Commission on Dietetic Registration
the credentialing agency for the Academy of Nutrition and Dietetics

CASE STUDY – RDNs in Diabetes Education and Care Plan Management that Includes Medication Adjustments

Case: *A registered dietitian nutritionist (RDN) is determining if diabetes education and care plan management that includes self-blood glucose monitoring, use of continuous glucose monitoring (CGM) devices and insulin pumps (e.g., insertion, data interpretation, and medication dosage adjustments per protocol) is within their individual scope of practice.*

Statement: The Revised 2017 Scope of Practice for the Registered Dietitian Nutritionist (RDN) does not guarantee that a RDN will be able to perform expanded practice skills, however it can guide the RDN to the resources and options that may be used to evaluate whether the RDN can safely and effectively provide an expanded practice skill and advance individual practice.

Explanation of Case:
An experienced registered dietitian nutritionist (RDN) working in a hospital-based ambulatory clinic for about 3 years, whose community does not have a diabetes education program, has been providing medical nutrition therapy (MNT) to patients with diabetes (prediabetes, Type 1, and Type 2) referred by hospital and primary care physicians. Consultations are provided in-person and through telehealth. The clinic's nurse (RN) Certified Diabetes Care and Education Specialist (CDCES) who provides education and medication management on self-blood glucose monitoring (SBGM), insulin injection techniques, and diabetes devices (e.g., continuous glucose monitors [CGMs], insulin pumps) has requested a 2-month leave of absence effective in 3 months. The clinic manager has asked the RDN to handle this component. The RDN is interested and needs to review if providing education and training on SBGM, CGMs, insulin pumps, and other types of diabetes devices is within their individual scope of practice.

To assess whether education and management of diabetes beyond medical nutrition therapy (MNT) is within their individual scope of practice, the RDN uses the Revised 2017 Scope of Practice for the RDN[1], and the Revised 2017 Standards of Practice in Nutrition Care and Standards of Professional Performance for RDNs in Diabetes Care[2]. Although the RDN may seek advice and direction from colleagues, the initial review is the RDN's responsibility.

Case Study Resources:
The resources listed for consideration and referenced below and throughout the case study are intended to provide knowledge and guidance related to diabetes care and services. NOTE: Some resources require a fee to access for non-members.

- Academy of Nutrition and Dietetics (Academy) and Commission on Dietetic Registration (CDR) Resources:
  - Scher L. Identifying, Configure, and Collaborate to Make Gains in Diabetes Health and Health Equity. On the Cutting Edge Newsletter. 2021;42(4):3-8. Diabetes Dietetic Practice

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Group. (membership required) https://www.diabetesdpg.org/resources/publications/on-the-cutting-edge

- Continuous Glucose Monitors and Digital Health. On the Cutting Edge Newsletter. 2019;40(4). Diabetes Dietetic Practice Group. (membership required) https://www.eatrightstore.org/dpg-and-mig-products/diabetes/otce-continuous-glucose-monitors-and-digital-health
- Davidson P, Russell L. Insulin Management and Advancing Practice of the Registered Dietitian Nutritionist (RDN) in Diabetes Care. On the Cutting Edge Newsletter. Diabetes Dietetic Practice Group. 2018;39(4):21-27. (membership required)
- Benson G, Boucher J. Expanded Roles for Registered Dietitian Nutritionists (RDNs) in Managing Diabetes and Cardiovascular Risk. On the Cutting Edge Newsletter. Diabetes Dietetic Practice Group. 2020;40(6):30-44. (membership required)
- Code of Ethics for the Nutrition and Dietetics Profession: https://www.cdrnet.org/codeofethics
- Revised 2017 Scope of Practice for the RDN: https://jandonline.org/content/core.
- Revised 2017 Standards of Practice and Standards of Professional Performance for RDNs: https://jandonline.org/content/core
- Focus Area Standards of Practice and Standards of Professional Performance: CDR Webpage > https://www.cdrnet.org/scope leads to the *Journal* Website. To access *Journal* Website Collections, Focus Area Standards for CDR Specialist Credential and Focus Area Standards for RDNs directly, access: https://jandonline.org/content/credentialed or https://jandonline.org/content/focus, respectively.
- If practice includes telehealth (and/or telenutrition) consultations, refer to this Academy webpage (membership required): https://www.eatrightpro.org/career/career-resources/telehealth-quick-guide
- Case Study: RDNs Delivering Telehealth Diabetes Care and Education-Related Services. https://www.cdrnet.org/tips
- Nutrition Care Process Terminology (eNCPT online) (membership required): https://www.ncpro.org/
- Essential Practice Competencies for Commission on Dietetic Registration's (CDR) Credentialed Nutrition and Dietetics Practitioners: https://admin.cdrnet.org/vault/2459/web/New_CDR_Competencies_2021.pdf

