

Diabetes Self-Care Skills and Resources to Prevent Acute and Chronic Complications

Patricia Corning, BSN, RN, CDCES

Condition Manager RN, Premise Health at Textron Aviation

Co-Quality Coordinator Great Plains Diabetes Community
Education Program

Objectives

- Discuss safe diabetes self-care skills including hyper and hypoglycemia, sick day plans and daily foot care.
- Review the importance of following the American Diabetes Association Standards of Care.
- List the benefits of and barriers to patients receiving Diabetes Self-Management Education and Support.
- Explain the Great Plains Diabetes Community Education program.
- Identify education resources across the state of Kansas.

Current Statistics

► Kansas incidence:

- Approximately 244,977 people (11% of the population) have diagnosed diabetes
- Another 66,000 are undiagnosed
- Yearly new diagnoses estimated 17,329

► Leading causes for hospitalizations:

- Cardiovascular diseases
- Lower-extremity amputation
- Hyperglycemic crisis
- Hypoglycemia

1. American Diabetes Association (2022);
2. Centers for Disease Control and Prevention (2018)

Case Study

41-year-old with a history of LADA x 5 years

- ▶ Traveled to visit family and developed symptoms of cough and rhinorrhea
- ▶ Lost function of his CGM & stopped his insulin
- ▶ Presented at a Primary Care clinic with trouble breathing and palpitations
- ▶ Sent to ER
- Lab results: A1c 9.9%
 - Glucose 456 mg/dl
 - Co2 6 mmol/L
 - Anion Gap Corrected for albumin 16.6 mEq/L
 - Creatinine 1.27 mg/dl
 - UA - 4+ ketones, 3+ glucose
- Diagnoses: DKA
 - Acute kidney injury
 - Viral respiratory illness
- ▶ Treated with DKA protocol during 4-day hospitalization
- ▶ Met with diabetes educator post-hospitalization for a sick day plan

How to Thrive: A Guide for Your Journey with Diabetes

You are not alone in this fight—and there's nothing we can't accomplish when we're Connected for Life.



American
Diabetes
Association
Connected for Life

Mandatory Self-Care Skills

- ▶ Glycemic control targets
- ▶ Factors that raise and lower blood sugars
- ▶ Causes, signs / symptoms and treatment of hyper and hypoglycemia
- ▶ Sick day plans
- ▶ Daily foot care
- ▶ ADA Standards of Care

Glycemic Targets

Blood sugar targets - Individualized for safety:

ADA

- before meals 80-130 mg/dl
- 1-2 hours after meals below 180 mg/dl
- A1c 7% or below (154 average)

AACE

- before meals 70-110 mg/dl
- 2 hours after meals below 140 mg/dl
- A1c 6.5% or below (140 average)

Call your doctor if blood sugar is below 70 or above 250 mg/dl.

3. American Diabetes Association (2023); 4. American Association of Clinical Endocrinology (2023)



Factors that Raise Blood Sugar Levels

- ▶ Too much food or the wrong mix
- ▶ Not being active
- ▶ Missing diabetes medicine doses or not enough insulin
- ▶ Side effects of other medications (steroids)
- ▶ Illness, dehydration or pain
- ▶ Stress - fear, anger, frustration, depression, anxiety, burnout

5. American Diabetes Association (2023)

Hyperglycemia (high blood sugar)

▶ Above 180 mg/dl

- Signs / symptoms: blurry vision, tiredness, dry mouth, excessive thirst, urination, hunger; irritability, weight loss; nausea, vomiting, abdominal pain, trouble breathing

▶ Treatment:

- Drink extra water
- Be active (10-15 minutes or more)
- Confirm that you took your diabetes medicine
- Tighten up on your meal plan
- Reduce stress
- If blood sugar is above 250 mg/dl, notify your doctor.

