up should ideally be conducted within 2 to 4 weeks after the teaching session. Subsequent follow-up is recommended at 3- to 6-month intervals thereafter. Measurement of outcomes may be objective or subjective. Subjective measurement includes patient report. If it can be directly observed by the educator, measurement is objective.

References
Throughout the curriculum, self-care recommendations are supported by available evidence, and statements of fact are referenced.

Module Resources
Resources relevant to each self-care behavior are included in each of the 7 behavior modules. Any of these resources may be copied and shared with class participants. If you wish to use these resources in any other manner aside from providing them to class participants free of charge, you will need to contact AADE, Copyrights & Permissions.

Diabetes Resources Appendix
The appendix at the end of the book provides additional resources to enhance the educator’s effectiveness and/or serve as a resource for the participant. The information may be copied and used as participant handouts as needed, following the same rules of use as described for module resources.

DESCRIPTION OF MODULES
This edition has a greater emphasis on pregnancy. You will notice that each module addresses issues related to pregnancy and provides recommendations for that population.

Module 1: Introduction to Diabetes and Prediabetes
Module 1 addresses concerns common among those newly diagnosed with diabetes or prediabetes. Risk factors are discussed to help answer the “why me, why now?” questions. Information is included about how the diagnosis is made and classified (type 1 diabetes, type 2 diabetes, prediabetes). Basic pathophysiology is described. The natural progression of the condition, and resulting need for therapy change, is emphasized in the section on type 2 diabetes. The pathophysiology content is intended to give participants a foundation upon which to begin learning about the self-care behaviors involved in the management or prevention of diabetes.

Module 2: Healthy Eating
Module 2 provides information about goals for healthy eating, basic nutrition concepts and terms, and food and nutrient groups. Other practical activities include learning how to read food labels, how to measure food, and strategies for eating out. Participants benefit by having an individualized meal plan developed collaboratively with the registered dietitian.
Module 3: Being Active
Module 3 focuses on increasing physical activity, from a lifestyle approach to a structured approach, according to participant ability. Recommended types of physical activity for people with diabetes, safety issues, and special considerations are discussed.

Module 4: Taking Medication
In Module 4, content centers around safe medication-taking behavior. Medications available for the management of diabetes are described, with a focus on how they work, how to take them, precautions, and important side effects. For injectable medications, information on storage guidelines, injection technique, and disposal of needles is included. Participants starting injectable medications should be given hands-on practice time with appropriate privacy. This module also contains an “Advanced Detail” section about vitamins and minerals, as well as complementary and alternative medicine.

Module 5: Monitoring
The benefits of monitoring glucose and other health parameters are introduced in Module 5, along with target glucose levels. Selecting a glucose meter and guidelines for monitoring are included. The educator should provide an opportunity for hands-on practice of the monitoring technique. Emphasis is placed on timing and frequency of monitoring, and how to interpret and respond to the results in the self-management of diabetes.

Module 6: Problem Solving
Module 6 is divided into 2 sections:

- The first section centers on the development of problem-solving skills, which can be applied to any self-care behavior. Problem-solving and goal-setting activities are included to help strengthen these important skills.
- The intent of the second section is to help participants develop problem-solving skills pertaining to hypoglycemia, hyperglycemia, and sick-day management. Strategies for recognizing these conditions, understanding their causes, and treating and preventing them are included.

Module 7: Healthy Coping
Coping with the demands of diabetes transcends any one self-care behavior. Thus, the information in this module can be integrated into all the others. Topics discussed in this module include responding to the diagnosis of diabetes, recognizing and dealing with depression and anxiety, exploring feelings related to diabetes, problem solving, motivation for self-care, relapse prevention, stress management, and strategies for getting support from family, friends, healthcare providers, and the community. Several participant activities are included: “Exploring Feelings and Attitudes About Diabetes,” “Costs Versus Benefits Learning Activity,” “Problem-Solving Role-Playing Activity,” and “Getting Support Participant Activity.”

Module 8: Reducing Risks
The American Diabetes Association’s Standards of Medical Care for People With Diabetes is used as a template to organize this module’s information on risk reduction strategies for cardiovascular, kidney, eye, and nerve health; foot, skin, and dental care; and preventive immunizations. Additionally, awareness of sleep apnea is included, as this is a growing comorbidity of diabetes. Other areas of risk reduction are also covered, including before and during pregnancy, while traveling, and during disaster conditions. The module includes a supplement focusing on sexual dysfunction.
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