➢ Institutional, Regulatory, and other Resources:

- American Diabetes Association: Standards of Medical Care in Diabetes-2023. *Diab Care*. 2023;46(Suppl1). (Revised annually and typically republished in January. As of 2018, considered a "living" document so may be updated during the year; check website periodically.) https://diabetesjournals.org/care/issue/46/Supplement_1
  - Chapter 7. Diabetes technology (S111-S127) - (https://doi.org/10.2337/dc23-S007)
- Evert AB, et al. Nutrition Therapy for Adults with Diabetes or Prediabetes: A Consensus Report. *Diab Care*. 2019;42(5): 731-754.

https://diabetesjournals.org/care/article/42/5/731/40480/Nutrition-Therapy-for-Adults-With-Diabetes-or.

- Powers, MA, et al. Diabetes Self-management Education and Support in Adults with Type 2 Diabetes: A Consensus Report of the American Diabetes Association, the Association of Diabetes Care and Education Specialist, the Academy of Nutrition and Dietetics, the American Academy of Family Physicians, the American Academy of PAs, the American Association of Nurse Practitioners, and the American Pharmacists Association. *J Acad Nutr Diet*. 2021; 121(4):773-788.e9. https://doi.org/10.1016/j.jand.2020.04.020
- 2022 National Standards for Diabetes Self-Management Education and Support. *Diab Care*. 2022;45(2): 484-494. https://doi.org/10.2337/dc21-2396
- Association of Diabetes Care and Education Specialists (ADCES) (formerly the American Association of Diabetes Educators) https://www.diabeteseducator.org
  - ADCES Perspectives in Practice: Technology Integration: The Role of the Diabetes Care and Education Specialist in Practice 2020 https://journals.sagepub.com/stoken/default+domain/ICNPR2N9IBFPTZTZJ4HE/full
  - ADCES Practice Paper: Subcutaneous Injection Guidelines for the Education of Persons with Diabetes 2019. https://www.diabeteseducator.org/docs/default-source/practice/practice-documents/practice-papers/adces-subcutaneous-injection-guidelines-for-the-education-of-persons-with-diabetes-final-4-1-20.pdf?sfvrsn=4
  - ADCES Practice Tools (> Practice Resources > Personal and Professional CGM Playbook): Personal CGM Implementation Playbook. December 2020; Professional CGM Implementation Playbook, July 2020. https://www.diabeteseducator.org/practice/practice-tools/app-resources/professional-cgm-playbook
  - ADCES – The Art and Science of Diabetes Care and Education 5th Ed.
  - ADCES Danatech: A resource for ADCES members to obtain research and reviews of diabetes devices and mobile apps; continuing education; and device training. www.Danatech.org
- Organization policies and procedures
- In hospital setting, organization and medical staff process and bylaws for RDNs to obtain clinical privileges for therapeutic diet order writing or expanded role/nutrition-related services, as applicable to role in education and management of persons with diabetes.
- Facility/program accreditation standards, if applicable
- State licensure laws and regulations: https://www.cdrnet.org/licensure
- CDR Practice Tips on regulation: https://www.cdrnet.org/tips

Using the Scope of Practice Decision Algorithm:
https://www.cdrnet.org/scope

The Scope of Practice Decision Algorithm, a resource that guides a RDN to answer a series of questions, determines whether an activity is within the RDN's individual scope of practice. The algorithm is

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designed to allow a RDN to critically evaluate their knowledge, skills, experience, judgment and demonstrated competence using criteria resources.