Factors that Lower Blood Sugar

- ▶ Not eating enough food or delaying meals
- ▶ Drinking alcohol, especially on an empty stomach
- ▶ Taking diabetes medicine, at improper times or taking too much medicine
- ▶ Being more active than usual

Hypoglycemia (low blood sugar)

▶ Below 70 mg/dl

- Signs and symptoms: shaky, sweaty, dizzy, weak, hungry, vision changes, anxious, irritable, confusion, passing out

▶ Treat immediately:

- Eat or drink 15 grams of carbohydrate (4 glucose tablets, 1 tube of gel, 4 oz fruit juice, ½ can of regular soda, tablespoon of honey, hard candy).
- Recheck in 15 minutes. If still below 70, take another serving of carbohydrate.
- Repeat the steps until blood sugar is above 70 mg/dl.

Hypoglycemia

- When blood sugar is above 70 mg/dl and your meal is more than an hour away, eat a carb and protein snack.
- If blood sugar is not coming up or symptoms are getting worse, call 911 or have someone take you to the emergency room.
- People with a history of unconscious hypoglycemia should have a glucagon prescription.
- If not treated promptly or properly, hypoglycemia may cause coma or death.

Sick Day Care Plans

Adapted from CDC Managing Sick Days handout

- ▶ Monitor your blood sugar more often (at least every 4 hours)
- ▶ Check for urine ketones if blood sugar is above 250 and notify your doctor if positive ketones (type 1 or history of DKA).
- ▶ Take your diabetes medicine unless doctor advises you to stop it.
- ▶ Stay hydrated. Drink 1-1.5 cups of sugar-free liquids every hour.
- ▶ Try to eat normally. If you cannot, then eat or drink 50 grams of carbohydrate every 4 hours.
- ▶ Call your doctor for advice on treating your diabetes and illness.

When to Seek Care

- ▶ Go to the emergency room if any of the following occurs:
 - Trouble breathing or chest pain
 - Moderate to large urine ketones
 - Can't keep liquids down for 4 hours
 - Signs of dehydration - dry mouth and lips, dizziness or light-headedness, persistent headache, decreased urination
 - Blood sugar is below 60 mg/dl (can't keep your blood sugar up)
 - You can't eat normally or are unable to keep food down for 24 hours
 - Vomiting or severe diarrhea for more than 6 hours
 - Fever above 101 degrees F for 24 hours
 - You feel sleepy or can't think clearly
 - Have someone else take you to the emergency room or call 911.

Clinical Considerations

- Certain medications including steroids are going to elevate the blood sugar for several days - sometimes to the 300-400 mg/dl range.
 - Patients must be informed ahead of time.
 - Give written instructions on temporarily raising their diabetes medications and when to notify their diabetes provider.
- ▶ Glucagon should be prescribed for people with hypoglycemia unawareness or history of unconscious hypoglycemia.
 - Injection - pre-filled (requires mixing) and pre-filled auto-injector
 - Intranasal powder
- ▶ If dehydration occurs, to avoid the potential for DKA or acute kidney injury, the SGLT2 inhibitor should be held and GLP1 receptor agonist dose delayed.

Daily Foot Care



- ▶ Wash your feet every day
- ▶ Dry well, especially between the toes
- ▶ Apply moisturizer, as needed (not between the toes)
- ▶ Keep toenails neat and trim
- ▶ Inspect feet for sores, cuts, blisters, corns or redness
- ▶ Wear moisture-wicking socks
- ▶ Check inside your shoes
- ▶ Wear shoes that fit well and don't rub
- ▶ Do not walk barefoot
- ▶ Do not soak your feet
- ▶ Do not smoke

ADA Standards of Care

Adapted from The Diabetes Advisor Standards of Care

- ▶ **Guidelines for tests and exams to be done throughout the year to care for your diabetes.**
- ▶ **Every visit:**
 - Review your blood glucose readings.
 - Measure your blood pressure and weight. Decide on a plan for reaching and maintaining a reasonable weight.
 - Discuss what you eat, your physical activity, lifestyle, work or emotional changes.
 - If you smoke, talk about ways to quit.
 - Review your prescription & over-the-counter medicines, supplements. Ask if you should take an aspirin to prevent a heart attack.

