



Examination Information

Examination Construction and Scoring

CBDCE develops the Certification Examination for Diabetes Care and Education Specialists (Examination) with the technical assistance of a testing agency. The two organizations work together to construct and validate the examination. CBDCE periodically conducts a survey of diabetes care and education specialists practice – often called a practice or job analysis. The study surveys Certified Diabetes Care and Education Specialists to determine the significance of specific tasks to a CDCES’s practice. The practice analysis information is used to develop the examination content outline and to determine the percent distribution of the items for the role. Therefore, the subject matter and importance of each item on the examination reflects data validated by this periodic study.

CBDCE selects CDCESs who represent the multidisciplinary aspect of profession to serve on its Examination Committee. The Examination Committee drafts the examination’s multiple-choice items, which are then edited and validated by the testing agency, and approved by the Committee for inclusion on the examination. The Examination Committee and the testing agency review all the examination items for subject matter, validity, difficulty, relevance, bias, and importance for current practice. All items are evaluated, classified, and revised by the Examination Committee and the testing agency for conformance to psychometric principles. Each item is pretested prior to its use and must meet statistical parameters prior to being used as a scored item.

On the basis of a completed practice analysis, it is usually necessary to develop a new examination form to reflect the updated examination content outline and to review the minimum passing point/score. A Passing Point Study is conducted by a panel of experts in the field. The methodology used to set the minimum passing score is the Angoff method. For those testing January 1, 2024, through June 30, 2024, CBDCE uses the analysis which was completed in 2018, with the examination content outline being implemented starting with July 1, 2019 examinations and running through June 30, 2024. In conducting the Passing Point Study, the experts evaluated each question on the 2019 examination beginning July 1, 2019 to determine how many correct answers were necessary to demonstrate the knowledge and skills required to pass the examination, while keeping in mind the need to ensure that the passing score was consistent with the intended purpose of the examination. For individuals testing starting July 1, 2024, CBDCE will use the most recent analysis which was completed in 2023.

Scores are reported as raw scores and scaled scores. A raw score is the number of correctly answered questions; a scaled score is statistically derived from the raw score. The total score determines whether candidate passes or fails; it is reported as

a scaled score ranging between 0 and 99. The minimum scaled score needed to pass the examination has been set at 70 scaled score units.

See Following The Examination, Scoring of the Exam for more information on scoring ([page 16](#)).

Details

The Examination is a written examination composed of multiple-choice, objective questions with a total testing time of four (4) hours. Questions on the Examination are linked directly to a task or tasks. Each question, therefore, is designed to test if the candidate possesses the knowledge necessary to perform the task or has the ability to apply it to a job situation.

The questions are developed and reviewed for relevancy, consistency, accuracy, and appropriateness by individuals with expertise in diabetes care and education. Twenty-five of the questions are pre-test questions that have not been used on previous Examinations. Inclusion of these questions allows for collection of meaningful statistics about new questions, but are not used in the determination of individual Examination scores. These questions are not identified and are scattered throughout the Examination so that candidates will answer them with the same care as the questions that make up the scored portion of the Examination. This methodology assures candidates that their scores are the result of sound measurement practices and that scored questions are reflective of current practice.

Testing Dates	Number of Questions on the Exam
January 1, 2024 through June 30, 2024	200 questions (175 scored, 25 pre-test)
July 1, 2024 and forward	175 questions (150 scored, 25 pre-test)

Testing of Advancements

CBDCE recognizes that advances in the treatment of diabetes continue to be made. It is also recognized that the dissemination of this information may not occur at the same rate in different areas of the United States. In consideration, CBDCE has developed the following policies:

1. New medical advances, guidelines, or pharmaceuticals impacting diabetes care and education and/or treatment of diabetes will be included in the Certification Examination for Diabetes Care and Education Specialists no sooner than one year after the information is released.
2. New diagnostic criteria or specific guidelines impacting diabetes care and education and/or treatment of diabetes which are released nationally and identified as effective immediately may be included in the examination at any time.



January 1, 2024 to June 30, 2024 Examination Content Outline

I. Assessment of the Diabetes Continuum (59)

A. Learning (19)

1. Goals and needs of learner
2. Learning readiness (attitudes, developmental level, perceived learning needs, etc.)
3. Preferred learning styles (audio, visual, observational, psychomotor, etc.)
4. Technology literacy and use (devices, software, apps, virtual coaching, patient portals, etc.)
5. Challenges to learning (concrete vs. abstract thinking, literacy and numeracy, language, cultural values, religious beliefs, health beliefs, psychosocial and economic issues, family dynamics, learning disabilities, etc.)
6. Physical capabilities/limitations (visual acuity, hearing, functional ability, etc.)
7. Readiness to change behavior (self-efficacy, value of change, etc.)