The algorithm is used by the RDN to evaluate each separate activity. The practitioner questions guide the self-assessment process.

PRACTITIONER QUESTIONS:

Question 1: Is this activity consistent with the Academy of Nutrition and Dietetics/Commission on Dietetic Registration (CDR) Code of Ethics, standards of practice and standards of professional performance, evidence-based nutrition practice guidelines, other national organization standards of practice and/or practice guidelines, accreditation standards, federal and state laws and regulations, and good business practices?

The RDN verifies consistency with the 2017 Scope of Practice for the RDN, which states:

- RDNs "provide nutrition counseling and nutrition education to optimize nutritional status, prevent disease, or maintain and/or improve health and well-being."[1]

The RDN compared this activity to the Academy/CDR Code of Ethics. While diabetes care and education including medication adjustments, are not mentioned directly in the Code of Ethics, there are some principles and standards that apply to this topic (Note: may not be all inclusive, others may apply on a case-by-case basis):

- "Recognize and exercise professional judgment within the limits of individual qualifications and collaborate with others, seek counsel, and make referrals as appropriate."[3]
- "Practice within the limits of their scope and collaborate with the inter-professional team."[3]
- "Document, code and bill to most accurately reflect the character and extent of delivered services."[3]

The RDN reviewed the Revised 2017 Standards of Practice (SOP) in Nutrition Care and Standards of Professional Performance (SOPP) for RDNs in Diabetes Care. In reviewing the SOP and SOPP, the RDN noted the following guidance:

> "In specific instances, the practice of some RDNs has evolved to include care beyond diabetes MNT. In accordance with demonstrated competence and organization-approved protocols, some RDNs now provide instruction for self-monitoring blood glucose, insulin administration, adjusting diabetes medication, as well as provide training on CSII and CGM devices. It is important to note that neither the CDE/CDCES nor BC-ADM credential authorizes an individual to perform tasks outside of their professional scope of practice, but an RDN, after competency is demonstrated, can teach a patient/client to self-administer their own insulin injections or perform an invasive procedure and adjust medications when using provider or organization-approved protocols".[2]

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When reviewing the resources listed above in Case Study Resources, the RDN found the following in the Evert et al article (pg 742):

> "**What is the role of the RDN in medication adjustment?**
> RDNs providing MNT in diabetes care should assess and monitor medication changes in relation to the nutrition care plan. Along with other diabetes care providers, RDNs who possess advanced practice training and clinical expertise should take an active role in facilitating and maintaining organization-approved diabetes medication protocols. Use of organization-approved protocols for insulin and other glucose-lowering medications can help reduce therapeutic inertia and/or reduce the risk of hypoglycemia and hyperglycemia."[4]

Similar wording also appears in the Academy Position Paper – "The Role of Medical Nutrition Therapy and Registered Dietitian Nutritionists in the Prevention and Treatment of Prediabetes and Type 2 Diabetes" (pg 346, Figure 2). [5]

The RDN reviewed the SOP and SOPP indicators to identify the performance competencies and outcomes and the level of practice (competent, proficient, or expert) for diabetes-related activities (refer to Question 3 below); and the articles from the Diabetes DPG newsletter included above in Case Study Resources that illustrate how the SOP and SOPP can be used to evaluate competence.

Question 2: Do you have the necessary knowledge, skills, and demonstrated competence in practice to perform this activity?