Standards of Care

- ▶ Ask any questions that you have about your diabetes care at every visit.
- ▶ At least every 3-6 months:
 - Have A1c drawn
- ▶ Once a year:
 - Cholesterol check
 - Dilated eye exam
 - Have a complete foot exam - remove your socks and shoes
 - Get a flu shot
- ▶ At least once in a lifetime
 - Get a pneumonia vaccine

<https://professional.diabetes.org/pel/standards-care-english>

Diabetes Self-Management Education and Support (DSMES)

► Purpose:

- “to give PWD the knowledge, skills, and confidence to accept responsibility for their self-management. This includes collaborating with their healthcare team, making informed decisions, solving problems, developing personal goals and action plans, and coping with emotions and life stresses”

Diabetes Self-Management Education and Support (DSMES)

► Benefits:

- Adherence to the 2022 National Standards which outlines 6 requirements
- Timely, evidence-based, quality services that meet or exceed CMS standards
- Improved clinical outcomes and quality of life, while reducing hospitalizations and healthcare costs
- Lowers hemoglobin A1C by at least 0.6%
- Greater A1C reductions have been associated with more than 10 hours of DSMES

Diabetes Self-Management Education and Support (DSMES)

► Focus:

- Provide person-centered assessment, education, problem solving, goal setting, support
- Embrace cultural differences
- Address social determinants of health (SDOH)
- Offer technological engagement platforms and systems

➤ Barriers

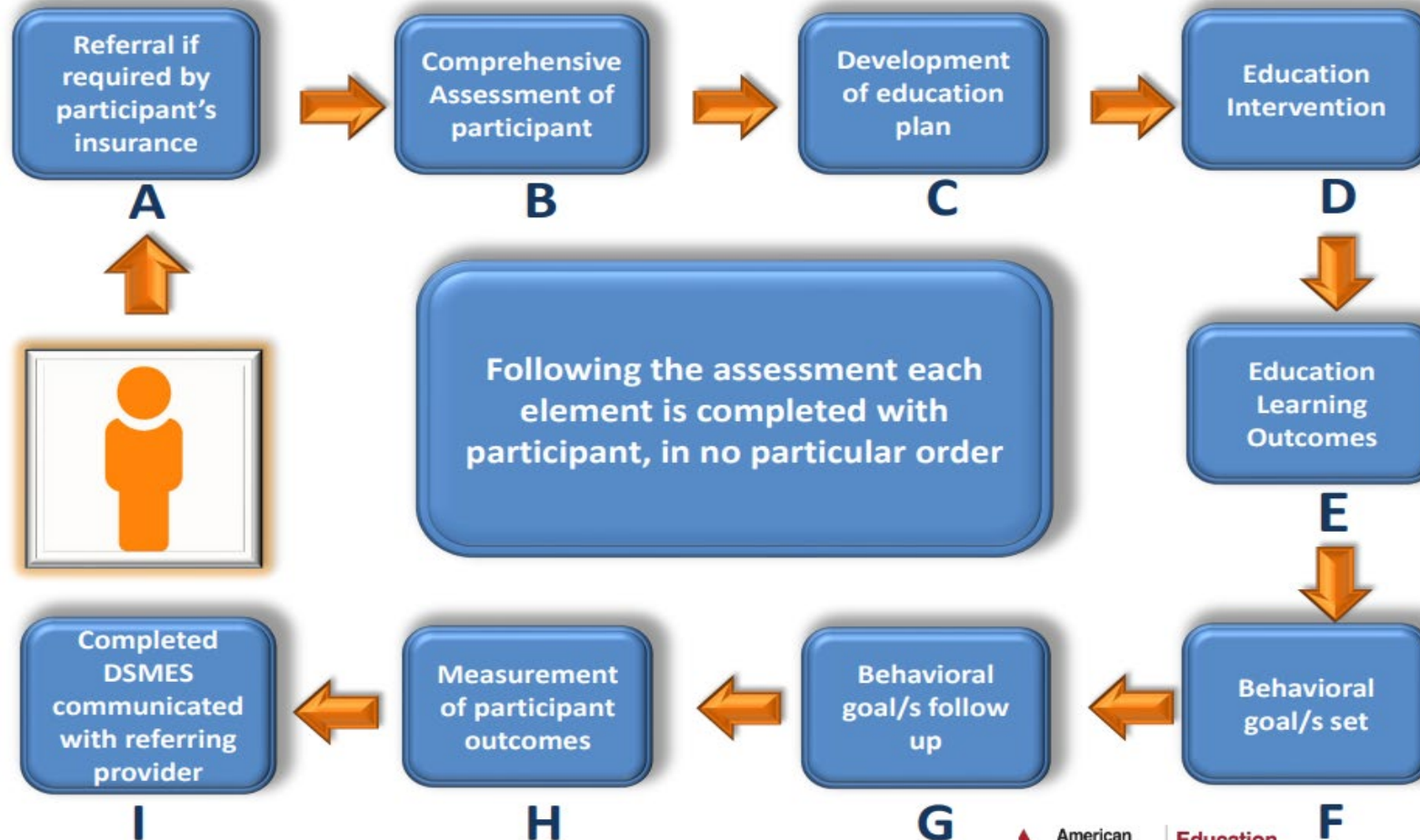
- Limited access
- Financial, transportation
- Lower literacy and health literacy
- Language, cultural differences
- Social concerns