B. Health and Psychosocial Status (19)

1. Diabetes-relevant health history (diagnosis/presentation, duration, symptoms, complications, treatment, etc.)
2. General health history (family history, allergies, medical history, etc.)
3. Diabetes-specific physical assessment (biometrics, site inspection, extremities, etc.)
4. Data trends (laboratory and self-collected)
5. Current use of technology (meters, pumps, sensors, apps, software, etc.)
6. Treatment fears and myths (hypo/hyperglycemia, causes, complications, needles, weight gain, etc.)
7. Family/caregiver dynamics and social supports
8. Substance use (alcohol, tobacco, marijuana, caffeine, etc.)
9. Life transitions (living situation, insurance coverage, age related changes, etc.)
10. Mental health status (adjustment to diagnosis, coping ability, etc.)
11. Challenges to diabetes self-care practices (cognitive, language, cultural, spiritual, physical, economic, etc.)

C. Knowledge and Self-Management Practices (21)

1. Disease process
2. Eating habits and preferences
3. Activity habits and preferences
4. Monitoring (blood glucose, ketones, weight, etc.)
5. Record keeping (blood glucose, food, activity, etc.)
6. Medication taking habits (prescription, nonprescription, complementary and alternative medicine, etc.)
7. Use of health care resources (health care team, community resources, etc.)
8. Risk reduction (cardiovascular, etc.)
9. Problem solving

II. Interventions for Diabetes Continuum (88)

A. Collaborate with Individual/Family/Caregiver/Health Care Team to Develop: (18)

1. Individualized education plan based on assessment (selection of content, learning objectives, sequence of information, communication, etc.)

2. Instructional methods (discussion, demonstration, role playing, simulation, technology-based platforms, etc.)

3. Goals for lifestyle changes (S.M.A.R.T. goals, AADE-7, etc.)

B. Educate Based on Individualized Care Strategies (35)

1. General topics

- a) Classification and diagnosis
- b) Modifiable and non-modifiable risk factors
- c) Pathophysiology (auto-immunity, monogenic, insulin resistance, secondary diabetes, cardiometabolic risks, etc.)
- d) Effects and interactions of activity, food, medication, and stress
- e) Drug and non-drug treatment options (access, risk/benefit, etc.)
- f) Immunizations
- g) Therapeutic goals (A1C, blood pressure, lipids, quality of life, etc.)
- h) Laboratory test interpretation (A1C, lipids, renal and hepatic function tests, etc.)
- i) Evidence-based findings for decision support (Diabetes Prevention Program, Diabetes Attitudes Wishes and Needs study, clinical trials, etc.)

2. Living with diabetes and prediabetes

- a) Healthy coping (problem solving, complications, life transitions, etc.)
- b) Psychosocial problems (depression, eating disorders, distress, etc.)
- c) Role/Responsibilities of care (individual, family, team, etc.)
- d) Social/Financial issues (employment, insurance, disability, discrimination, school issues, etc.)
- e) Lifestyle management
- f) Record keeping (blood glucose logs, food records, etc.)
- g) Safety (sharps disposal, medical ID, driving, etc.)
- h) Hygiene (dental, skin, feet, etc.)

3. Monitoring

- a) Glucose (meter selection, continuous glucose sensing, sites, etc.)
- b) Ketones
- c) A1C
- d) Blood pressure and weight
- e) Lipids and cardiovascular risk
- f) Renal and hepatic (function studies, microalbuminuria, serum creatinine, etc.)

4. Nutrition principles and guidelines

- a) American Diabetes Association (ADA) and Academy of Nutrition and Dietetics nutrition recommendations (meal planning, macro/micronutrients, etc.)
- b) Carbohydrates (food source, sugar substitutes, fiber, carbohydrate counting, etc.)
- c) Fats (food source, total, saturated, monounsaturated, etc.)
- d) Protein (food source, renal disease, wound care, etc.)
- e) Food and medication integration (medication timing, meal timing, etc.)
- f) Food label interpretation (nutrition facts, ingredients, health claims, sodium, etc.)
- g) Alcohol (amount, precautions)
- h) Weight management (adult and childhood obesity, failure to thrive, fad diets, etc.)