In reviewing current education, training and practice experience related to care of individuals with diabetes, the RDN determined additional knowledge and skills related to specific diabetes education topics and management skills would be beneficial. These include the use of diabetes technologies (e.g., continuous glucose monitors, continuous subcutaneous insulin infusion [CSII] or insulin pumps); automated insulin delivery systems; smartphone mobile applications particularly those used with the clinic's patient population; patient training guidelines and tools for diabetes devices; and the competency standards for practitioners with the Certified Diabetes Care and Education Specialist (CDCES) certification[6]. The RDN decided to investigate applicable Academy learning activities and ADCES education (https://www.diabeteseducator.org/education) or certificate programs (https://www.diabeteseducator.org/education/adces-certificates), and resources available through other organizations' websites.

The RDN reviewed and/or completed the following Academy Webinars/Academy and CDCES Resources:

- Diabetes DPG Webinar – Building a Virtual Care Model with Remote Monitoring and Population Health (membership required). https://www.eatrightstore.org/dpg-and-mig-

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products/diabetes/building-a-virtual-care-model-with-remote-monitoring-and-population-health

- Diabetes DPG Webinar – Recommending Diabetes Apps: Secrets To Success. https://www.eatrightstore.org/dpg-and-mig-products/diabetes/recommending-diabetes-apps-secrets-to-success
- ADCES Certificates (certificate of training programs, e.g., Putting Continuous Glucose Monitoring [CGM] into Practice) https://www.diabeteseducator.org/education/adces-certificates.
- ADCES Diabetes Care and Education Curriculum, 3rd Ed. https://www.eatrightstore.org/product-type/books/adces-diabetes-care-and-education-curriculum-3rd-edition.
- ADCES Quick Guide to Medications, 12th Ed. (eBook) https://www.diabeteseducator.org/store/publications/detail/ebook-quick-guide-to-medications-12th-edition.

As a member of the Diabetes Dietetic Practice Group (DDPG), the RDN has accessed many of the resources provided to members such as webinars and newsletters. The RDN considers joining other DPGs that address diabetes as a comorbidity in their population group.

Question 3: Did you use the Standards of Practice and Standards of Professional Performance to determine your competence? Did you demonstrate your competence to an individual with the knowledge and skills to appropriately assess your ability to perform the activity? Is your competence documented in your employee personnel record?

The RDN reflects on the Diabetes SOP and SOPP indicators[2] (https://jandonline.org/article/S2212-2672(18)30303-4/fulltext) to ensure meeting the minimum competent level of practice related to care of individuals with diabetes. The following are examples of indicators from the Revised 2017 SOP in Nutrition Care and SOPP for RDNs in Diabetes Care[2]. Indicator applicability depends on role and responsibilities. Check indicators related to other focus areas of practice applicable to persons with diabetes, e.g., Nephrology Nutrition.

SOP and SOPP Indicators
SOP Indicators: **Standard: Nutrition Assessment** • 1.3B (Competent) Evaluates patient's/client's food records, SMBG data, and/or medication regimen for pattern management • 1.3B1 (Proficient) Applies decision making to interpret food intake, labs (eg, HbA1c[h]), and glucose monitoring data (eg, SMBG, CGM, device settings, and/or electronically generated data reports) for pattern management evaluation • 1.3B2 (Expert) Evaluates and interprets food intake, glucose monitoring (eg, SMBG, CGM, device settings, and/or electronically generated data reports) and procedures (eg, in/outpatient surgery, MRI[i] or CT[j]) for more complex decisions in pattern management and medication adjustments

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- 1.5C1 (Proficient) Evaluates prescriptions and adherence to oral diabetes medications, other injectables, and/or insulin (eg, type, dosage, effect, and duration); seeks assistance if needed
- 1.5C4 (Proficient) Observes and evaluates administration technique of insulin, other injectable or medication delivery systems, and their appropriateness and use (eg, CSII, syringe, or pen); glucagon administration technique; and urine and blood ketone testing when appropriate
- 1.5C5 (Expert) Evaluates blood glucose monitoring equipment selection, use, techniques, and reports either self-reported or electronically generated (eg, SMBG or CGM)