Reimbursement

- ▶ For ADA Recognized or ADCES Accredited programs
 - Commercial insurance - varies by plan
 - Medicare - allows 10 hours the first year that education starts, then 2 hours annually. 1 hour is individual and 9 hours of group class.
 - Medicaid - no reimbursement. May offer phone counseling.
 - Grant sponsored and other discount programs - varies by facility

Individualized Approach

Initial Comprehensive DSMES Cycle–Standard 5



Curriculum

Diabetes Pathophysiology

Healthy Eating

Being Active

Taking Medications safely

Glucose Monitoring

Acute Complications

Chronic Complications

Lifestyle and Healthy Coping (goal setting)

Diabetes Distress and Support Options

Referring to DSMES

► Referring to a recognized / accredited program (ADA or ADCES)

- Usual referral order for diabetes education, diagnosis code and any special requirements. (language, vision, etc)
- Mark **all content areas**, as needed (DSMT for Medicare)
- Ask facility to call the patient with out-of-pocket cost.

- Use the registries to look for a program.

https://professional.diabetes.org/erp_list_zip

<https://nf01.diabeteseducator.org>

Other Ways Diabetes Education May Be Offered

Insurance
companies

Employer
groups

Doctor's
offices

Pharmacies

Health
departments

Health fairs

Community
centers and
churches

Online
resources

Role of CDCES

► Purpose:

- Provide collaborative, comprehensive, and person-centered care and education to people with diabetes and cardiometabolic conditions.

Achieved a core body of knowledge and skills in the biological and social sciences, communication, counseling, and education and who have experience in the care of people with diabetes and related conditions.

- Many descriptions: Diabetes Educator, Care or Case Manager, Condition or Chronic Disease Manager, Quality Coordinator
- Always opportunities for growth and ways to serve.

12. Association of Diabetes Care and Education Specialists (2023)

Great Plains Diabetes Community Education Program

➤ Purposes:

- Provide education opportunities that are led by CDCES, easily individualized and offered in a variety of settings.
- Aim to reach people who experience disparities in diabetes care and education.
- Mentoring program for HCP who want to become CDCES
- Build a community of educators who are interested in volunteering

Great Plains Diabetes Program Community Education

➤ Design:

- Accepting referrals to the clinic and education only
- ADA recognized since 2022
- Individual assessments with CDCES
- HOPE Class - Healthy Options for Patient Empowerment on Wednesday afternoons at Great Plains Diabetes
- Individual and group education follow-ups
- Pump and CGM training
- Community classes held every other month on Saturday afternoons at rotating locations (churches, libraries, community centers). No referral needed - \$20 patient fee to register. May apply for scholarship.