Examination Content Outline – For individuals testing January 1, 2024 through June 30, 2024

- i) Special considerations (food allergies, food aversion, gastroparesis, celiac disease, metabolic surgery, etc.)
 - j) Dietary and herbal supplements
 - 5. Activity
 - a) ADA and American College of Sports Medicine recommendations
 - b) Benefits, challenges, and precautions (comorbid conditions, post exercise delayed onset hypoglycemia, etc.)
 - c) Activity plan (aerobic, resistance training, etc.)
 - d) Adjustment of monitoring, food, and/or medication
 - 6. Medication management
 - a) ADA, European Association for the Study of Diabetes (EASD), American Association of Clinical Endocrinologists (AAACE) guidelines
 - b) Medications (insulin, oral and injectable medications, administration, side effects, etc.)
 - c) Delivery systems (pump therapy, devices, etc.)
 - d) Medication adjustment
 - e) Interactions (drug-drug, drug-food, etc.)
 - f) Non-prescription preparations
 - 7. Acute complications: causes, prevention and treatment
 - a) Hypoglycemia
 - b) Hyperglycemia
 - c) Diabetic ketoacidosis (DKA)
 - d) Hyperosmolar hyperglycemic state (HHS)
 - 8. Chronic complications and comorbidities: causes, prevention and treatment
 - a) ADA Clinical Practice screening recommendations
 - b) Eye disease (retinopathy, cataracts, glaucoma, etc.)
 - c) Sexual dysfunction
 - d) Neuropathy (autonomic, peripheral, etc.)
 - e) Nephropathy
 - f) Vascular disease (cerebral, cardiovascular, peripheral, etc.)
 - g) Lower extremity problems (ulcers, Charcot foot, etc.)
 - h) Dermatological (wounds, yeast infection, ulcers, etc.)
 - i) Infection (genitourinary tract, pulmonary, skin and soft tissue, etc.)
 - j) Dental and gum disease
 - k) Comorbidities (hypertension, heart disease, depression, cognitive dysfunction, thyroid disease, celiac disease, obesity, sleep apnea, polycystic ovarian syndrome, etc.)
 - 9. Problem Solving and Other Management Issues
 - a) Honeymoon period, dawn phenomenon
 - b) Hypoglycemia unawareness
 - c) Pump, device, and sensor
 - d) Sick days
 - e) Surgery and special procedures
 - f) Changes in usual schedules (shift, religious, cultural, etc.)
 - g) Travel
 - h) Emergency preparedness
 - i) Physical capabilities and limitations (visual acuity, hearing, functional ability, etc.)
 - j) Assistive and adaptive devices (talking meter, magnifier, etc.)
 - k) Pre-conception planning, pregnancy, post-partum, and gestational diabetes
 - l) Special populations (pediatric, adolescence, geriatric, etc.)
 - m) Transitions of care (pediatric, young adult, care settings, etc.)
 - n) Substance use (alcohol, tobacco, marijuana, caffeine, etc.)
 - o) Disparities (economic, access, sex, ethnicity, geographic, mental capabilities, etc.)
 - C. Evaluate, Revise and Document (26)
 - 1. Weight, blood glucose patterns, eating habits, medication management, activity
 - 2. Self-reports and/or device downloaded reports
 - 3. Evaluate the effectiveness of interventions in:
 - a) achievement and progress toward goals
 - b) self-management skills
 - c) psychosocial adjustment
 - d) unexpected challenges (loss of insurance, job change, etc.)
 - 4. Individual's plan for the continuum of care with health care team and follow-up education and support
 - D. Referral, Support, and Follow-Up (9)
 - 1. Issues requiring referral
 - a) Education (diabetes, diabetes prevention program, peer, group vs. individual, behavioral, etc.)
 - b) Medical Nutrition Therapy
 - c) Exercise
 - d) Lifestyle coaching
 - e) Behavioral health
 - f) Learning disabilities
 - g) Medical care (foot care, dilated eye exam, pre-conception counseling, family planning, sexual dysfunction, etc.)
 - h) Risk reduction (smoking cessation, obesity, preventative services, etc.)
 - i) Medication management
 - j) Sleep assessment
 - k) Financial and social services
 - l) Discharge planning, home care, community resources (visual, hearing, language, etc.)
 - 2. Support (community resources, care managers, peer, prescription assistance programs, etc.)
 - 3. Communication between diabetes educator and health care team
- III. Disease Management (28)**
- A. Education Services Standards (8)
 - 1. Apply National Standards for Diabetes Self-Management Education and Support (NSDSMES)
 - a) Perform needs assessment (target population, etc.)
 - b) Develop curriculum (identify program goals, content outline, lesson plan, teaching materials, etc.)
 - c) Choose teaching methods and materials for target populations
 - d) Evaluate program outcomes (number of people served, provider satisfaction, patient satisfaction, effectiveness of diabetes education materials, etc.)
 - e) Assess patient outcomes (behavior changes, A1C, lipids, weight, quality of life, emergency department visits, hospitalizations, work absences, etc.)
 - f) Perform continuous quality improvement activities
 - g) Maintain patient information and demographic database
 - B. Clinical Practice (18)
 - 1. Apply practice standards (AAACE, ADA, Endocrine Society, etc.)
 - 2. Implement and support population management strategies
 - 3. Identify medical errors and employ risk mitigation strategies
 - 4. Mentor staff (clinical and non-clinical) and/or lay leaders in need of education
 - 5. Advocate formulary management of diabetes medications and supplies
 - C. Diabetes Advocacy (2)
 - 1. Promote primary and secondary diabetes prevention strategies in at risk individuals and populations
 - 2. Participate in community awareness, health fairs, media