Standard: Nutrition Intervention/Plan of Care

- 3.12A (Competent) Uses approved clinical privileges, physician/non-physician practitioner driven orders (ie, delegated orders), protocols, or other facility-specific processes for order writing or for provision of nutrition-related services consistent with applicable specialized training, competence, medical staff, and/or organizational policy
- 3.12A3i (Proficient) Plans and reviews selection and initiation of glucose monitoring equipment (eg, blood glucose meters, CGM systems, and sensor-augmented pumps)
- 3.12A3ii (Proficient) Provides education and training with required CSII and CGM certification according to institution or organization protocol or approved clinical privileges

Provides DSMES for the following topics in 3.12F-3.12J as applicable to patient/client/advocate needs:

- 3.12F (Competent) Discusses medication plan, if applicable
- 3.12F2 (Proficient) Provides instruction on medication delivery systems (eg, syringes, pens, CSII, or patch), use and storage, reducing risk of bloodborne pathogens, and sharps disposal
- 3.12I (Proficient) Reviews glucose monitoring data (eg, CGM or home) for pattern related to physical activity and food intake following adjustment algorithms or protocols
- 3.12I1 (Expert) Provides instruction for adjusting the food, physical activity, and/or diabetes medication plan based on glucose data (eg, calculation and explanation of ICR^{w} and ISF)
- 3.12I2 (Expert) Provides instruction on trending of glucose, use of personal data management tools (eg, monitoring and health apps), and interpreting glucose patterns at home

SOPP Indicators:

Standard: Qualify in Practice

- 1.2D (Proficient) Adheres to provider or organization-approved protocols and/or privileges for including in scope of work: interpreting and adjusting treatment (eg, adjusting medication doses, evaluating electronic blood glucose or CGM^{d} records, and obtaining insulin pump training, and making pump adjustments)

Standard: Provision of Services

- 3.4D1i (Proficient) Contributes to the development of privilege options for RDNs with CDE/CDCES and/or BC-ADM advanced practice credentials (eg, training and management of patients/clients using CSIIs and CGM; adjusting medication order per provider or

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organization-approved protocol based on evaluation of SMBG[t], CSII, and/or CGM data reports)

- 3.4D1ii (Expert) Participates and/or leads in the development of provider or organization-approved pharmacotherapy protocols (eg, to initiate/titrate medications for management of diabetes, basic cardiovascular disease preventive medical regimen, and associated lab orders)

SOP – [h]HBA1C=glycated hemoglobin; [i]MRI=magnetic resonance imaging; [j]CT=computed tomography scan; [v] non-physician practitioner (e.g., physician assistant, nurse practitioner, clinical nurse specialist, qualified dietitian or qualified nutrition professional); [w] ICR=insulin to carbohydrate ratio; ISF=insulin sensitivity factor

SOPP – [d]CGM=continuous glucose monitoring; [s]CSII=continuous sustained insulin infusion (i.e., insulin pump); [t] SMBG=self-monitoring blood glucose

The RDN evaluates level of practice using the Revised 2017 SOP in Nutrition Care and SOPP for RDNs in Diabetes Care[2] and any other applicable focus area SOP and/or SOPP (e.g., Nephrology Nutrition, Intellectual and Developmental Disabilities) that can be found at: https://www.cdrnet.org/scope; or, https://jandonline.org/content/credentialed, and https://jandonline.org/content/focus).

The indicators relevant to diabetes care and education including diabetes devices and medication adjustments where the RDN does not meet the identified level (i.e., competent, proficient, or expert) are opportunities to strengthen knowledge and skills for quality practice.