Great Plains Diabetes Contact Info

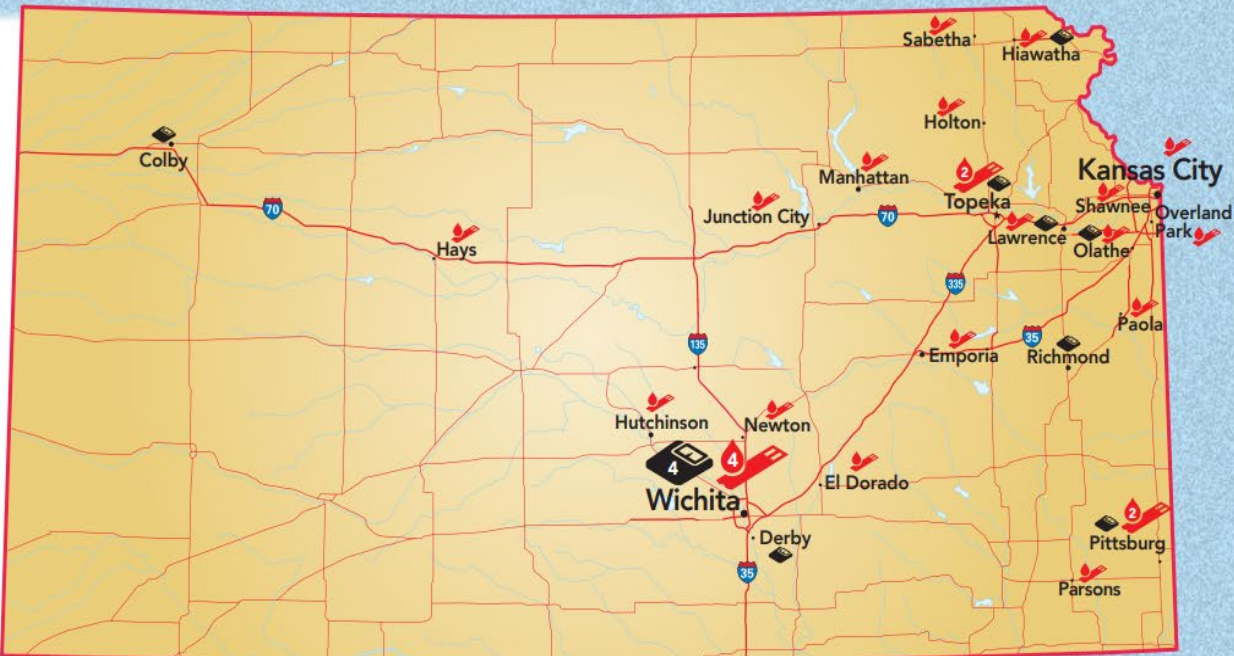
- ▶ Address: 834 N. Socora Street
Wichita, KS 67212
- ▶ Email: nurse@greatplainsdiabetes.com
- ▶ Fax: 316-440-2809
- ▶ Phone 316-440-2802
- ▶ Website: <https://www.greatplainsdiabetes.com>

Other Kansas Programs

Types of Diabetes Programs

Diabetes Prevention Programs: These are year-long lifestyle modification programs designed to keep people with slightly elevated blood sugars from developing diabetes. You can expect to meet with your leader and fellow classmates weekly for the first four months, then monthly for the eight months after that.

Diabetes Self-Management Education & Support: This education is designed to help people already diagnosed with diabetes better manage their disease through diet, physical activity, medications, and work with their health care team. You can expect to attend for several hours with a diabetes educator, sometimes spread out over days or weeks.