Examination Content Outline

Effective July 1, 2024

I. Assessment (37)

A. Physical and Psychosocial (12)

1. Diabetes-relevant health history (diagnosis, duration, symptoms, complications, treatment, comorbidities, healthcare utilization)
2. Diabetes-specific physical assessment (biometrics, site inspection, extremities, etc.)
3. Social determinants of health (economic, living situation, healthcare access, social supports, and food/housing insecurity)
4. General health history (family, medical, mental health, substance use, surgical, allergies and medication)
5. Diabetes measures and other laboratory data
6. Mental health wellbeing (adjustment to diagnosis, coping ability, etc.)
7. Considerations related to diabetes self-care practices (cognitive, physical, language, cultural, spiritual, family/caregiver dynamics, fears and myths, life transitions, etc.)

B. Self-Management Behaviors and Knowledge (15)

1. Disease process
2. Eating habits and preferences
3. Activity habits and preferences
4. Medication practices and preferences (prescription, nonprescription, complementary and alternative medicine)
5. Monitoring and data collection (glucose, ketones, weight, dietary intake, activity, etc.)
6. Use of resources
7. Use of technology (monitors, smart delivery systems, apps, online education, patient portals, etc.)
8. Risk reduction of acute and chronic complications
9. Problem solving

C. Learning (10)

1. Goals and needs of learner
2. Readiness to learn and change behavior
3. Preferred learning styles (audio, visual, observational, psychomotor, individual vs. group, virtual, etc.)
4. Literacy, numeracy, health literacy, and digital literacy
5. Considerations related to learning (developmental stage, physical abilities, language preferences, cultural, spiritual, psychosocial, economic, family/caregiver dynamics, learning disabilities, etc.)

II. Care and Education Interventions (105)

A. Disease Process and Approach to Treatment (22)

1. Diagnosis and classifications
2. Pathophysiology including honeymoon period, dawn phenomenon
3. Modifiable and non-modifiable risk factors
4. Lifestyle management (activity, food, sleep, and stress)
5. Pharmacological approaches and options
6. Treatment goals (glycemic metrics, blood pressure, lipids, risk reduction, quality of life)

B. Individualized Education Plan (17)

1. Develop plan based on assessment, in collaboration with person with diabetes/pre-diabetes and care team
2. Identify instructional methods
3. Set S.M.A.R.T. goals