After consulting with colleagues on best practices and reviewing the resources in Question 2 and applicable indicators, the RDN decides to complete: one or more ADCES certificate programs; training provided by diabetes device companies for CGMs used with clinic's patient population; and an analysis of other resources to become more competent in care of individuals with diabetes who are using CGM or other devices for medication management. The RDN records completion of the certificate(s) of training and other training in their Professional Development Portfolio. The RDN uses the certificate(s) of training and other evidence of training and knowledge and skill assessment as documentation of their competence. Once the RDN completes training and competence verification, the RDN maintains documentation in their personnel file following accepted organization procedures.

The RDN worked with the RN CDCES and a clinic physician for needed education, mentoring, and final knowledge and skill assessment to document competence in performing designated activities.

Question 4: If the state(s) where you work license RDNs, is there any language that prohibits this activity? Are there provisions within the scope of practice of any other professions that would limit performing this activity?

Since regulations and policies are regularly updated, the RDN routinely monitors the applicable laws and regulations.

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Question 5: Are there any additional credentials (i.e., CDCES, RDN-AP, CSR, CSP, CNSC, NBC-HWC) or training (i.e., residency/fellowship, certificate(s) of training) described in published practice guidelines that would be expected of a health professional performing this activity?

The RDN researched published practice guidelines and reviewed diabetes-specific certificates of training, credentials, and formal training to develop and demonstrate the necessary competence. Since care of persons with diabetes is a routine part of patient caseload, the RDN decides to pursue qualifying for the Certified Diabetes Care and Education Specialist Certification. (https://www.cbdce.org/become-certified)

Question 6: Does your employer/organization, in its policies and procedures or medical staff bylaws, rules and regulations, if applicable, recognize the RDN as qualified to perform the activity?

The RDN meets with the Ambulatory Clinic's medical director and the RN CDCES to review the request for the RDN to provide education and training on SBGM, CGM and insulin administration. The RDN reviews the continuing education completed including the training on CGM devices and knowledge and skill assessment with RN CDCES and clinic physician. This knowledge and skill development is completed to obtain support for performing the education and medication adjustments following organization-approved protocol for patients with diabetes in collaboration with the patient's referring physician. The RDN indicated, when not qualified to perform an activity, they will recommend another qualified diabetes professional to the referring physician and patient/client. With the medical director's support, the RDN was able to obtain clinical privileges for these activities. In an organization without RDN clinical privileging, a qualified RDN could provide these services using an organization and/or physician-approved protocol.

CONCLUSION:

The case example provides information on the knowledge and skill development items to be considered before beginning to deliver diabetes education and medication management services. Before performing the new activities, the RDN should also consider the following:

- Ensure the activity is included in:
  - job description or list of services for private practitioners,
  - granted privileges if working in a hospital-associated program where clinical privileging is required, and
  - applicable policies and procedures.
- Ensure personnel file contains primary source verification of education, training, credentials, if applicable, continuing education for maintenance of certification(s), and competence in performing the activity.
- Investigate organization's/business's liability coverage and need for personal professional liability insurance or additional coverage to include diabetes education and management beyond usual role of providing MNT for diabetes.

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- For billable services, investigate whether this activity, as performed by a RDN, will be reimbursed by health plan insurers, including Medicare. Some diabetes services may only be billed by a physician, physician assistant or nurse practitioner or for self-pay.

Disclaimer: *The Case Studies are intended solely as models to assist practitioners in using the Scope of Practice, Standards of Practice in Nutrition Care, Standards of Professional Performance, and the Scope of Practice Decision Algorithm and suggested resources, and in determining their individual scope of practice. Case studies should not be viewed as determinative of any particular inquiry or outcome. The results of an actual inquiry may differ according to the specific factual circumstances, state laws applicable to the specific situation, and organization policies and procedures.*

In this Case Study, CDR has chosen to use the term RDN to refer to both registered dietitians (RD) and registered dietitian nutritionists (RDN) and to use the term NDTR to refer to both dietetic technician, registered (DTR) and nutrition and dietetics technician, registered (NDTR).

REFERENCES

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