DIABETES PREVENTION PROGRAMS



COLBY

Citizen's Health 785-460-1237

DERBY

Derby Recreation Commission 316-788-3781

HIAWATHA

Hiawatha Community Hospital 785-742-6181

LAWRENCE

Haskell Indian Health Center 785-843-37504

OLATHE

Johnson County Dept. of Health and Environment
913-477-8128 www.jocogov.org

PITTSBURG

Community Health Center of Southeast Kansas
620-231-9873, ext: 2016

RICHMOND

Bluegrass Family Pharmacy 859-624-9797

TOPEKA

Midland Care Connection
785-250-5210 (Donna Doel)

WICHITA

Central Plains Area Agency on Aging
855-200-2372 www.cpaaa.org/health-and-wellness

Holy Family Medical 316-682-9900

KU Center for Health Care
316-293-2622

Pure Health Nursing

This program is virtual only. 316-350-7141



DIABETES SELF-MANAGEMENT EDUCATION & SUPPORT

EL DORADO

Diabetes Self-Management Education Program
Susan B. Allen Memorial Hospital, 316-322-4542

EMPORIA

Diabetes Self-Management Education Program
Newman Regional Health, 620-343-6800, Ext. 21803

HAYS

Diabetes Solutions Self-Management
Education Program, Hays Medical Center
855-429-7633

HIAWATHA

Hiawatha Community Hospital 785-742-6181

HOLTON

Diabetic Education Program
Holton Community Hospital, 785-364-9680

HUTCHINSON

Hutchinson Clinic Diabetes Education
620-694-2189

KANSAS CITY

Cray Diabetes Self-Management Center
The University of Kansas Health System
913-588-6022, option 4

LAWRENCE

Diabetes Self-Management Education Program
LMH Health, 785-505-3062

MANHATTAN

Ascension Via Christi Diabetes Center
Ascension Via Christi, 785-565-2937

NEWTON

Community Diabetes Outreach Services
Newton Medical Center, 316-804-6147

OLATHE/PAOLA

Diabetes Self-Management Education Program
Olathe Medical Center, Inc., 913-791-4382

OVERLAND PARK

Diabetes Education
Blue Valley Physician Group, 816-932-0392

PARSONS

Diabetes Self-Management Education Program
Labette Health, 620-820-5925

PITTSBURG

Via Christi Hospital Pittsburg Diabetes
Self-Management Education Program
Via Christi Hospital Pittsburg, 620-235-7812
Community Health Center of Southeast Kansas
Diabetes Self Management Education Program
620-223-8040

SABETHA

Sabetha Community Hospital Outpatient
Diabetes Education Program
785-284-2121, Ext. 1419
Email: lomenold@sabethahospital.com

SHAWNEE

Diabetes Self-Management Education Program
AdventHealth, 913-676-2548

TOPEKA

Diabetes Learning Center,
Stormont-Vail HealthCare, fax 785-368-0410
This program is by physician referral only.
Diabetes Self-Management Education Program
The University of Kansas Health System St. Francis
Campus, 785-272-2240

WICHITA

Via Christi Clinic, Diabetes Self-Management
Education Program
Via Christi Clinic, inquiries, call 316-274-8989;
Enroll by faxing referral to 316-221-5696.
This program is by physician referral only.
Great Plains Diabetes 316-440-2802
KU Center for Health Care 316-293-2622
Dandurand Wellness 316-962-4210
or email clinical@danduranddrugs.com

Diabetes Prevention & Management in Kansas

A Guide
to Finding
a Program
Near You



Kansas Business Group
on Health

Helpful Resources

- Academy of Nutrition and Dietetics <https://www.eatright.org>
- American College of Lifestyle Medicine <https://lifestylemedicine.org/project/patient-resources/>
- American Association of Clinical Endocrinologists <https://www.aace.com/disease-and-conditions/diabetes>
- American Diabetes Association <https://diabetes.org>
- Association of Diabetes Care and Education Specialists <https://www.diabeteseducator.org/practice/practice-tools>
- Diabetes Food Hub (free menu planning and recipes) <https://www.diabetesfoodhub.org>
-