C. Person-Centered Education on Self-Care Behaviors (58)

1. Nutrition Principles and Guidelines
 - a) American Diabetes Association (ADA) and Academy of Nutrition and Dietetics nutrition recommendations (meal planning, macro/micronutrients, dietary approaches, etc.)
 - b) Carbohydrates (types, food source, sugar alcohol and substitutes, carbohydrate counting)
 - c) Fats (types, food source)
 - d) Protein (food source, renal disease, wound care)
 - e) Alcohol (amount, precautions)
 - f) Food and medication integration (medication timing, meal timing, etc.)
 - g) Food label interpretation (nutrition facts, ingredients, health claims, sodium, etc.)
 - h) Weight management
 - i) Dietary and herbal supplements
 - j) Special considerations (food allergies, food aversion, gastroparesis, celiac disease, metabolic surgery, failure to thrive, disordered eating, etc.)
2. Physical Activity
 - a) ADA and American College of Sports Medicine recommendations
 - b) Benefits, challenges, and safety (comorbidities, post exercise delayed onset hypoglycemia, etc.)
 - c) Activity plan (frequency, intensity, time, and types)
 - d) Adjustment of monitoring, food, and/or medication for planned and unplanned activities
3. Medication Management
 - a) ADA/European Association for the Study of Diabetes (EASD) guidelines
 - b) Medications (class, action, administration, side effects, contraindications, etc.)
 - c) Medication selection (cardiorenal protection, glycemic efficacy, impact on weight, types and duration of diabetes, cost, hypoglycemia risk)
 - d) Medication adjustment
 - e) Insulin delivery systems
 - f) Immunizations
4. Monitoring and Interpretation
 - a) Glucose (device selection, use, testing techniques, metrics)
 - b) Ketones
 - c) A1C
 - d) Blood pressure
 - e) Weight
 - f) Lipids
 - g) Kidney health

Examination Content Outline

Effective July 1, 2024

- h) Hepatic function
- 5. Acute Complications: Causes, Prevention, and Treatment
 - a) Hypoglycemia and hypoglycemia unawareness
 - b) Hyperglycemia
 - c) Diabetic ketoacidosis (DKA)
 - d) Hyperosmolar hyperglycemic state (HHS)
- 6. Chronic Complications and Comorbidities: Causes, Prevention, and Treatment
 - a) ADA Clinical Practice screening recommendations
 - b) Eye disease (retinopathy, cataracts, glaucoma, etc.)
 - c) Sexual dysfunction
 - d) Neuropathies
 - e) Nephropathy
 - f) Vascular disease (cerebral, cardiovascular, peripheral, etc.)
 - g) Lower extremity problems (ulcers, Charcot foot, etc.)
 - h) Dermatological (wounds, ulcers, site reactions)
 - i) Infection (genitourinary tract, pulmonary, skin and soft tissue)
 - j) Dental and gum disease
 - k) Other comorbidities (depression, cognitive dysfunction, thyroid disease, celiac disease, obesity, sleep apnea, polycystic ovarian syndrome, etc.)
- 7. Problem Solving
 - a) Sick days
 - b) Surgery and other procedures
 - c) Changes in schedules (shift, religious, cultural, etc.)
 - d) Travel
 - e) Emergency preparedness
 - f) Assistive and adaptive devices (talking meter, magnifier, etc.)
 - g) Substance use (alcohol, tobacco, marijuana, caffeine, etc.)
- 8. Living with Diabetes and Prediabetes
 - a) Life changes
 - b) Transitions of care
 - c) Special populations (pediatric, adolescence, geriatric, transplant, etc.)
 - d) Pre-conception planning, pregnancy, post-partum, and gestational diabetes
 - e) Psychosocial wellbeing (depression, disordered eating, distress, etc.)
 - f) Role/Responsibilities of care (individual, family, team)
 - g) Safety (sharps disposal, medical ID, driving, etc.)
 - h) Personal hygiene (dental, skin, feet, etc.)
 - i) Social/Financial considerations (employment, insurance, disability, discrimination, school issues, etc.)
- D. Evaluation, Documentation, and Follow-up (8)
 - 1. Evaluate the effectiveness of interventions related to:
 - a) achievement and progress toward goals
 - b) self-management skills
 - c) psychosocial wellbeing
 - d) weight, eating habits, medications, activity
 - e) glycemic metrics
 - 2. Revise, document, and communicate individual's plan for follow-up care, education, support, and referral

III. Standards and Practices (8)

- A. Describe the current National Standards for Diabetes Self-Management Education and Support (NSDSMES)
- B. Describe the National Diabetes Prevention Program Standards (National DPP)
- C. Apply practice standards (ACE, ADA, Endocrine Society, etc.)
- D. Describe population health strategies
- E. Collaborate with other healthcare professionals to advance team-based care.
- F. Advocate for people with diabetes (access to medications and supplies, care in institutional settings, policies, etc.)
- G. Promote primary and secondary diabetes prevention strategies in at risk individuals and populations
- H. Promote evidence-based care and education
- I. Recognize the impact of disparities (economic, access, gender, ethnicity, geographic, etc.)
- J. Incorporate principles of diversity, equity, and inclusion