Helpful Resources

- Central Plains Area Agency on Aging [https:// www.cpaaa.org/events/aging-network](https://www.cpaaa.org/events/aging-network)
- Great Plains Diabetes <https://greatplainsdiabetes.com/education-support>
- Kansas Food Bank <https://kansasfoodsource.org>
- Sedgwick County Extension Office <https://www.sedgwick.k-state.edu/nutrition-health-wellness/index.html>
- Type 1 University, University of California, San Francisco <https://dtc.ucsf.edu/types-of-diabetes/type1/understanding-type-1-diabetes/what-is-type-1-diabetes/>

References

1. American Diabetes Association (2022). The Burden of Diabetes in Kansas. https://diabetes.org/sites/default/files/2022-01/ADV_2021_State_Fact_sheets_all_rev_1.27_KS.pdf. Accessed 07/30/2023.
2. Centers for Disease Control and Prevention (2018). National Diabetes Statistics Report Coexisting Conditions and Complications. <https://www.cdc.gov/diabetes/data/statistics-report/coexisting-conditions-complications.html>. Accessed 07/26/23.
3. American Diabetes Association (2023). Glycemic Targets: Standards of Care in Diabetes - 2023. https://diabetesjournals.org/care/article/46/Supplement_1/S97/148053/6-Glycemic-Targets-Standards-of-Care-in-Diabetes. Accessed 07/01/2023.
4. American Association of Clinical Endocrinology (2023). Consensus Statement: Comprehensive Type 2 Management Algorithm - 2023 Update. [https://www.endocrinepractice.org/article/S1530-891X\(23\)00034-4/fulltext](https://www.endocrinepractice.org/article/S1530-891X(23)00034-4/fulltext). Accessed 07/01/2023.

References

5. American Diabetes Association (2023). How to Thrive: A Guide for Your Journey with Diabetes.
6. Centers for Disease Control and Prevention (2022). Managing Sick Day. <https://www.cdc.gov/diabetes/managing/flu-sick-days.html>. Accessed 06/20/2023
7. American Diabetes Association (2023). Glycemic Targets: Standards of Care in Diabetes 2023 https://diabetesjournals.org/care/article/46/Supplement_1/S105-106/148053/6-Glycemic-Targets-Standards-of-Care-in-Diabetes. Accessed 07/01/2023
8. Powers MA, Bardsley JK, Cypress M, 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 & Education Specialists, 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. *Diabetes Care* 2020; 43:1636-1649. Accessed 06/20/2023

References:

9. American Diabetes Association (2022). 2022 National Standards for Diabetes Self-Management Education and Support. *Diabetes Care* 2022; 45:484-494. Accessed 6/20/2023
10. Centers for Medicare and Medicaid Services (2023). Coverage for Diabetes Self-Management Training.
<https://www.medicare.gov/coverage/diabetes-self-management-training>. Accessed 07/31/2023
11. American Diabetes Association (2022). Initial Comprehensive DSMES Cycle - Standard 5.
https://professional.diabetes.org/sites/default/files/media/2022_initial_comprehensive_dsmes_cycle.pdf. Accessed 06/20/2023
12. Association Diabetes Care and Education Specialists (2023).
[https:// www.diabeteseducator.org/practice/becoming-a-diabetes-care-and-education-specialist](https://www.diabeteseducator.org/practice/becoming-a-diabetes-care-and-education-specialist). Accessed 07/31/2023
13. Kansas Business Group on Health (2023). Diabetes Prevention and Management in Kansas. <https://www.ksbgh.org>

Gratitude

- ▶ Thank you for caring for and enriching the lives of people living with diabetes. Thanks for your commitment to helping the diabetes community.
- ▶ Please help us spread the word and reach more people.
- ▶ nurse@greatplainsdiabetes.com